

The well-being of the persons in relation to the quality of sleep

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Summary

Sleep quality and well-being are interrelated. The objective of this study was to find this relationship between the well-being of persons with their quality of sleep and its correlates. It was a cross-sectional study conducted on respondents of 18 and above from September 2015 to October 2015. The study was done at Rangamati town, Kaptai Upazila of Rangamati district, three Upazila of Chittagong district, Dhaka city and Cox's Bazar town in Bangladesh. A purposive sampling technique was used and the sample size was 109. The quality of sleep was assessed by the Pittsburgh Sleep Quality Index (PSQI) and the level of well-being was assessed by the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) among the respondents. The results showed that, among the 109 respondents, good sleepers were 53 (48.6%) and poor sleepers were 56 (51.4%). Regarding well-being level, the average was 89 (81.6%) and above-average was 20 (18.3%) among the respondents. Among good sleepers, 41 (77.3%) and poor sleepers 48 (85.7%) were found in the average level of well-being. Above average level of well-being was found 12 (22.6%) in good sleepers and 8 (14.3%) in poor sleepers. Well-being level was better among the good sleepers than poor sleepers but was not statistically significant ($p>0.05$). Here, the well-being level was better, but sleep quality was not satisfactory. Other factors which might influence the quality of sleep and well-being should also be considered.

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Introduction

Life satisfaction, feelings of happiness, sadness, anger, stress, and pain, along with sense of purpose and meaning in life are collectively termed as well-being. As such moment-to-moment well-being greatly impacts our health, both physically and psychologically.¹ Well-being is associated with positive emotion, recall of more positive emotion, recall of more positive episodes and lesser negative incidents, optimism, and lesser feeling of anxiety and depression.² Sleep is an essential part of the physiological process contributing to health and wellness. Studies have suggested that good sleep quality is associated with well-being and vice-versa.² The process of sleeping, eating, and moving, in concert with cognition and learning, supports health and life. Sleeping occurs in the resting phase, whereas other behaviors occur during the active phase. Indeed, sleep is medicine, as exercise and nutrition are medicine.¹ Sleep, a state of altered consciousness in which the impact of external stimuli is significantly reduced, is important to the mental and physical health of all individuals. It is fair to assume that sleep involves an

anabolic recovery as opposed to catabolic wakefulness which is destructive. Recovery is achieved through the activation of the immune system, blood sugar levels are maintained at relatively high levels, and for example growth hormone and testosterone are released.³ Thus sleep functions as the opposite and antagonist of stress. Reduced quality of sleep, including difficulties to falling asleep, several instances of waking during the night, early morning awakening, fatigue, and dysphoria in the morning is often associated with stress and reduced quality of life and are often the first indicator of burn-out syndrome and stress as well as anxiety and depression, and may precipitate chronic sleep difficulties.³ Stress involves activation of the body's defense system in response to the individual's demands or those of the environment. An individual can tolerate a significant amount of stress if she/he gets sufficient rest, whereas lack of sleep leads to increased stress. Individuals who do not experience stress enjoy a better quality of sleep. Thus, there exists a strong and significant association between stressful situations and sleep difficulties. Breaking the vicious cycle of stress-sleep

difficulties psychological problems would then imply an increased quality of life.³ Poor sleep across all age groups has been linked to poor current and future mental health. In all age groups, an association between depression and poor sleep (e.g., short sleep duration) was found. Many review articles have concluded that poor sleep is related to an increased risk of current and future depressed mood. Although there is less conclusive evidence, it is also suggested that this relationship is bi-directional, poor mental health also leads to poor future sleep.⁴ The objective of this study was to find the relationship between the well-being of the adult persons concerning their qualities of sleep having different socio-demographic characteristics.

