



THE STUDY WAS CARRIED OUT TO ASSESS QUALITY OF SLEEP AND PERCEIVED SLEEP DISTRACTORS AMONG PATIENTS ADMITTED AT MMIMS&R HOSPITAL MULLANA AMBALA.

Mr. Prakash Jha*	Nursing Tutor, Department of Mental Health Nursing, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India. *Corresponding Author
Ms. Preeti Anand	Students, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India.
Mr. Prashant	Students, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India.
Ms. Priya	Students, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India.
Ms. Priyanka Roy	Students, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India.
Ms. Priyanka Saini	Students, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India.
Ms. Bhagwoti	Students, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India.
Mr. Rajat Sohal	Students, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India.
Ms. Rajni Rani	Students, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India.
Mr. Ramdev	Students, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana-133207. Haryana. India.

ABSTRACT

A good high-quality of sleep and it's have an effect on in daily existence of both the healthful and sick character turns into one of the most important cognizance of problem. **Aims:** The study aimed to assess the Quality of Sleep and Perceived Sleep Distractors among patients. **Methods:** Non-Experimental descriptive research design was conducted among 135 patients through convenient sampling technique. Modified Sleep quality Scale and Structured Perceived Sleep Distractors Perfoma was used. **Results:** Showed (27.4%) of the patients had poor quality of sleep, most of the patients (47.4%) were having fair quality of sleep. Most of the patients (52.6%) were having severe distractions while sleeping, less than half (44.4%) were having moderate level of distractions while sleeping only (3.0%) perceived very severe distraction during hospital stay. There was a moderate positive relationship between Quality of Sleep and Perceived Sleep Distractors Score ($r=0.113$, $p=0.19^{NS}$). Further the results also indicated that quality of sleep is only associated with Patient admitted in (department) ($\chi^2 = 30.652$, $p=0.01$) whereas perceived sleep distractors is associated with Education status ($\chi^2 = 17.280$, $p=0.02$), Duration of Hospitalization ($\chi^2 = 45.425$, $p=0.00$), Patient admitted in (department) ($\chi^2 = 28.066$, $p=0.03$). **Conclusion:** The study concludes that there is a need to identify factors responsible that hinders good quality sleep among patients admitted in hospital as well as the sleep quality can be enhanced by decreasing the sleep distractors and thus it can be helpful in the early recovery of the patients.

KEYWORDS : Quality of sleep, Perceived sleep distractors, Patients.

INTRODUCTION:

Sleep is a basic human need. It is a state of rest accompanied by alters consciousness. Sleep is one of the important elements of daily cycle and is referred to as the source of energy, mental improvement and pacifier. REM sleep is associated with improved blood flow to the brain, increased cortical activity, oxygen consumption, and release of nephrine. Metabolic rate decreases by 5- 25% during night sleep.

Poor sleep quality can decrease the person's feelings, thoughts, and motivation. Almost 70% of those referring to psychiatric clinics complain of sleep disorder; a percentage that cannot be neglected. About 50-70 million American humans particularly suffers from persistent sleep issues.

Additionally, inadequate sleep is linked to an increased body mass index (BMI), changes in the hormonal levels that

regulate hunger. Insomnia is a subjective complaint of dissatisfaction with the quantity, quality or timing of sleep. Generally less than 6 hours sleep is considered to be insomnia.

It has shown that poor quality sleep is the third most common health problem of older adults, ranking behind headaches and gastrointestinal disorders⁵ In a survey of greater than 9000 aged adults 65 years and older, 28% of hospitalized sufferers had complained the issue in beginning sleep, and approximately 42% folks stated difficulty in each initiating and retaining a great sleep.

Hospitalization is a difficult moment for a patient, in addition to the physical illness leading to admission and the psychological stress. Sleep disturbances were also frequently reported by hospitalized patients. Treatment of insomnia in the institutional setting is generally aimed at correcting underlying medical disorders, reducing environmental sleep disruptions.⁸Hospitals are usually a place where having high-quality sleep is a challenge. Noise is another environmental factor that has been shown to disrupt sleep in inpatients.¹²

METHODS

Quantitative Non Experimental Research study was carried out from April 2020-May 2021 to assess the quality of sleep among patients and perceived sleep distractors among patients admitted at MMIMS&R Hospital Mullana, Ambala through Convenient sampling technique. Data was collected from 135 subjects through telephonic interview technique using Modified Sleep Quality Scale and Perceived Sleep Distractors Performa Questionnaire.

