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Research Article

### ASSESSMENT OF HEALTH-RELATED QUALITY OF LIFE AND SLEEP QUALITY AMONG PATIENTS OF INSOMNIA IN PAKISTAN

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**Abstract:**

*Insomnia is the most frequent sleep related complaint and labeled as a 24 hour disorder. Sleep insufficiency both in terms of sleep quantity and quality have significant direct and indirect effects on health related quality of life. Objective: The aim of the present study was to assess health related quality of life and quality of sleep among patients of insomnia in twin cities of Pakistan. Methodology: A descriptive cross-sectional study design was used. Health related quality of life among insomniacs was measured by SF-36 and sleep quality was assessed by PSQI. Both questionnaires were distributed to a sample Of 382 insomniacs selected through convenience sampling technique. After data collection, data was cleaned, coded and analyzed statistically by using Mann-Whitney and Kruskal Wallis ( $p \geq 0.05$ ) tests. Results: Lower mean scores of HRQoL were observed in the domain of role physical ( $35.32 \pm 11.04$ ) followed by role emotional ( $45.54 \pm 10.59$ ) and social functioning ( $49.64 \pm 10.34$ ), whereas highest mean scores were observed in the domain of mental health ( $69.36, \pm 12.96$ ). Analyzing the scores of the respondents with different age groups reported a significantly higher ( $p=0.005$ ) physical health component score (PCS) among insomnia patients of age group between 18-30 years. A significant difference ( $p=0.001$ ) in physical health component score (PCS) of unmarried respondents was observed, on the other hand married respondents with ( $p=0.023$ ) reported better mental health component score (MCS). The results also highlighted that among domains of Pittsburgh Sleep Quality index respondents have most effected sleep quality among domain of Sleep disturbances ( $10.75, \pm 4.25$ ) followed by sleep latency ( $4.39, \pm 1.49$ ) and Day time dysfunction ( $4.29, \pm 1.75$ ). Conclusion: The current study concluded that insomnia had an influence on all domains of HRQoL with greatest impact reported in role physical, role emotional and social functioning due to compromised physical health. The general health was below good among insomniacs with significantly lower sleep quality as a result of sleep disturbances and sleep latency also causing great impact as daytime dysfunction.*

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**INTRODUCTION:**

One of the most common disorders treated by primary care practitioners is insomnia. Insomnia treatment costs can be high and complications can be serious. Females and elderly are diagnosed more frequently with insomnia. Mental disorders including depressive disorders, bipolar disorder, psychotic disorders, anxiety disorders, eating disorders, reported to affect sleep quantity and quality [1]. Insomnia is associated with low levels of health related quality of life including both physical and mental health domains. Workload, irregular sleep wake schedule, poor sleep hygiene, stress and environmental factors contribute towards poor health related quality of life (HRQoL) and quality of sleep [2]. The status of mental health and emotional quality of life (QoL) has been reported poor in patients suffering from mild and severe insomnia. The status of general health was also poor among insomniacs and the poor QoL was related to disease severity [3].

Individuals with impaired sleep have compromised psychosocial and work place performance directly affecting their HRQoL. Insomnia is linked to substantial health care resource use, reduction in workforce and productivity. Increasing prevalence of insomnia especially among students is an area of concern at present in Pakistan. It has been reported that among general population 30% of individual does not always sleep and 5% individual never sleep well. The estimated prevalence of insomnia in males is 28.6% and among females 32.7%. Alarming rise in sale of medicines used for management of insomnia among Pakistani people is being observed, especially among urban population. Sleep and sleep hygiene has been reported as ignored area of clinical care necessitating need of further research and interventions in terms of patient educational programs in Pakistan [4]. Strategies should be designed to prevent negative impact of insomnia on health related quality of life through targeted interventions related to its control and prevention. However, limited evidence regarding current HRQoL and sleep quality among insomniacs is available in Pakistan which is required to design effective strategies for improving quality of sleep. Thus, the present study was designed to assess health related quality of life and sleep quality among insomniac patients in Pakistan.

