Original Article

SLEEP QUALITY AMONG ADULT PEOPLE DURING COVID-19 PANDEMIC IN A SELECTED COMMUNITY OF KATHMANDU

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ABSTRACT

Introduction: Coronavirus disease 2019 (COVID-19) is the infectious disease caused by the recently discovered coronavirus. COVID-19 has cause anxiety, panic, depression, anger, confusion, uncertainty, and financial stress among people. During the pandemic, reduced physical activity and disrupted routines are the main threats to sleep patterns. The daily news of increasing COVID-19 cases is adding fear that leads to anger, anxiety, frustration, and stress that directly affects the quality of sleep. **Materials and Methods**: A descriptive cross-sectional study was conducted among 65 respondents residing in Saraswotinagar, Kathmandu Municipality Ward No 6. Non-probability purposive sampling technique was used to select the respondents. Data was collected between 2020/10/14 to 2020/10/18 by face to face interview technique using self- structured questionnaire. Data was analyzed using PSPP. **Results and Discussion:** Among 65 respondents, 36.9 percent respondents were from age group 20-25 years and 30.8 percent respondents family member were in abroad during COVID-19 pandemic. Majority of respondents (86.2 percent) had good sleep quality whereas 12.3 percent respondents had fair sleep quality and 1.5 percent respondents had poor sleep quality during COVID-19 pandemic. **Conclusion:** Two-third of the respondents had good sleep quality whereas less than quarter respondents had fair sleep quality and only few respondents had poor sleep quality. Almost quarter of respondents sleep problem had affected their quality of life.

KEYWORDS: Adult, COVID-19, Sleep quality.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) began to spread in central China from end of December 2019 and then spread all over the World. COVID-19 is now a pandemic affecting many countries globally. The corona virus outbreak was declared a Public Health Emergency of International concern on 30th January 2020 and pandemic on 11th March 2020.[1]

The fast climbing of cases of COVID-19 all over the world and the rapid changes in people daily living have left people alarmed and frightened. The community survey on current COVID-19 pandemic shows fear of falling sick, dying, helplessness and stigma has negative effect on mental health.[2]

Along with its high infectivity and fatality rates, the 2019 Corona Virus Disease (COVID-19) has cause anxiety and panic, depression, anger, confusion and uncertainty, and financial stress in the community experiencing high levels of worry and anxiety during similar pandemics.[3] Evidence suggest that symptom of anxiety, depression, self-reported stress are common psychological reaction to COVID-19 Pandemic associated with disturbed sleep.[4]

A study conducted in Italy during COVID-19 lockdown showed 42.2% had sleep disturbance. Among them 19.9% participants had no clinical insomnia, 62.7% participants suffer from sub threshold insomnia, 16.3% participants suffer from a moderate clinical insomnia and 1.1% participants suffer from severe clinical insomnia. Study on psychological impact evaluate presence of depression symptom, anxiety symptoms and sleeping issue.[5]

A study conducted in Turkey shows (48.1%) of the patients had poor sleep quality and (37.7%) of the patients had insomnia and (46.2%) had high perceived

stress. Stress, anxiety and depression was significantly associated with poor sleep quality and insomnia.[6]

Thinking about the COVID-19 crisis and watching news about the crisis, death of people causes stress among people, which is one of the primary causes of insomnia. Reducing TV time, increasing levels of physical activity and adhering to the same pre-lockdown work-hour routine and positive attitude towards life will improve the quality of sleep.[7]

A survey on changes in sleep pattern, sense of time, and digital media use during COVID-19 lockdown in Italy stated that during home conferment sleep timing markedly changed, with people going to bed and waking up later, spending more time in bed but, paradoxically, also reporting a lower sleep quality.[8] A specific and uncontrolled fears related to infection is commonly one of the most frequent psychological reaction to pandemics.[9]

Sleep quality is defined by the satisfaction of one's overall sleep experience, including aspects of sleep initiation, sleep maintenance, sleep quantity and refreshment upon awakening. [10] The American Academy of Sleep Medicine (AASM) and Sleep Research society released the recommended amount of sleep that it should be 7 or more hours per night on a regular basis to promote optimal health in adult. Sleeping less than 7 hours per night on a regular basis is associated with adverse health outcomes, whereas sleeping more than 9-hours per night is associated with health risk. Sleep hour less than 7 hour per night associated with impaired immune function, increased pain, impaired performance, impaired errors and greater risk of accidents.[11]

A study conducted on sleep quality in time of COVID-19 pandemic on Portugal. During the lockdown 69.6% reported at least one sleep difficulty and frequent awakenings was the most prevalent problem. Home confinement, female gender and sleep disordered breathing were associated with sleep problems.[12]

