

SLEEP DISORDERS IN THE BIBLE

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When God began to create heaven and earth – the earth being unformed and void, with darkness over the surface of the deep and a wind from God sweeping over the water – God said, 'Let there be light'; and there was light. God saw that the light was good, and God separated the light from the darkness. God called the light Day, and the darkness He called Night. And there was evening and there was morning, a first day (Gen. 1:1-5).

The Jewish tradition about sleep is especially rich in written testimony going back thousands of years. This long history of sleep and dreams¹ antedates the growth of sleep physiology research. The biblical tradition suggests that even at the very formation of life, God created rhythms to control the world, understanding that it would be necessary for the rhythm of light and darkness to exist before plants and animals and man could survive. Today we know that light is necessary for our sleep/wake rhythms to stay intact. And we know that darkness is also necessary. For it is the light and the dark that tell our bodies when to secrete hormones and when not to. It is the light and the dark that tell our bodies when to sleep and when not to.

Sleep disorders are particularly common today, especially insomnia and sleep-disordered breathing. One wonders what complaints were common before modern discoveries of these disorders. Our forefathers and foremothers had much to tell us about many things, including sleep.

SLEEP AND WAKING AS GIFTS

References to sleep in the Bible often occur as part of larger discussions on other topics; rarely is sleep itself the focus of the discussion. For example, sleep is seen simply as a gift from God: He provides as much for His loved ones while they sleep (Ps. 127:2).² To this day we ask God for a safe night of sleep with the assurance of awakening in the morning. This may have arisen from the belief that we are vulnerable during sleep, as it is often an opportune

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time to take advantage of one's enemy while he sleeps.³ One such case in the Bible is when Delilah had Samson's hair cut while he slept, thus destroying his strength (Jud. 16:19-20). Another example occurs in the story of David and Saul, when David has an opportunity to kill Saul and his retinue while he was sleeping, but instead of killing the Lord's anointed, spares his life and only takes away Saul's water and spear. David escapes undetected because a deep sleep from the Lord had fallen upon them [Saul's men] (I Sam. 26:7-12).

To protect us from this vulnerable period called sleep, supplications to the Lord eventually entered the Siddur. The weekly Friday-night Sabbath prayer asks, "Grant that we lie down in peace, secure in Thy protecting love, and shelter us beneath Thy wings to keep us safe throughout the night. On the morrow raise us up in perfect peace to life, O God."⁴ The morning prayer service continues with the idea that waking up is also a gift from God and not under our own control: "Blessed art thou, Lord our God, King of the universe, who removest sleep from my eyes and slumber from my eyelids."⁵ And each prayer service ends with the singing of the prayer *Adon Olam*, part of which says: "To Him I entrust my spirit when I sleep and when I wake. . . ."⁶

Another aspect of sleep in the Bible refers to sleep sent by God for special purposes or revelations.⁷ The first mention of sleep in Genesis is just such an instance, when Adam's rib was removed to create Eve: *God caused a deep sleep to fall upon Adam, and he slept. . .* (Gen. 2:21). We have already noted that David got away because of a deep sleep the Lord had laid upon the King's men. These references to sleep suggest that sleep represents different levels of consciousness, including that level of consciousness (or unconsciousness) achieved with anesthesia.

STAGES OF SLEEP

Sleep is composed of two different states: rapid eye movement [REM] sleep and non-rapid eye movement [NREM] sleep, with NREM further divided into stages 1, 2, 3 and 4. Stage 1 sleep is the very lightest, with stages 2 through 4 getting progressively deeper.

Different Hebrew terms that describe sleep in different parts of the Bible correspond to what we know today as the different stages of sleep.⁷ "*Tenu-*

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mah [מַח] is often used to mean "drowsy," which could refer to dozing or light stage 1 sleep (Isa. 5:27, Ps. 76:6). "*Yashen* [יָשַׁן]" and "*shenah* [שָׁנָה]" are used for conscious thought which becomes unconscious and involuntary, words that could also describe stage 2 sleep; for example, *Jacob awoke from his sleep* [וַיִּשְׁנֶה] (Gen. 28:16). "*Radum* [רָדַם]" implies a heavy or deep stages 3 and 4 sleep; for example, Jonah's sleep [וַיִּרְדַּם], so deep that while a storm howled, the captain had to awaken him (Jon. 1:5-6). *Radum* is also often used for sleep that is Divinely induced; that is, sleep that is involuntary, such as the sleep of Adam [וַיִּרְדַּם] when his rib is removed (Gen. 2:21). The last stage of sleep, "*tardemah*" also refers to a period where the flow of thoughts continue in dreams or in revelation, a perfect description of REM sleep; for example, *a deep sleep* [וַיִּרְדַּם] *fell upon Abram and a great dark dread fell upon him* (Gen. 15:12).