INCLUSION CRITERIA

The study included the participants who were age 18 years and above, willing to participate, able to understand and respond in Hindi or English, alert, oriented, and comprehend to respond.

Data analysis

In sample characteristics data showed the comparison among patients. Less than half of the patients (23%) were in the age group of 33-46 years, more than half of the patients (52%) were in the age group 18-32 years whereas very few (13%) were in the age group of 47-59 years similarly (13%) patients were in 60 years and above. Most of the patients (53%) were male whereas less than half (47%) were female. Majority of the patients (58%) were married and less than 2/3rd patients were unmarried whereas least number of patients (6%) were separated/ widow. Maximum patients (43%) were unemployed, less than 2/3rd i.e. (24%) were employed and (18%) were home maker, (11%) of the patients was self employed or having their own business, minority of the patients (4%) was Government employee. Only (11%) the patients were non-literate and nearly 1/3rd of the patients were having primary education (23%) and graduation (24%) whereas approximately 2/3rd patients were having secondary level of education and very few were having post graduation and above education. Regarding family income least number of patients (15%) were having income <10,000 rupees and nearly half of the patients (38%) were having income between 10001-20000 rupees, and (28%) were having family income 20001-30000 rupees and least number of patients (16%) were having family income more than rupees 30001. Most of the patients (65%) were living in nuclear families whereas less than half were in joint families. Majority of the patients (74%) were suffering from acute illness less than half patients (26%) were chronically ill. Most of patients (73%) were hospitalized in hospital for about 3-6 days and less than half of the patients were hospitalized for about 7-14 days whereas very few patients were admitted to hospital for 15 days or more. More than 2/3rd of the patients (64%) said that they are not taking any

nap during day time but very few (36%) patients said that they are taking nap during day time. Almost all the patients (93%) said they are not adopting any measure to promote their sleep, but some said they are adopting some measures to adopt sleeping pattern. More than half of the patients (59%) were usually gone to bed between 10:01pm-12am and less than 2/3rd patients go to bed between 8pm-10pm. Most of the patients wake up between 5:31am-8am, whereas less than half of the patients (38%) wake up by 3am-5:30 am. (33%) of patients were from medical ward, (13%) were from surgery ward and (19%) were from orthopedics, (10%) were admitted in general ward whereas very few were admitted in TB Chest, Nephrology, Neurology, Gynecology, & ENT ward i.e.(27%) .

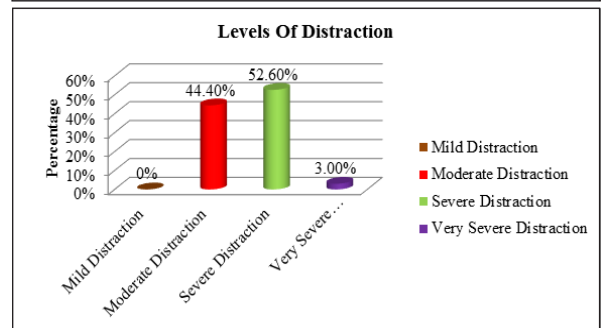
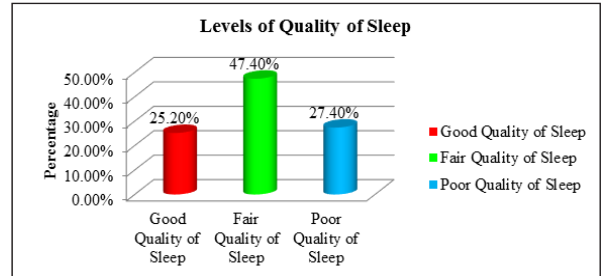


Figure 1: Cylindrical Bar graph showing level of quality of sleep & Perceived Sleep Distractors

Table 1: Range, Mean, Standard Deviation and Median in term of Quality of Sleep Scores Among Patients admitted at MMIMS&R Hospital Mullana, Ambala

Variable	Actual Range	Obtained range	Mean ± SD	Median
Quality of sleep	0-84	29-69	52.19±11.67	55
Perceived sleep distractors	0-72	11-58	34.77±8.27	36

The mean score of and median for quality of sleep is patients was 52.19±11.67 & 55 with the range of 29-69, whereas for perceived sleep distractor 34±8.27 and 36 the range of 11-58 respectively.