In China, 36.38% of participants were poor sleepers during the COVID-19 pandemic. Moreover, higher perceived stress was significantly associated with higher anxiety levels, which, in turn, was associated with lower sleep quality. [13] Similarly, in India, 23.4% participants reported worse sleep quality. COVID-19 lockdown was associated with poor sleep quality, delay sleep cycle, sleep-deprivation based on nighttime sleep, and depressive symptoms. [14] The daily news of increasing COVID-19 cases inside nation and all around the globe is adding to the fear that leads to anger, anxiety, frustration, and stress that directly affects the quality of sleep. [15]

METHOD AND MATERIAL

Research Design
A quantitative descriptive cross-sectional research design was used to assess sleep quality among adult people during COVID-19 pandemic in a selected community of Kathmandu.

Place of Study
This study was conducted in Kathmandu Metropolitan city, ward no 6, Saraswotinagar. Ward 6 is purposively selected for the study which is located in the east of Kathmandu. Approximately total population of ward no 6 is 90500 and 15000 household.

Study Population
The targeted population was adult people of age between 20 years to 40 years who were residing in Saraswotinagar, ward no 6, Kathmandu Metropolitan city. Saraswotinagar is new community of Boudha which had 28 tole. Exact population of 20-40 age group in Saraswotinagar is not known. Saraswotinagar had approximately 1210 household, 9800 total population.

Duration of Study
Total duration of study was 8 weeks.

Sampling techniques
Non probability purposive sampling technique. Non-probability sampling is a sampling technique in which the researcher selects samples based on the subjective judgment of the researcher rather than random selection. Purposive sampling, also known as judgmental, selective, or subjective sampling, is a form of non-probability sampling in which researchers rely on their own judgment when choosing members of the population to participate in their study.

Sample size
Sample size was 65 adult people residing in Saraswotinagar who met the inclusion criteria.

Inclusion criteria
Adult of age 20 to 40 years reside in Saraswotinagar, Ward No 6 who were available and willing to participate during the study were included.

Exclusion criteria
Community people who were taking sleeping pills was excluded in the study.

Data collection instrument
Self-developed structured interview questionnaire was used to assess sleep quality. Development of this tool was done from literature review of Insomnia Severity Index (ISI) and consulting research advisor. Question was developed in English version and translation to Nepali version and back translation was done in English version. Questionnaire consisted of two parts:

Part I: Socio demographic variables
This part included socio demographic variables of community people. It consist of 10 questions which include age, gender, educational level, marital status, family income, financial dependency, family member in abroad, information and news on COVID-19 and presence of chronic disease.

Part II: Sleep Quality Scale
This part included 9 questions related to sleep quality to assess sleep quality. 2 questions related to health problem during night sleep and 7 questions related to sleep quality.

Category of sleep quality
Score 7- 15: Good sleep quality
16- 25: Fair sleep quality
26- 35: Poor sleep quality[15]

Validity of the instrument
Face validity and content validity of the instrument was done through literature review and consulting with research advisor.

Ethical Consideration
The study was conducted after obtaining approval from Research Committee of Patan Academy of Health Sciences (PAHS), School of Nursing and Midwifery (Lalitpur Nursing Campus). Then written permission was taken from Ward no 6 of Kathmandu metropolitan city. Self-structured tool validated from expert was used for data collection. Informed verbal consent was taken from each participant after explaining purpose of the study. None of participant was forced to participate in the study. Participant were free to answer and had full authority for exclusion during any period of data collection. Confidentiality was maintained by using findings only for study purpose. There was not mention names on the interview sheet, instead a code number was written.

Data collection procedure
Data collection was started after approval of the proposal and finalization of instrument. Formal permission was taken from ward chairperson of Kathmandu Metropolitan city ward 6. Respondents was selected on the basis of inclusion criteria. Verbal consent was taken from each respondent by explaining the objective and purpose of study. One participant was selected from each family who was be willing to participate. Data was collected by face to face interview technique by using self-developed structured questionnaires. Privacy was maintained by not recording the name of respondent and by interviewing separately. Data was collected by researcher herself from 2020/10/14 to 2020/10/18. Each respondent were interviewed for 15-20 minutes.

Data Analysis
After completion of the data collection, data was re-checked, reviewed, edited and organized for its completeness and accuracy. Where data was edited, coded and classified manually and data was entered and analyzed by using PSPP. Descriptive statistical methods such as frequency, mean, standard deviation was used for the interpretation of data. Results were represented by using table and figures.