**METHOD:**

A descriptive cross-sectional study design was used to assess health Related Quality of Life (HRQoL) and

sleep quality among the insomnia patients in twin cities i.e. Islamabad (Federal Capital) and Rawalpindi (Twin city), Pakistan. Study approval was taken from ethical committee of Hamdard University. Approval was taken from respective authorities of different hospitals and clinics from where data was collected. Besides this, Informed and verbal consent form for participation was also taken from the respondents. Respondents were ensured for the confidentiality of information verbally as well as confidentiality under taking was signed by the principal investigator. Study site for this research included outpatient neurology and psychiatry departments located in public and private hospitals, neurology & psychiatry clinics and associated pharmacies in twin cities of Pakistan. Study respondents were categorized as insomniac on basis of Diagnostic and Statistical Manual of Mental Diseases (DSM-IV) [5], of any age more than 18 year, gender, occupation, literacy level, economic group of society and treated in any health care facility. Patients of any disease such as hypertension, diabetes or any other co-morbidity with insomnia were included in study. Persons, who were not fulfilling the diagnostic criteria for insomnia according to DSM-IV, were excluded. Clinical interviews using DSM-IV were conducted by principal investigator. Rao soft sample size calculator was used for calculation of sample size of insomniac patients. The calculated sample size was 382 as to achieve 95% confidence interval with 5% margin of error. Convenience sampling technique was used to select respondents available at the time of data collection were included.

Two pre-validated structured questionnaires 36 item Short Form Health Survey (SF-36) [6] and Pittsburg Sleep Quality Index (PSQI) [7] were used for the assessment of health related quality of life and sleep quality among insomniac patients. SF-36 consisted of three sections; first section includes questions about demographics such as age, gender, marital status, qualification, socio economic status, duration of insomnia and treatment. Originally, SF-36 health domain scale raw scores were transformed to score ranging from 0 to 100. Using this metric, 0 represented the lowest possible score (worst health state) and 100 represented the highest possible score (best health state), with score in between representing the percentage of total possible score achieved by respondent on given scale. Prior to applying the scoring rule, it was essential to verify that questionnaires were scored, including the questions. All items, scales, and summary measures were needed to be scored so that a higher score indicates a better health state. Pittsburg Sleep Quality Index assesses sleep quality and disturbances of an

individual over a period of last four weeks. It is comprised of 19 questions divided into seven components that are subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication and daytime dysfunction. The higher score indicates sleep disturbances. Pilot testing was conducted on 10% of sample size after collection of data. Value of Cronbach's alpha for the SF-36 was 0.977 and for PSQI was 0.83 which is satisfactory considering that 0.68 is the cutoff value for acceptable [8]. Questionnaires were self-administered to the respondents by the investigator. To avoid biasness in study, questionnaires were collected back on the same day. Data was cleaned, coded and analyzed using SPSS version 21. Non parametric tests Mann-Whitney and Kruskal-Wallis ( $p \geq 0.05$ ) were performed to find out differences among different variables.

## RESULTS:

Among 382 respondents, 47.1% ( $n=180$ ) were males and 52.9% ( $n=202$ ) were females. Of the total respondents, 45.5% ( $n=174$ ) were matriculate, 17.3% ( $n=66$ ) were intermediate, 19.9% ( $n=76$ ) were graduate and 17.3% ( $n=66$ ) were postgraduate. Regarding the employment status of the respondents, 43% ( $n=168$ ) were employed, whereas 50.8% ( $n=198$ ) were unemployed and 5.2% ( $n=20$ ) were students. Out of all the respondents 66.8% ( $n=255$ ) belonged to urban area and 33% ( $n=126$ ) were from rural background. Out of all the respondents, 30.3% ( $n=63$ ) had duration of illness of less than 1 year, 40% ( $n=152$ ) had 1-3 year, 10.7% ( $n=41$ ) had 3-5 year, 12.6% ( $n=48$ ) had 5-10 year and 6.6% ( $n=25$ ) had >10 years history of insomnia. Out of the total respondents 71.3% ( $n=272$ ) were taking medication for management of insomnia and 28.7% ( $n=110$ ) were not on medication. Regarding co-morbidities, 84.4% ( $n=322$ ) respondents were having history of other diseases and 14.4% ( $n=55$ ) were free of co-morbidities (Table 1).

**Table 1 Demographic Characteristics**

Indicator	Total n (%)
Age	
18-30Y	126 (33)
31-40Y	93 (24.3)
41-50Y	92 (24.1)
>50Y	71 (18.6)
Gender	
Male	180 (47.1)
Female	202 (52.9)
Marital status	
Married	303 (79.3)
Unmarried	79 (20.6)
Qualification	
Matriculation	174 (45.5)
Intermediate	66 (17.3)
Graduate	76 (19.9)
Post Graduate	66 (17.3)
Residency	
Rural	126 (33)
Urban	255 (66.8)
Employment status	
Gov Employee	43 (11.3)
Private Employee	46 (12)
Self Employee	79 (20.7)
Unemployed	194 (50.8)
Student	20 (5.2)
Income status	
Rs.10,000-20,000	83 (21.7)