Materials and methods

It was a cross-sectional study conducted at the Rangamati town and Kaptai Upazila of Rangamati district, three Upazila of Chattogram district, Dhaka city and Cox's Bazar town in Bangladesh from September 2015 to October 2015. Total 190 participants were selected through purposive sampling. The sleep quality was assessed by Pittsburgh Sleep Quality Index (PSQI) and well-being level was assessed by the Warwick-Edinburgh Mental Well-being Scale (WEMWBS). The two questionnaires were translated into Bangla along with questions for relevant socio-demographic data. The questionnaires were supplied to the respondents and later on collected from them along with the answers. The PSQI was an effective instrument to measure sleep quality and sleep patterns. It indicated poor and good sleep by measuring seven domains: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction over the last month. The respondents self rated each of these seven domains of sleep. Each item scored from 0-3 scale, whereby 3 reflects the negative extreme of the scale. A global sum of 5 or greater indicated poor sleeper and a total sum of equal or less than 5 indicated good sleeper.⁵ The WEMWBS consisted of 14 items covering both hedonic and eudaimonic aspects of mental health including positive affect (feeling of optimism, cheerfulness, relaxation) satisfying interpersonal relationships, and positive functioning (energy, clear thinking, self-acceptance, personal development, competence, and autonomy).⁶ It was validated on a student and representative population sample.⁷ Sleep quality was assessed for the last one month and well-being level was assessed for the last two weeks. Both the scales were arranged in Likert's scale to be answered. Data were collected by the researchers and reliable associates and checked for consistency as well as completeness. Data were analyzed manually and shown as tables in the results section duly. Ethical concerns were maintained throughout the study.

Results

In this study majority of the respondents were from the age range of 18 to 39 years (66.0%), male (70.6%), graduate (35.8%), service holders (59.6) and were from Chattogram (33.1%).

Table 1: Socio-demographic characteristics of the respondents (n=109)

Characteristics	Frequency	Percentage
Age range (years)		
18-39	72	66.0
40-59	33	30.3
60 and above	04	3.7
Gender		
Male	77	70.6
Female	32	29.4
Education		
Below SSC	09	8.2
SSC	10	9.2
HSC	32	29.4
Graduate	39	35.8
Masters	19	17.4
Occupation		
Service holders	65	59.6
Housewives	15	13.8
Students	22	20.2
Businessmen	05	4.6
Others	02	1.8
Residence		
Chattogram	36	33.1
Rangamati	17	15.6
Dhaka	14	12.8
Cox's Bazar	42	38.5

Among the respondents, 81.7% were in average level of well-being and 18.3% were in above average level of well-being. None were found in very low or below average level of well-being. The proportion of good sleepers was (48.6%) less than the poor sleepers (51.4%) (Table 2).

Table 2: Well-being level and quality of sleep of the respondents (n=109)

Characteristics	Frequency	Percentage
Well-being level		
Very low	00	00
Below average	00	00
Average	89	81.7
Above average	20	18.3
Quality of sleep		
Good sleepers	53	48.6
Poor sleepers	56	51.4

Average level of well-being was found higher in the poor sleepers (85.7%) than good sleepers (77.4%). But above average level of well-being was found higher in good sleepers (22.6%) than the poor sleepers (14.3%). But the difference was not statistically significant ($p > 0.05$) (Table 3).

Table 3: Well-being level in relation to quality of sleep of the respondents (n=109)

Sleep quality	Average well being	Above average well being	Chi square	value
Good sleepers	41 (77.4%)	12 (22.6%)	1.269	0.3
Poor sleepers	48 (85.7%)	08 (14.3%)		

Elderly people (60 years and above) were more in above average level of well-being (75%) than the other age groups, 13.9% were from 18 to 39 years age group and 21.2% from 40 to 59 years age group. But average level of well-being was found more (86.1%) in younger adults (18 to 39 years age group) than the others, 78.8% in 40 to 59 years age group and 25% in 60 years and above age group. Above average level of well-being was found higher in females (21.9%) than males (16.9%). But in case of above average level of well-being it was found higher among males (83.1%) than the females (78.1%). In respect of educational background HSC pass were more in above average level of well-being (31.3%) than the others. In respect of occupation above average level of well-being was found more in service holders (26.2%) than the others. Regarding residence, respondents of Dhaka city were found more in above average level of well-being (28.6%) comparing respondents of other areas (Table 4).

Table 4: Level of well-being in respect of socio-demographic characteristics of the respondents (n=109)

Characteristics	Average well being Frequency (%)	Above average well being Frequency (%)
Age range (years)		
18-39	62 (86.1%)	10 (13.9%)
40-59	26 (78.8%)	07 (21.2%)
60 and above	01 (25.0%)	03 (75.0%)
Gender		
Male	64 (83.1%)	13 (16.9%)
Female	25 (78.1%)	07 (21.9%)
Education		
Below SSC	09 (100%)	00 (0%)
SSC	08 (80.0%)	02 (20.0%)
HSC	22 (68.7%)	10 (31.3%)
Graduate	34 (87.2%)	05 (12.8%)
Masters	16 (84.2%)	03 (15.8%)
Occupation		
Service holders	48 (73.8%)	17 (26.2%)
Housewives	13 (86.7%)	02 (13.3%)
Students	21 (95.5%)	01 (4.5%)
Businessmen	05 (100%)	00 (0%)
Others	02 (100%)	00 (0%)
Residence		
Chattogram	29 (80.6%)	07 (19.4%)
Rangamati	15 (88.2%)	02 (11.8%)
Dhaka	10 (71.4%)	04 (28.6%)
Cox's Bazar	35 (83.3%)	07 (16.7%)