4. RESULT

Table 1: Socio- Demographic Characteristics of Respondents N= 65.

SN	Characteristics	Frequency (n)	Percentage (%)
1	**Age**		
	20-25	24	36.9
	26-30	22	33.9
	31-35	8	12.3
	36-40	11	16.9
	Mean age ± S.D= 28.37±6.17		
2	**Gender**		
	Male	33	50.8
	Female	32	49.2
3	**Marital status**		
	Married	37	56.9
	Unmarried	28	43.1
4	**Financial dependent on other**		
	Yes	24	36.9
	No	41	63.1
5	**Main source of income**		
	Service	37	56.9
	Business	24	36.9
	Agriculture	3	4.7
	House rent	1	1.5

6	Chronic disease		
	Yes	4	6.1
	No	61	93.9
7	Name of chronic disease (n=4)		
	Hypothyrodism	3	75.0
	Hypertension	1	25.0
8	Family member in abroad		
	Yes	20	30.8
	No	45	69.2

Table 1 shows that 36.9% respondents were from age group 20-25 years. Out of 65 respondents, 50.8% were males while 49.2% were females. Most of respondents (56.9%) were married. Most of respondents (63.1%) were not financially dependent on other. Most of respondents (56.9%) main source of family income was service. Mostly, 93.9% respondents had no chronic disease and 6.1% respondents had hypertension and hypothyroidism. During COVID-19 pandemic, 30.8% respondents family member were in abroad.
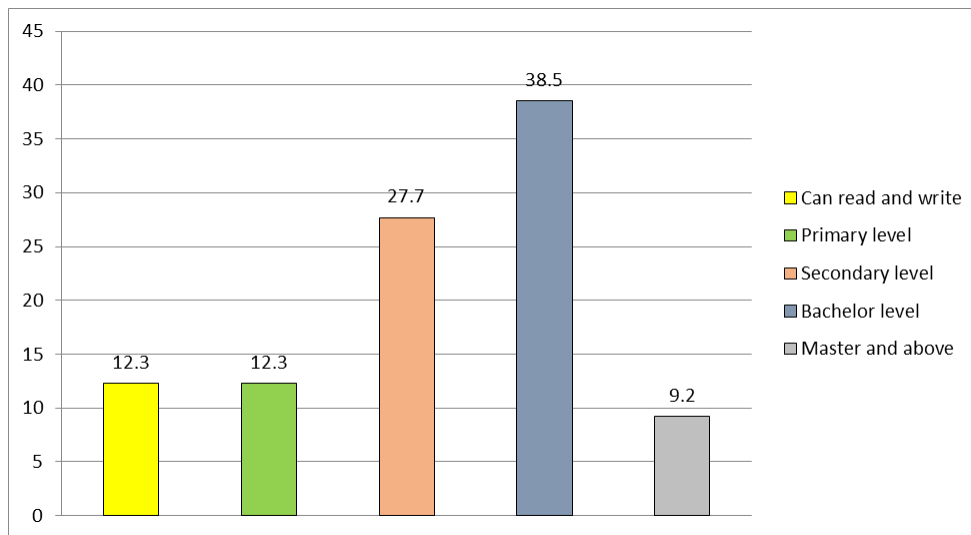

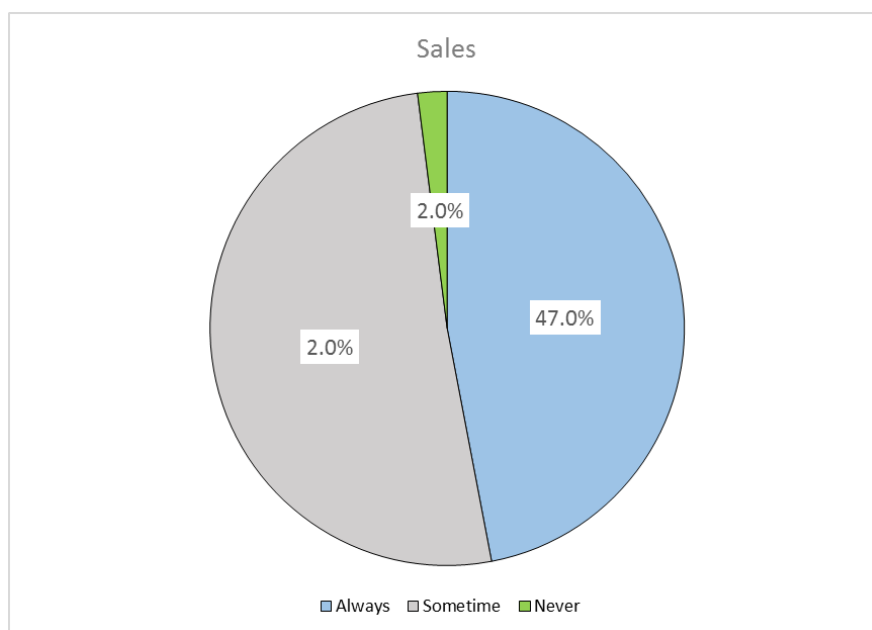**Figure 1: Respondents' Educational Status.**

Figure 2: Respondents' Response Regarding Their Listening News and Information during COVID-19 Pandemic.