	Rs.21,000-35,000	102 (26.7)
	Rs.36,000-50,000	89 (23.3)
	Rs > 50,000	108 (28.3)
Duration of Insomnia	< 1 year	63(30.33)
	1-3 year	152(40)
	3.1-5 year	41(10.7)
	5.1-10 Year	48(12.6)
	>10 year	25(6.6)
Medication taken for insomnia	yes	272 (71.3)
	No	110 (28.7)
Any other Disease Present	Yes	322(84.3)
	No	55(14.4)

The results highlighted that lowest scores for HRQoL were observed in the domain of role physical (35.32,  $\pm$  11.04) followed by domain of role emotional (45.54,  $\pm$  10.59) whereas highest scores were observed in the domain of mental health (69.36,  $\pm$  25.779). A detailed description is given in (Table 2).

**Table 2 Domains of Health-Related Quality of Life (HRQOL)**

Indicator	Mean	Standard Deviation ( $\pm$ )
Physical functioning	64.96	$\pm$ 31.93
Role physical	35.32	$\pm$ 11.04
Bodily pain	56.20	$\pm$ 34.65
General health	64.71	$\pm$ 11.34
Social functioning	49.64	$\pm$ 10.34
Role emotional	45.54	$\pm$ 10.59
Vitality	63.43	$\pm$ 12.85
Mental health	69.36	$\pm$ 12.96
<b>Composite HRQoL</b>	<b>56.14</b>	<b><math>\pm</math> 5.60</b>

Comparison of HRQoL domains in different genders demonstrated no significant difference ( $p \leq 0.05$ ) among insomnia patients. Among marital status groups unmarried respondents were having significantly better HRQoL scores ( $p=0.001$ ) in physical health (PH), on the other hand married respondents with ( $p=0.023$ ) in MH. Analyzing the scores of the respondents with different age groups reported a significantly higher PH ( $p=0.005$ ) in insomnia patients of age group between 18-30 years. Significant difference ( $p=0.001$ ) was found in postgraduate group of insomnia patients having different qualification levels. With ( $p=0.029$ ) private employed patients were having better PH scores, while better mental health (MH) ( $p=0.001$ ) was observed in self employed group. Furthermore, comparison of HRQoL domains across different income levels of revealed a significant difference ( $p=0.010$ ) in HRQOL with better PH in respondents with income level between 21,000 - 35000 Rs. No significant difference among HRQoL scores was observed in different residency groups and patients with insomnia medication or non medication group (Table 3).

Table 3 Comparison of HRQOL domains by Demographic Characteristics

Demographics	Physical health component score				Mental health component score				Composite score			
	n	Mean rank	Test statistics	P-value	n	Mean rank	Test statistics	P-value	n	Mean rank	Test statistics	P-value
<b>Gender</b>	Male = 180	195.40	1747.800 <sup>a</sup>	0.266	Male = 180	190.52	18003.00 <sup>a</sup>	0.881	Male = 180	193.75	17775.00 <sup>a</sup>	0.359
	Female=202	188.02			Female=202	192.38			Female=202	189.50		
<b>Marital status</b>	Married=303	177.63	7766.500 <sup>a</sup>	<b>0.001</b>	Married=303	194.83	9140.00 <sup>a</sup>	<b>0.023</b>	Married=303	181.12	8824.500 <sup>a</sup>	<b>0.004</b>
	Unmarried=73	233.61			Unmarried=73	162.21			Unmarried=73	219.12		
<b>Age</b>	18-30=126	219.11	12.814 <sup>b</sup>	<b>0.005</b>	18-30=126	193.16	3.381 <sup>b</sup>	0.336	18-30=126	214.07	8.367 <sup>b</sup>	<b>0.039</b>
	31-40=93	182.45			31-40=93	175.08			31-40=93	173.99		
	41-50=92	168.49			41-50=92	204.51			41-50=92	183.00		
	>50=71	184.17			>50=71	193.20			>50=71	185.39		
<b>Qualification</b>	Matric = 174	186.57	30.03 <sup>b</sup>	<b>0.001</b>	Matric = 174	181.85	6.140 <sup>b</sup>	<b>6.109</b>	Matric = 174	180.25	23.51 <sup>b</sup>	<b>0.001</b>
	Intermediate = 66	225.47			Intermediate = 66	201.88			Intermediate = 66	228.68		
	Graduate = 76	140.95			Graduate = 76	215.01			Graduate = 76	155.61		
	Postgraduate = 66	228.74			Postgraduate = 66	179.49			Postgraduate = 66	225.32		
<b>Job status</b>	Govt employee = 43	169.63	10.55 <sup>b</sup>	<b>0.029</b>	Govt employee = 43	148.86	29.28 <sup>b</sup>	<b>0.001</b>	Govt employee = 43	160.70	7.62 <sup>b</sup>	0.106
	Private employee = 46	221.50			Private employee = 46	188.23			Private employee = 46	219.61		