Table 2: Correlation between Quality of Sleep and Perceived Sleep Distractors Score among adult patients N=135

Pearson's Correlation	PAIR	
	SLEEP QUALITY SCALE SCORE	SLEEP DISTRACTOR
Mean	52.193	34.770
SD	11.667	8.265
Correlation (r)	0.113	
P Value	0.19 ^{NS}	

NS -Not significant (p>0.05) r =0.113(0.169)

The Coefficient of Correlation between quality of sleep and perceived sleep distractors among the patients of MMIMS&R. The computed "r" value (0.113) between Quality of sleep and perceived sleep distractors was not significant i.e. 0.19 at 0.05 level of significance. The findings suggest that there is

moderate positive relationship between Quality of sleep scores and Perceived sleep distractors among patients.

Table 3: Chi square showing association of levels of Quality of sleep Among patients admitted at MMIMS&R Hospital Mullana, Ambala N= 135

S. no.	Selected variables	Quality of sleep			χ^2	df	Pvalue
		POOR QUALITY OF SLEEP	FAIR QUALITY OF SLEEP	GOOD QUALITY OF SLEEP			
1	Age (in years)						
1.1	18-32	21	33	16	3.051	6	0.80 ^{NS}
1.2	33-46	6	16	9			
1.3	47-59	3	8	6			
1.4	60 years and above	4	7	6			
2	Gender						
2.1	Male	17	24	22	4.745	2	0.09 ^{NS}
2.2	Female	17	40	15			
3	Marital Status						
3.1	Married	15	39	24	4.924	4	0.29 ^{NS}
3.2	Unmarried	17	20	12			
3.3	Separated/widow (er)	2	5	1			
4	Employment Status						
4.1	Unemployment	14	31	13	7.346	8	0.50 ^{NS}
4.2	Employed	9	13	11			
4.3	Self-employed/Business	4	4	7			
4.4	Home maker	6	14	4			
4.5	Government Employee	1	2	2			
5	Education status						
5.1	Non-literate	4	6	5	8.272	8	0.40 ^{NS}
5.2	Primary Education	9	14	8			
5.3	Secondary Education	11	22	16			
5.4	Graduation	7	21	5			
5.5	Post graduation and above	3	1	3			
6	Family income/month (in rupees)						
6.1	<10,000	5	13	2	5.331	6	0.50 ^{NS}
6.2	10,001-20,000	13	23	15			
6.3	20,001-30,000	10	18	10			
6.4	>30,001	6	10	10			
7	Type of family						
7.1	Nuclear	24	38	26	1.811	2	0.40 ^{NS}
7.2	Joint	10	26	11			
8	Area of Living						
8.1	Urban	19	22	18	4.681	2	0.09 ^{NS}
8.2	Rural	15	42	19			
9	Type of present illness						
9.1	Acute	26	51	23	3.886	2	0.14 ^{NS}
9.2	Chronic	8	13	14			
10	Duration of hospitalization (in days)						
10.1	3-6 days	22	54	23	9.111	6	0.16 ^{NS}
10.2	7-14 days	10	8	12			
10.3	15-22 days	1	2	1			
10.4	23-30 days	1	0	1			

11 Any nap taken in day time?							
11.1	No	22	37	27	2.350	2	0.30 ^{NS}
11.2	Yes	12	27	10			
12 Are you adopting any measure to promote your sleep?							
12.1	No	30	61	34	1.658	2	0.43 ^{NS}
12.2	Yes	4	3	3			
13 When have you usually gone to bed?							
13.1	Before 8 pm	0	0	2	6.689	4	0.15 ^{NS}
13.2	8pm-10pm	11	28	15			
13.3	10:01pm-12am	23	36	20			
14 What time have you usually gotten up in the morning?							
14.1	Before 3 am	0	0	0	2.423	4	0.65 ^{NS}
14.2	3am-5:30am	11	26	14			
14.3	5:31am-8am	20	36	22			
14.4	After 8 am	3	2	1			
15 Patient Admitted in (Department)							
15.1	General ward	6	4	3	30.652	16	0.01*
15.2	Surgical ward	3	8	6			
15.3	Orthopedic ward	5	13	7			
15.4	Medical ward	14	25	5			
15.5	TB Chest ward	2	5	3			
15.6	Nephrology ward	3	2	4			
15.7	Neurology ward	0	0	5			
15.8	Gynecology ward	1	5	1			
15.9	ENT ward	0	2	3			

^{NS} -Not significant (p>0.05) * - significant (p ≤ 0.05)
 $\chi^2(1) = 3.84, \chi^2(2) = 5.99, \chi^2(3) = 7.82, \chi^2(4) = 9.44$

It infers that all the selected variables are not significantly associated (quality of sleep is not dependent on selected variables) as calculated p value was higher than 0.05.