Table 2: Respondents' Health Problems during Night Sleep N= 65.

SN	Characteristic	Frequency (n)	Percentage (%)
1	**Health problem during night sleep**		
	Yes	10	15.4
	No	55	84.6
2	**If yes which health problem (n=10)**		
	Cough	4	40.0
	Nocturia	4	40.0
	Back Pain	1	10.0
	Sweating	1	10.0

Table 2 shows that most of respondents had no health problem during night sleep that is 84.6%. Remaining 15.4% respondents had health problem and among them 40.0% respondents had cough and 40.0% respondents had nocturia during night sleep among adult *people.*

Table 3: Respondents' Response Regarding Their Difficulties in Sleeping N=65.

SN	Items	None	Mild	Moderate	Severe	Very severe
		n(%)	n(%)	n(%)	n(%)	n(%)
1	Difficulties faced while falling asleep	41(63.1)	17(26.2)	5(7.7)	1(1.5)	1(1.5)
2	Difficulties faced while staying asleep	45(69.2)	16(24.6)	4(6.2)	-	-
3	Problem faced waking up too early	44(67.7)	17(26.2)	3(4.6)	-	1(1.5)

Table 3 illustrates that majority of respondents (63.1%) had while falling asleep, 69.2% respondents had no difficulties while staying asleep and 67.7% respondents had no problem of waking up too early. Similarly, 26.2%, 24.6% and 26.2% respondents had mild difficulties while falling asleep, staying asleep and waking up too early respectively. Likewise, 7.7%, 6.2% and 4.6% respondents had moderate difficulties while falling asleep, staying asleep and waking up too early respectively. Remaining 1.5% respondents faced very severe problem while falling asleep and waking up too early.
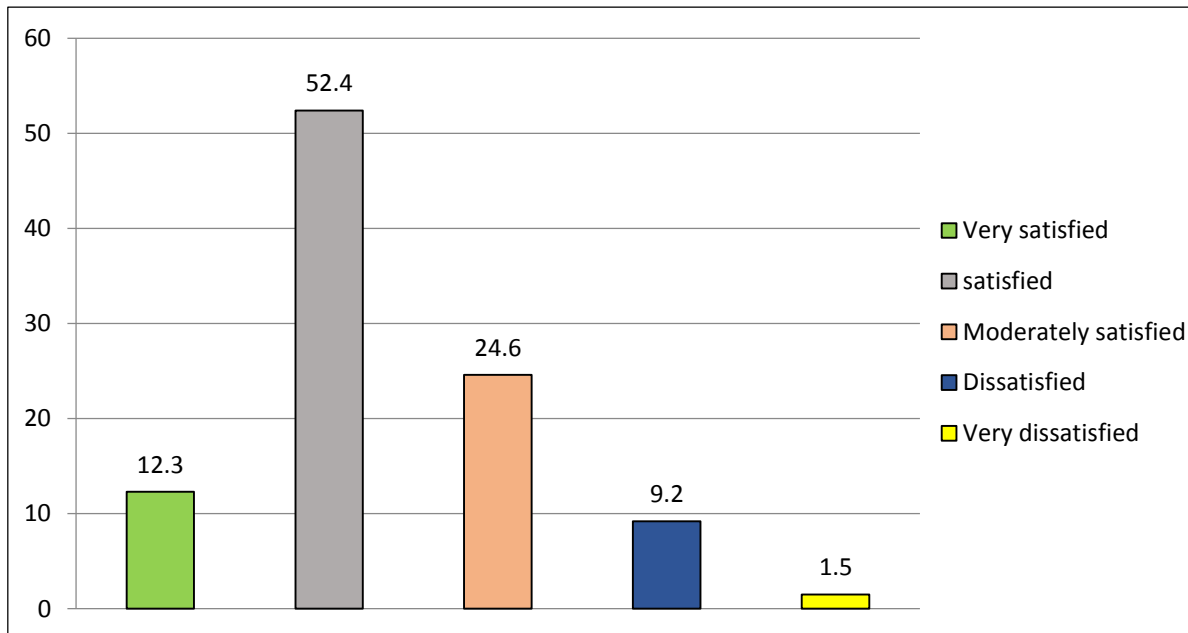

Figure 3: Respondents' Satisfaction with Sleeping Pattern.