NORMAL SLEEP: CIRCADIAN RHYTHMS

In general, sleep in the Bible is governed by the rising and setting of the sun, as well as by ambient temperature. People rise when it is light and go to sleep when it is dark and when it is hot:

*He made the moon to mark the seasons; the sun knows when to set.
You bring on darkness and it is night, when all the beasts of the forests stir. . . . When the sun rises, they come home and couch in their dens. Man then goes out to his work, to his labor until the evening* (Ps. 104:19-23).

This confirms that man is diurnal, rising with the light and going to sleep with the dark, while some animals are nocturnal, rising at night and going to sleep with the light. This also points out that there is a rhythm to life and that sleep is part of the rhythm; that is, circadian rhythms.

The sources also advise on the best timing of sleep and waking, as in eight hours of sleep, terminating at dawn (Maimonides, *Hilchot Dei'ot*, 4:4-5). In several verses of the Psalms, it says: *Awake, O my soul! Awake, O harp and lyre! I will wake the dawn* (57:9, 108:3), suggesting that the right time to arise is with the morning sun.

However, the Bible knows that the pattern might change with aging. The Hebrew "*yashan*" that is one of the words for "sleep" also means "old."^{8, 8a} The Bible often refers to reduced sleep quality with old age.⁹ Old age is de-

scribed as a time when *one rises up at the voice of the bird* . . . (Eccl. 12:4). With age comes lighter sleep, such that even the song of the birds can awaken an older person.¹⁰ This is consistent with what we know about changes in sleep architecture that occur with age, particularly decreases in deep sleep which result in most of the night being spent in lighter levels of sleep,¹¹ which may result in older people waking up early, even as the early bird begins to sing. This also suggests advanced sleep phase, a situation where the biological clock is out of synch with the environmental clock: the older person gets sleepy earlier in the evening and wakes earlier in the morning, a condition that is very common in older adults.¹²

Maimonides, one of the greatest Jewish philosophers as well as a physician, and considered by some to be the greatest talmudic authority of the Middle Ages, said:

A day and night are twenty-four hours. It is sufficient if you sleep one-third of that, i.e., eight hours. . . . You should not sleep face down or face up, only on your side. The first part of the night you should lie on your left side, the latter part of the night on your right side. Don't sleep immediately after eating; wait about three or four hours before going to sleep. And don't sleep in the daytime (*Hilchot Dei'ot* 4:4-5).¹³

Post-talmudic writers believed that, in general, eight hours of sleep were needed, although there could be individual differences.¹⁴ The same advice is given today. It is generally recommended that each person get eight-nine hours of sleep to be fully functional during the day. Epidemiological data suggest that people who sleep less than six hours or more than ten hours have shorter lifespans.¹⁴

A natural time to take a nap is in the afternoon when, studies have shown, our core body temperature dips, and we get sleepy. Napping in the mid-afternoon, particularly when it is warm, is a practice sometimes found in the Bible. Abraham, Ishbosheth, and David all sleep in the afternoon. [Abraham] *was sitting at the entrance of the tent as the day grew hot*. In the next verse he *looks up*, quite possibly from dozing off. Abraham invites his visitors, *bathe your feet and recline under tree* (Gen. 18:1-4). One interpretation is that Abraham is suggesting that his visitors recline to nap. The unfortunate Ishbosheth, son of King Saul, was caught by his assassins *at the heat of the*

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day, when he was taking his midday rest. . . and [they] stabbed him to death (II Sam. 4:5-7). The Bible relates that late one afternoon *David rose from his couch and strolled on the roof of the royal palace. . . , and saw Bathsheba bathing* (11:2). Even animals rest at noon: *Tell me, you whom I love so well; where do you pasture your sheep: Where do you rest them at noon?* (SofS 1:7).