This table indicates that quality of sleep is only associated with Patient admitted in (department) ($\chi^2 = 30.652, p = 0.01$).

Table 4: Chi square showing association of perceived sleep distractors among patients admitted at MMIMS&R Hospital Mullana, Ambala N= 135

S. no.	Selected variables	Perceived sleep distractors				χ^2	df	Pvalue
		Mild Distractors	Moderate distractors	Severe distractors	Very severe distractors			
1	Age (in years)							
1.1	18-32	0	33	36	1	8.538	6	0.20 ^{NS}
1.2	33-46	0	10	19	2			
1.3	47-59	0	6	11	0			
1.4	60 years and above	0	11	5	1			
2	Gender							
2.1	Male	0	25	36	2	1.086	2	0.58 ^{NS}
2.2	Female	0	35	35	2			
3	Marital Status							

3.1	Married	0	35	40	3	4.209	4	0.37 ^{NS}
3.2	Unmarried	0	19	29	1			
3.3	Separated/ widow(er)	0	6	2	0			
4	Employment Status							
4.1	Unemployment	0	30	27	1	9.269	8	0.32 ^{NS}
4.2	Employed	0	16	17	0			
4.3	Self-employed/ Business	0	3	11	1			
4.4	Home maker	0	9	13	2			
4.5	Government Employee	0	2	3	0			
5	Education status							
5.1	Non-literate	0	7	6	2	17.280	8	0.02*
5.2	Primary Education	0	14	17	0			
5.3	Secondary Education	0	17	30	2			
5.4	Graduation	0	21	12	0			
5.5	Post graduation and above	0	1	6	0			
6	Family income/month (in rupees)							
6.1	<10,000	0	12	8	0	5.599	6	0.47 ^{NS}
6.2	10,001-20,000	0	24	25	2			
6.3	20,001-30,000	0	13	23	2			
6.4	>30,001	0	11	15	0			
7	Type of family							
7.1	Nuclear	0	38	48	2	0.680	2	0.71 ^{NS}
7.2	Joint	0	22	23	2			
8	Area of Living							
8.1	Urban	0	20	36	3	5.629	2	0.06 ^{NS}
8.2	Rural	0	40	35	1			
9	Type of present illness							
9.1	Acute	0	48	49	3	2.046	2	0.36 ^{NS}
9.2	Chronic	0	12	22	1			
10	Duration of hospitalization (in days)							
10.1	3-6 days	0	57	42	0	45.425	6	0.00*
10.2	7-14 days	0	2	25	3			
10.3	15-22 days	0	1	3	0			
10.4	23-30 days	0	0	1	1			
11	Any nap taken in day time?							
11.1	No	0	32	51	3	5.040	2	0.08 ^{NS}
11.2	Yes	0	28	20	1			
12	Are you adopting any measure to promote your sleep?							
12.1	No	0	55	67	3	2.206	2	0.33 ^{NS}
12.2	Yes	0	5	4	1			
13	When have you usually gone to bed?							
13.1	Before 8 pm	0	1	1	0	3.156	4	0.53 ^{NS}
13.2	8pm-10pm	0	26	28	0			
13.3	10:01pm-12am	0	33	42	4			
14	What time have you usually gotten up in the morning?							
14.1	Before 3 am	0	0	0	0	5.268	4	0.26 ^{NS}
14.2	3am-5:30am	0	25	25	1			
14.3	5:31am-8am	0	32	44	2			
14.4	After 8 am	0	3	2	1			
15	Patient Admitted in (Department)							
15.1	General ward	0	1	11	1	28.066	16	0.03*

15.2	Surgical ward	0	6	10	1			
15.3	Orthopedic ward	0	17	8	0			
15.4	Medical ward	0	24	19	1			
15.5	TB Chest ward	0	4	6	0			
15.6	Nephrology ward	0	2	6	1			
15.7	Neurology ward	0	1	4	0			
15.8	Gynecology ward	0	5	2	0			
15.9	ENT ward	0	0	5	0			

NS -Not significant(p>0.05)*- significant (p ≤ 0.05)
 $\chi^2(1) = 3.84, \chi^2(2) = 5.99, \chi^2(3) = 7.82, \chi^2(4) = 9.44$

It infers that all the selected variables are not significantly associated (perceived sleep distractors is not dependent on selected variables) as calculated p value was higher than 0.05.