Table 4: Respondents' Sleeping Problem N=65.

SN	Items	Not	A little	Somewhat	Much	Very Much
		n(%)	n(%)	n(%)	n(%)	n(%)
1	Sleep problem affecting quality of life	45(69.2)	18(27.8)	1(1.5)	1(1.5)	-
2	Worried about current sleep problem	44(67.7)	19(29.3)	1(1.5)	1(1.5)	-
3	Sleep problem interfering with daily functioning	40(61.5)	22(33.9)	2(3.1)	1(1.5)	-

Table 4 shows that most (69.2%) of respondents quality of life hasn't affected due to sleep problem, 27.8% respondents sleep problem had affected quality of life a little. Similarly, most (67.7%) respondents were not worried, 29.3% respondents were worried a little about current sleep problem. Most of respondents (61.5%) daily functioning was not interfered whereas 33.9% respondent daily functioning was interfered due to sleep problem.

Table 5: Respondents' Total Sleep Quality N=65.

SN	Category of sleep quality	Frequency	Percentage
1	Good sleep quality (7-15)	56	86.2
2	Fair sleep quality (16- 25)	8	12.3
3	Poor sleep quality (26- 35)	1	1.5

Table 5 represents that majority of respondents (86.2%) had good sleep quality whereas 12.3% respondents had fair sleep quality and only 1.5% respondents had poor sleep quality during COVID-19 pandemic.

5. DISCUSSION

The present study revealed that the respondents was from the age group of 20-40 years and 36.9% respondents were from 20-25 years. The mean age and standard deviation were 28.37± 6.17. Similarly, most of respondents (56.9%) were married and 38.5% educational level was bachelor. Likewise, 36.9% respondents were financially dependent on other and 6.2% respondents were suffer from chronic disease. Mostly, 47.0% respondents always take information and news whereas 51.0% sometime take information and news and 2.0% never take information and news related to COVID-19. Most of respondent 84.6% had no health problem during night sleep.

Discussion Regarding Sleep Quality
Present study shows that majority of respondents (63.1%) had no difficulties while falling asleep, 69.20% respondents had no difficulties while staying asleep and 67.7% respondents had no problem of waking up too early. This finding was supported by study done Nepal shows that 47.1% respondents had no difficulties while falling asleep, 45.6% respondents had no difficulties while staying asleep and 42.2% respondents had no problem of waking up too early.[16]

Current study shows that 26.2%, 24.6% and 26.2% had mild difficulties while falling asleep, staying asleep and waking up too early respectively. Similarly, 7.7%, 6.2% and 4.6% respondents had moderate difficulties while falling asleep, staying asleep and waking up too early respectively. This finding was supported by study done in Nepal which shows that 21.4%, 29.6% and 19.9% had mild difficulties while falling asleep, staying asleep and waking up too early respectively. Likewise, 17.5%, 17.5% and 20.4% respondents had moderate difficulties while falling asleep, staying asleep and waking up too early respectively.[16]

This study shows that 1.5% respondents had very severe difficulties while falling asleep and 1.5% respondents had faced very severe problem waking up too early. This finding was supported by study done Nepal shows 2.4% had very severe difficulties while falling asleep and 4.9% respondents had faced very severe problem waking up too early.[16]

Current study shows that more than half of respondents (52.4%) were satisfied with current sleeping pattern and 9.2% of respondents were dissatisfied with their current sleeping pattern. Similarly, study done on Bangladesh shows that 77.3% respondents were satisfied with their sleep whereas 22.7% were not satisfied with their sleep.[17]

Current study shows that majority of respondents (86.2%) had good sleep quality whereas 12.3% respondents has fair sleep quality and only 1.5% respondents had poor sleep quality during COVID-19 pandemic. Previous study done in Nepal shows sleep quality was more negatively affected is which 54.7% respondents had good sleep quality, 22.8% respondents had fair sleep quality and 5.3% respondents had poor sleep quality during COVID-19 pandemic.[18]

6. CONCLUSSION

Based on study findings it can be concluded that more than two-third of the respondents had good sleep quality whereas less than quarter respondents had fair sleep quality and only one respondents had poor sleep quality. Almost quarter of respondents sleep problem had affected their quality of life.

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