	Self employee = 79	165.38			Self employee = 79	245.36			Self employee = 79	199.14		
	Unemployed =194	199.55			Unemployed =194	184.35			Unemployed =194	191.52		
	Student = 20	194.65			Student = 20	147.28			Student = 20	166.70		
<b>setting</b>	urban= 255	190.96	16055.00 <sup>a</sup>	0.993	urban= 255	185.30	14612.00 <sup>a</sup>	0.152	urban= 255	191.10	16040.00 <sup>a</sup>	0.981
	rural= 126	191.08			rural= 126	202.53			rural= 126	190.80		
<b>Current salary</b>	Rs. 10-20,000= 83	193.08	12.69 <sup>b</sup>	<b>0.010</b>	Rs. 10-20,000= 83	187.55	2.800 <sup>b</sup>	0.597	Rs. 10-20,000= 83	188.78	15.22 <sup>b</sup>	<b>0.002</b>
	Rs. 21-35,000= 102	206.14			Rs. 21-35,000= 102	202.55			Rs. 21-35,000= 102	206.80		
	Rs. 36-50,000= 89	204.99			Rs. 36-50,000= 89				Rs. 36-50,000= 89	212.44		
	>50,000=108	169.85			>50,000=108	191.66			>50,000=108	166.19		
<b>On Insomnia treatment</b>	Yes = 266	185.58	13853.00 <sup>a</sup>	<b>0.423</b>	Yes = 266	189.03	14489.00 <sup>a</sup>	0.881	Yes = 266	188.62	14598.00 <sup>a</sup>	0.974
	No = 110	195.56			No = 110	187.22			No = 110	188.21		

Mann-Whitney<sup>a</sup>;Kruskal-Wallis<sup>b</sup> test (p ≥ 0.05)

The results showed that among sleep quality domains, highest scores were observed in latency of sleep as how long (in minutes) the respondent had taken to fall asleep, in group of 31-60min (n=136 ,35.6%) and 16-30 min (n=115,30.1%).The response to actual sleep hours was greater in <5hr group (n=132, 34.6%) and 6-7 hr group (n=120,31.4%).The response of insomniacs about not being able to sleep with in 30 min (n=277,72.5%),waking up in middle of night or too early (n=207,54.2),having bad dreams(n=109,28.5%), having pain (n=173,45.3%),taking insomnia medication (n=256,67.0%),problem in enthusiasm for getting work done(n=155,40.6%),difficulty in staying awake during daily activities (n=197,51.6%) was three or more times per week. The patient's response in having disturbed sleep due to breathing difficulty (n=227,59.4%), cough or snoring (n=198,51.8%), feeling too cold (n=260,68.1%), feeling too hot (n=281,73.6%) was not during last month. The highest score of patient's perceptions of their sleep quality was very bad (n=191,51.6%). A detailed description is given in (Table 4).

**Table 4 Assessment of sleep quality among patients of insomnia**

Indicator		n (%)
How long (in minutes) has it taken you to fall asleep each night	<15 min	33(8.6)
	16-30 min	115(30.1)
	31-60min	136(35.6)
	>60 min	98(25.6)
How many hours of actual sleep did you get at night	>7hr	45(11.8)
	6-7hr	120(31.4)
	5-6hr	85(22.3)
	<5hr	132(34.6)
<b>During the past month how often you had troubled sleeping because you</b>		
Cannot get to sleep within 30 minutes	Not during the past month	11(2.9)
	Less than once a week	26(6.8)
	Once or twice a week	68(17.8)
	Three or more times a week	277(72.5)
Wake up in the middle of the night or early morning	Not during the past month	12(3.1)
	Less than once a week	35(9.2)
	Once or twice a week	128(33.5)
	Three or more times a week	207(54.2)
Have to get up to use the bathroom	Not during the past month	