This table indicates that perceived sleep distractors is only associated with Education status ($\chi^2 = 17.280, p=0.02$), Duration of Hospitalization ($\chi^2 = 45.425, p=0.00$), Patient admitted in (department) ($\chi^2 = 28.066, p=0.03$).

DISCUSSION

In the present study, (27.4%) of the patients had poor quality of sleep, most of the patients (47.4%) were having fair quality of sleep, and nearly 1/3rd (25.2%) of patients were having good quality of sleep. The findings of the study is consistent with the study conducted by S.S Maryam, B. Shaiju, J. Neha et al. (2017) on assessment of quality of sleep and perceived sleep distractors among hospitalized patients, where they found that less than half of the (18%) were having mild disturbed sleep, whereas more than half of the patients (56%) were having moderate disturbed sleep, less than 1/3rd patients were having severely disturbed sleep (26%).¹³

In the present study, it showed that most of the patients (52.6%) were having severe distractions while sleeping, less than half (44.4%) were having moderate level of distractions while sleeping only (3.0%) perceived very severe distraction during hospital stay. These findings were contradictory to the various studies conducted by Preeti, A. Siddiqui, Eenu et. Al. (2018) Only (16.7%) adult patients always perceived pain as sleep distractors and only 0.07% of adult patients always perceived uncomfortable bed, bright light and telephonic conversation as perceived sleep distractors and (40.70%) of adult patients sometimes perceived pain as sleep distractors and no one perceived humidity, ventilation, uncomfortable bed, banging of doors, trolley wheels, sweeping/dusting, monitor alarm and Telephonic conversation of visitors as sleep distractors. All the adult patients (100%) never perceived humidity, ventilation, banging of doors, trolley wheels, sweeping/dusting and monitor alarm as perceived sleep distractors. Whereas only (30%) of adult patients never perceived pain as perceived sleep distractors.

In the present study Most of the patients 42.59% perceived nursing station noises as sleep distractor and 51.85%. Half of the patients 55.56% rarely perceived lack of privacy as sleep distractor, whereas 36.30% considered continuous medical and nursing rounds as sleep distractors, only 41.48% perceived pain as sleep distractor rarely and 42.96% perceived visitor noises as sleep distractor, whereas 34.81% rarely distracted due to prolonged same positioning. These findings are contradictory to the study conducted by S. Kulpacharapong, P. Chewcharat, K. Ruxrungham (2020) where they found the factors reported by patients with poor

sleep quality temperature, hot temperature, dyspnea, polyuria, procedure, and disturbance by visitors, mosquito in hospitalized patients to be ranging between 43% and 91%. Light exposure can affect the patients' circadian rhythm which can cause sleep disturbance and lead to poor sleep quality.

CONCLUSION

Majority of the patients had fair quality of sleep among patients. Whereas about 1/3rd patients were having good quality of sleep and few were having poor quality of sleep. The reason for having poor quality of sleep is due to moderate to severe form of distraction in hospital.

The overall level of patients' quality of sleep is fair. There was positive correlation between quality of sleep and perceived sleep distractors. There was significant association of quality of sleep with patient admitted in (department). Whereas in perceived sleep distractor the association is with education status, duration of hospitalization, patient admitted in (department). Concerned authorities should work on improving the caring environment in the usual classes for improving quality of sleep by controlling the distractors.

Acknowledgement:

The authors express their whole hearted thanks to Dr.(Mrs) Jyoti Sarin, Dean Principal, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana, Haryana for her invaluable suggestions and constant motivation, timely support and guidance during the study period and Hospital authority along with all Patients who participated in the study and made our research prosperous.