Midday heat notwithstanding, there are multiple references in the Bible to a comfortable temperature being necessary for proper sleep. Jacob, during his journey, complains of extreme temperatures robbing him of sleep: *Often scorching heat ravaged me by day and frost by night; and sleep fled from my eyes* (Gen. 31:40). In Exodus 22:25-26 (and similarly in Deuteronomy 24:12-13) God commands: *If you take your neighbor's garment in pledge, you must return it to him before the sun sets, it is his only clothing, the sole covering for his skin. In what else shall he sleep?* Although the issue is this law is righteousness and not temperature, it certainly also teaches us about the relationship between temperature and sleep.

SLEEP DISORDERS

The effects of sleep deprivation are now well known, whether caused by insomnia (difficulty in falling or staying asleep, or experiencing non-restorative sleep) or by not spending enough time in bed. Not getting enough sleep can lead to impairment in concentration, memory, social, business and personal relationships, and over-all diminishment in quality of life.¹⁵ Sleep debt has also been shown to have a negative impact on endocrine and metabolic function.¹⁶

Although they may not have known why, our biblical and rabbinic ancestors must have been aware that sleep deprivation has negative effects, for they emphasized the absolute importance of sleep by considering abstinence from sleep a sin. For this reason, Tractate Nedarim 15a rules, "If someone swears not to sleep for three days, he is flogged. . . ." In addition to implying that sleep is necessary, this passage is also interpreted to mean that the person must be lying, as it was believed it would be impossible to remain awake for three days.¹⁷ Scientific data support the belief that it is impossible to stay awake for too long. Rechtshaffen et al. studied sleep deprivation in rats and found that after two weeks of sleep deprivation, the rats show effects includ-

ing temperature changes, heat-seeking behavior, increased food intake but weight loss, ulcers on the paws, and death within a matter of weeks.¹⁸ The importance of a full night's sleep was well known both then and now. Being awakened too early in the morning, particularly by noise, is seen as a problem: *He who greets his fellow loudly early in the morning shall have it reckoned to him as a curse* (Prov. 27:14).

Insomnia in general was no stranger to the rabbis, and so it is no surprise that there are also lessons about problems of falling and staying asleep. Sleeplessness, or insomnia, is sometimes used in the Bible to stress the severity of whatever is wrong with a person. An example of this occurs in Psalms: *I lie awake, I am like a lonely bird upon a roof* (102:8). Loneliness is a common experience for people with complaints of insomnia as they are all alone, awake in the night while the rest of their world is asleep. In addition to loneliness, a guilty conscience can also lead to insomnia. In the Book of Esther, *Sleep deserted the king* [Ahasuerus] when he realized he had not rewarded Mordecai for saving his life (6:1), In the Book of Daniel, King Darius' . . . *sleep fled from him* . . . after he threw Daniel into the den of lions (6:19).¹⁹

Anxiety and stress are known to cause insomnia. The Bible alludes several times to the consequences of anxiety and stress: *In vain do you rise early and stay up late, you who toil for the bread you eat* (Ps. 127:2); *At night I yearn for You with all my being, I seek You with all the spirit within me* (Isa. 26:9); *I am weary with groaning; every night I drench my bed, I melt my couch in tears* (Ps. 6:7); *I call on God to mind, I moan, I complain, my spirit fails. You have held my eyelids open; I am overwrought, I cannot speak* (Ps. 77:4-5); *All his days his thoughts are grief and heartache, and even at night his mind has no respite* (Eccl. 2:23); *For I have set my mind to learn wisdom and to observe the business that goes on in the world – even to the extent of going without sleep day and night* (Eccl. 8:16). *Even the wicked lose sleep because they are troubled about not fulfilling their wickedness* (Prov. 4:16).

Job complained of his symptoms of insomnia: *nights of misery* . . . *When I lie down, I think, when shall I rise? Night drags on and I am sated with tossings till morning twilight* (7:3-4). Job also complains, *By night my bones feel gnawed; my sinews never rest* (30:17).²⁰ Another translation is, . . . *my arteries pulsate so strongly that I cannot sleep*.²¹ This may have been a reference to pain or some other illness causing insomnia. These are typical complaints

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of many people with insomnia; spending the night worrying about not being able to sleep, about when they will need to wake up and tossing and turning all night long.