Majority of the good sleepers were from elderly respondents (60 years and above) (75.0%), males (49.4%), HSC pass groups (53.1%), students (54.5%), and from Rangamati (64.7%). Interestingly, more poor sleepers were found in below SSC group of respondents, and among housewives (66.7%) (Table 5).

Table 5: Quality of sleep-in respect of socio-demographic characteristics of the respondents (n=109)

Characteristics	Good sleepers Frequency (%)	Poor sleepers Frequency (%)
Age range (years)		
18-39	38 (50.0%)	39 (50.0%)
40-59	15 (42.4%)	17 (56.6%)
60 and above	03 (75.0%)	01 (25.0%)
Gender		
Male	64 (49.4%)	13 (50.6%)
Female	25 (46.9%)	07 (53.1%)
Education		
Below SSC	03(33.3%)	06(66.7%)
SSC	05 (50.0%)	05 (50.0%)
HSC	17 (53.1%)	15 (46.9%)
Graduate	19 (48.7%)	29 (51.3%)
Masters	09 (47.4%)	10 (52.6%)
Occupation		
Service holders	33 (50.8%)	32 (49.2%)
Housewives	05 (33.3%)	10(66.7%)
Students	12 (54.5%)	10(45.5%)
Businessmen	02 (40.0%)	03 (60.0%)
Others	01 (50.0%)	01 (50.0%)
Residence		
Chattogram	15 (41.7%)	21 (58.3%)
Rangamati	11(64.7%)	06 (35.3%)
Dhaka	07 (50.0%)	07 (50.0%)
Cox's Bazar	20 (47.6%)	22 (52.4%)

Discussion

In this study majority of the respondents were of average level of well-being and then some were of above average level of well-being. None was found to be very low or below average level of well-being. Above average level of well-being was found more in good sleepers than the poor sleepers, though not statistically significant. It was well-established from many studies that optimum level of sleep satisfaction was related with optimum level of well-being and vice-versa.¹⁻⁴ One Canadian study found 89% self-perceived good health status or well-being level, where the sleep satisfaction was 80% among the respondents.⁸ Here the respondents were more poor sleepers (51.4%) than the good sleepers (48.6%). Though good sleep is related with better well-being, but other factors which may compensate the sleep dysfunction should also be considered. These may be how people evaluate their lives, cultural background, positive attitude, adaptability, subjective feelings of well-being.⁹ In general the people of Bangladesh are used to say their status as 'well' in all conditions of their lives, whether it is good or in adverse situation. So, it may be such that the respondents perceived their well-being level as better, though their sleep quality indicated

otherwise. Females were found more poor sleepers than the males, though the above average level of well-being was found more among the females than the males. This might be due to the females possess more patience, tolerance, and adaptive abilities than the males. Elderly people were more in above average level of well-being than the other age group and they were also found more as good sleepers. This relationship between sleep and well-being is consistent with findings of many other studies.¹⁻⁴ But most studies showed that elderly people suffer more from sleep disturbances and their well-being level was found low.¹⁰ The findings of this study differ from those, because in Bangladesh younger people are more in struggle for their study, job and other burning needs. The society tries to keep the elderly people away from these burdens. So, their sleep quality and well-being level was found better than the other age groups. In respect of occupation service holders were found more in well-being level, as well as in sleep quality. In our society service holders are the most secured than the other professionals. Their better level of well-being and better sleep quality indicates that picture. Regarding residence, well-being level of Dhaka's respondents was better than that of other areas, because here the people live in more affluent status and all the facilities for better living are found more. But sleep quality was better in Rangamati's respondents, because where the life style of the people is simpler than that of others.

Conclusion

This study showed that well-being of a person was related to quality of sleep though was not statistically significant. Some paradoxical finding was also revealed in the study which may be due to small sample size. Besides, other factors for sleep

quality and well-being should be considered and also should give due importance. Further in-depth study is recommended to understand the issue.

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