REFERENCES

- Berman A, Kozier B. Kozier & Erb's Fundamentals Of Nursing: Concepts, Process, And Practice. Pearson Prentice Hall; 2008. 1631 P
- Lashkaripour K, Bakshani NM, Mafi S. Interdisciplinary Journal Of Contemporary Research In Business Sleep Quality Assessment Of Medicine Students And Physician (Medical) Assistants Interdisciplinary Journal Of Contemporary Research In Business. 2012 [Cited 2020 Apr 2]; Available From: [Http://Journal-Archives26. Webs.Com/443-450.Pdf](http://Journal-Archives26.Webs.Com/443-450.Pdf)
- Potter PA, Perry AG, Stockert P, Hall A. Fundamentals Of Nursing. 1392 P
- Ahuja N. A Short Textbook Of Psychiatry [Internet]. Jaypee Brothers Medical Publishers; 2011 [Cited 2020 May 21]. Available From: [Http:// Www. Jaypee brothers.Com/Pgdetails.aspx?Book_Id=9789380704661](http://Www. Jaypee brothers.Com/Pgdetails.aspx?Book_Id=9789380704661)
- Adib-Hajbaghery M, Izadi-Avanji F, Akbari H. Quality Of Sleep And Its Related Risk Factors In Hospitalized Older Patients In Kashan's Hospitals, Iran 2009. Iran J Nurs Midwifery Res [Internet]. 2012 Sep [Cited 2017 Apr 25];17(6):414–20. Available From: [Http://Www.Ncbi. Nlm.Nih.Gov/ Pubmed/ 23922581](http://Www.Ncbi. Nlm.Nih.Gov/ Pubmed/ 23922581)
- Sleep Disorders And Sleep Deprivation [Internet]. Washington, D.C.: National Academies Press; 2006 [Cited 2020 Apr 23]. Available From: [Http://Www.Nap.Edu/Catalog/11617](http://Www.Nap.Edu/Catalog/11617)
- Shim J, Kang SW. Behavioral Factors Related To Sleep Quality And Duration In Adults. J Lifestyle Med [Internet]. 2017 Jan [Cited 2021 Feb 24];7(1):18–26. Available From: [Http://Www.Ncbi.Nlm.Nih.Gov/Pubmed/28261557](http://Www.Ncbi.Nlm.Nih.Gov/Pubmed/28261557)
- Frighetto L, Marra C, Bandali S, Wilbur K, Naumann T, Jewesson P. An Assessment Of Quality Of Sleep And The Use Of Drugs With Sedating Properties In Hospitalized Adult Patients. Health Qual Life Outcomes [Internet]. 2004 Mar 24 [Cited 2021 Apr 01];2:17. Available From: [Http://Www.Ncbi.Nlm.Nih.Gov/Pubmed/15040803](http://Www.Ncbi.Nlm.Nih.Gov/Pubmed/15040803)
- Ghanbari Jolfaei A, Makvandi A, Pazouki A. Quality Of Sleep For Hospitalized Patients In Rasoul-Akram Hospital. Med J Islam Repub Iran [Internet]. 2014 [Cited 2020 November 24];28:73. Available From: [Http://www. Ncbi.Nlm.Nih.Gov/Pubmed/25405138](http://www. Ncbi.Nlm.Nih.Gov/Pubmed/25405138)
- Roth T. Insomnia: Definition, Prevalence, Etiology, And Consequences. J Clin Sleep Med [Internet]. 2007 Aug 15 [Cited 2021 Dec 26];3(5 Suppl):S7-10. Available From: [Http://Www.Ncbi.Nlm.Nih.Gov/Pubmed/17824495](http://Www.Ncbi.Nlm.Nih.Gov/Pubmed/17824495)
- Bano M, Chiaromanni F, Corrias M, Turco M, De Rui M, Amodio P, Et Al. The Influence Of Environmental Factors On Sleep Quality In Hospitalized Medical Patients. Front Neurol [Internet]. 2014 [Cited 2021 Apr 2];5:267. Available From: <http://www.Ncbi. Nlm.Nih.Gov/Pubmed/25566173>
- Costa SV Da, Ceolim MF. Fatores Que Interferem Na Qualidade Do Sono De Pacientes Internados. Rev Da Esc Enferm Da USP [Internet]. 2013 Feb [Cited 2020 May 25];47(1):46–52. Available From: [Http://Www.Scielo.Br/ Scielo.Php?Script=Sci_Arttext&Pid=S0080- 623420 1300010000 6& Lng=Pt &Nrm=Iso&Tlng=En](http://Www.Scielo.Br/ Scielo.Php?Script=Sci_Arttext&Pid=S0080- 623420 1300010000 6& Lng=Pt &Nrm=Iso&Tlng=En)
- Maryam, S. S., Shaiju, B., & John, N. (2017). Assessment Of Quality Of Sleep And Perceived Sleep Distracters Among Hospitalised Patients, 7(April), 317–324.
- Kulpatcharapong, S., Chewcharat, P., Ruxrungtham, K., Gonlachanvit, S., Patcharatrakul, T., Chaitusaney, B., ... Chirakalwasan, N. (2020). Sleep Quality Of Hospitalized Patients , Contributing Factors , And Prevalence Of Associated Disorders, 2020.