There are other references in other books of the Bible to illness causing sleeplessness:

Only from daybreak to nightfall was I kept whole, then it was as though a lion were breaking all my bones; I cried out until morning. . . I piped like a swift or a swallow, I moaned like a dove, as my eyes, all worn, looked to heaven: 'My Lord, I am in straits; Be my surety!' What can I say? He promised me and He it is who has wrought it. All my sleep had fled because of the bitterness of my soul (Isa. 38:12-15).

For my days have vanished like smoke and my bones are charred like a hearth. My body is stricken and withered like grass; too wasted to eat my food; on account of my vehement groaning my bones show through my skin. I am like a great owl in the wilderness, an owl among the ruins. I lie awake; I am like a lone bird upon a roof (Ps. 102:4-8).

TREATMENT OF INSOMNIA

Physical activity is suggested as a cure for insomnia in the Bible. In Ecclesiastes we are told: *A worker's sleep is sweet, whether he has much or little to eat; but the rich man's abundance doesn't let him sleep (5:11)*. There are several interpretations of this passage. One is that the rich man worries about losing his riches, and thus also loses sleep.²² Another is that sleep is a blessing set upon the laborer by God, thus to soften his difficult life.²³ Today's research supplies yet another explanation. Studies have shown that increased exercise or physical activity improves sleep.²⁴ The laboring man who is physically active will likely sleep better than the rich man who spends his time counting his money.

Nightmares also hound some of the figures in the Bible. Job, for example, not only has difficulty sleeping because of pain, but also suffers from nightmares: *"When I think, 'My bed will comfort me, my couch will share my sorrow,' you frighten me with dreams and terrify me with visions" (7:13-14).*

Excessive daytime sleepiness, as we know today, is often a sign of not getting sufficient sleep at night. The Book of Proverbs rails against excessive sleep or sleeping too much as being synonymous with laziness and sloth. Allusions include: *How long will you lie there, lazybones; When will you wake from your sleep? A bit more sleep, a bit more slumber, a bit more hugging yourself in bed, and poverty will come calling upon you. . .* (6:9-11, echoed in 24:33-34); *Laziness induces sleep* (19:15). *Do not love sleep lest you be impoverished* (20:13). And if one becomes obligated to another, *Give your eyes no sleep, your pupils no slumber* (6:4) until your obligation is fulfilled.

When people are so drowsy that it becomes difficult to function, their ability to work is affected and quality of life is reduced,²⁵ as it says in Proverbs, *Drowsiness shall clothe a man with rags* (23:21). These same allusions have been applied to patients today with undiagnosed sleep disorders such as sleep apnea or narcolepsy, where the patient often does want to sleep all day and is often accused of being lazy. It is unknown how common narcolepsy or sleep apnea were thousands of years ago, but there is no reason to believe that they were any less common then than they are today.

SLEEP HYGIENE

Treatments of all sleep disorders are likely to include teaching the patient good sleep hygiene. Sleep hygiene rules advise how long to sleep and how to best optimize sleep.²⁶ The early sources refer to some of the same sleep hygiene rules that are recommended today, including not spending too much time in bed, getting up at the same time every day, keeping the environment comfortable (not too hot and not too cold) and dark, avoiding alcohol and limiting, if not avoiding, naps.²⁷

CONCLUSION

Although we think we have discovered many new features about proper sleep and sleep disorders, many of our scientific ideas were already documented in the Bible. Some of our modern scientific knowledge about sleep is not new and existed even in biblical times. Although the rabbis may not have fully understood sleep, they left enough clues and interpretations that agree with what science verified thousands of years later. This wisdom is also men-

tioned in the Bible: *What has been is what will be, and what has been done is what will be done; and there is nothing new under the sun* (Eccl. 1:9).

NOTES

1. There are multiple references to dreams sent by God in the Bible, including the famous dream of Jacob (Gen. 28:11-15) and the dreams of Pharaoh so miraculously interpreted by Joseph (Gen. 41:25-32). Since much has been written about dreams, this paper will not dwell on dreams but rather will deal with sleep and sleep disorders. For more information on dreams, see M. Harris, *Studies in Jewish Dream Interpretation*, (London: Jason Aronson, Inc., 1994).
2. *Universal Jewish Encyclopedia* (New York: University of Jewish Encyclopedia Co., 1943) under "Sleep," p. 567.
3. T. H. McAlpine, *Sleep, Divine & Human in the Old Testament* (Sheffield, England: Sheffield Academic Press Ltd, 1987) p. 16.
4. *Sabbath and Festival Prayer Book* (New York: Joint Prayer Book Commission of the Rabbinical Assembly of America and the United Synagogue of America, 1973) p. 19.
5. *Sabbath and Festival Prayer Book*, p. 46
6. *Sabbath and Festival Prayer Book*, p. 41.
7. *Universal Jewish Encyclopedia*, under "Sleep," p. 567.
8. On biblical terminology, see: T. H. McAlpine, pp. 121-122; J. G. S. S. Thomson, "Sleep: An Aspect of Jewish Anthropology" *Vetus Testamentum* 4 (1955) pp. 421-433.
- 8a. A. Y. Finkel, *In My Flesh I See God: A Treasury of Rabbinic Insights about the Human Anatomy* (Northvale: Jason Aronson, Inc., 1995) p. 251.
9. McAlpine , p. 21.
10. Finkel, p. 248. See also: J. Preuss, *Biblical and Talmudic Medicine*, (Northvale, New Jersey: Jason Aronson, Inc., 1993), p. 136.
11. D. L. Bliwise, "Review: Sleep in normal aging and dementia," *Sleep* 16 (1993) pp. 40-81.
12. S. S. Campbell, M. Terman, A. J. Lewy, D. J. Dijk, C. I. Eastman, and Z. Boulos, "Light Treatment for Sleep Disorders: Consensus report. V. Age-related disturbances," *Journal of Biological Rhythms* 10 (1995) pp. 151-154.
13. Finkel, 249; Preuss, 135; R. H. Isaacs, *Judaism, Medicine and Healing* (Jerusalem: Jason Aronson, Inc., 1998) p. 67-68.
14. D. F. Kripke, R. N. Simons, L. Garfinkel, and E. C. Hammond, "Short and long sleep and sleeping pills: is increased mortality associated?" *Archives of General Psychiatry* 36 (1979) pp. 103-116.
15. T. Roth and S. Ancoli-Israel, "Daytime consequences and correlates of insomnia in the United States: Results of the 1991 National Sleep Foundation Survey. II," *Sleep* 22 (1999) pp. S354-S358.
16. K. Spiegel, R. Leproult, and E. Van Cauter, "Impact of sleep debt on metabolic and endocrine function," *The Lancet* 354 (1999) pp. 1435-1439; J. M. Krueger, J. Walter, C. A. Dinarello, S. M. Wolff, and L. Chedid, "Sleep-promoting effects of endogenous pyrogen (interleukin-1)," *American Journal of Physiology* 246 (1984) pp. R994-R999; Moldofsky, F. A. Lue, J. Eisen, E. Keystone, and R. M. Gorcezynski, "The relationship of interleukin-1 and immune functions to sleep in humans," *Psychosomatic Medicine* 48 (1986) pp. 309-318.
17. Finkel, 247.

18. A. Rechtschaffen, B. M. Bergmann, C. A. Everson, C. A. Kushida, and M. A. Gilliland, "Sleep deprivation in the rat. X. Integration and discussion of the findings," *Sleep* 121 (1989) pp. 68-87.
19. Preuss, p. 135.
20. Preuss, p. 341.
21. MacAlpine, p. 127
22. Finkel, p. 249.
23. H. Freedman, M. Simon, Midrash Rabbah, (London: The Soncino Press, 1997).
24. P. J. O'Connor and S. D. Youngstedt, "Influence of exercise on human sleep." In J. O. Holloszy, *Exercise and Sport Sciences Review* (Baltimore: Williams & Wilkins, 1995) p. 105-134.
25. G. K. Zammit, J. Weiner, N. Damato, G. P. Sillup, and C. A. McMillan, "Quality of life in people with insomnia," *Sleep* 22 (1999) pp. S379-S385.
26. S. Ancoli-Israel, *All I Want is a Good Night's Sleep*, pp.17-23.
27. V. P. Zarcone, Sleep Hygiene, In M. H. Kryger, T. Roth, and W. C. Dement, *Principles and Practice of Sleep Medicine* (Philadelphia: W.B. Saunders Co., 1994) pp. 542-547.

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