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	Less than once a week	87(22.8)
	Once or twice a week	96(25.1)
	Three or more times a week	112(29.3)
		87(22.8)
Cannot breathe comfortably	Not during the past month	
	Less than once a week	227(59.4)
	Once or twice a week	63(16.5)
	Three or more times a week	29(7.6)
Cough or snore loudly	Not during the past month	63(17.5)
	Less than once a week	
	Once or twice a week	198(51.8)
	Three or more times a week	53(13.9)
		63(16.5)
Feel too cold	Not during the past month	67(17.5)
	Less than once a week	
	Once or twice a week	260(68.1)
	Three or more times a week	32(8.4)
Feel too hot	Not during the past month	32(8.4)
	Less than once a week	58(15.2)
	Once or twice a week	
	Three or more times a week	281(73.6)
		7(1.8)
Have bad dreams	Not during the past month	25(6.5)
	Less than once a week	69(18.1)
	Once or twice a week	
	Three or more times a week	91(23.8)
Have pain	Not during the past month	96(25.1)
	Less than once a week	86(22.5)

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	Once or twice a week	109(28.5)
	Three or more times a week	46(12.0)
Any other reason, how often you have had trouble sleeping because of this reason	Not during the past month	74(19.4)
	Less than once a week	83(21.7)
	Once or twice a week	173(45.3)
	Three or more times a week	63(16.5)
During the past month, how often have you taken medicine (prescribed or over the counter) to help you sleep	Not during the past month	16(4.2)
	Less than once a week	76(19.9)
	Once or twice a week	227(59.4)
	Three or more times a week	256(67.0)
During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity	Not during the past month	80(20.9)
	Less than once a week	19(5.0)
	Once or twice a week	27(7.1)
	Three or more times a week	256(67.0)
During the past month, how much of a problem has it been for you to keep up enthusiasm to get things done	Not during the past month	7(1.8)
	Less than once a week	81(21.2)
	Once or twice a week	97(25.4)
	Three or more times a week	197(51.6)
During the past month, how would you rate your sleep quality overall	Very good	26(6.8)
	Fairly good	94(24.6)
	Fairly bad	107(28.0)
	Very bad	155(40.6)

3(0.8)  
74(19.4)  
114(29.8)  
191(50.0)

The results highlighted that highest scores for PSQI were observed in the domain of sleep disturbances (10.75,  $\pm$  4.25) followed by domain of sleep latency (4.39,  $\pm$ 1.49) and daytime dysfunction (4.29,  $\pm$ 1.75) which indicates lowest sleep quality in these domains. Whereas lowest scores were observed in the domain of habitual sleep efficiency (1.64,  $\pm$ 1.20) and sleep duration (1.80,  $\pm$  1.04) which indicates better sleep quality in respective domains (Table 5).

**Table 5 Domains of Pittsburgh Sleep Quality Index (PSQI) among Insomnia Patients**

Indicator	Mean Score	Standard Deviation
Subjective sleep quality	2.29	$\pm$ 0.801
Sleep latency	4.39	$\pm$ 1.49
Sleep duration	1.80	$\pm$ 1.04
Habitual sleep efficiency	1.64	$\pm$ 1.20
Sleep disturbances	10.75	$\pm$ 4.25
Use of sleep medication	2.20	$\pm$ 1.23
Day time dysfunction	4.29	$\pm$ 1.75

No significant difference ( $p \geq 0.05$ ) in sleep quality of insomnia patients was observed among different genders, marital and job status. However, significant difference ( $p \leq 0.05$ ) in sleep quality of insomnia patients was seen among different qualification level, co-morbidities, age and income groups. Patient with better qualification, income and without co-morbidities had better sleep quality (Table 6).

**Table 6: Comparison of Sleep Quality among Insomniacs by Demographic Characteristics**

Demographics	n	Mean rank	Test statistics	P-value
<b>Gender</b>	Male = 180	121.29	6618.500 <sup>a</sup>	0.491
	Female=202	121.69		
<b>Marital status</b>	Married=303	118.55	4502.50 <sup>a</sup>	0.431
	Unmarried=73	118.23		
<b>Age</b>	18-30 = 126	116.46	7.842 <sup>b</sup>	<b>0.046</b>
	31-40=93	121.06		
	41-50=92	109.81		
	>50=71	145.09		
<b>Qualification</b>	Matric = 174	136.93	11.41 <sup>b</sup>	<b>0.008</b>
	Intermediate = 66	110.87		
	Graduate = 76	100.83		
	Postgraduate = 66	114.03		
<b>Job status</b>	Govt employee = 43	120.06	6.75 <sup>b</sup>	0.146
	Private employee = 46	100.73		
	Self employee = 79	132.56		
	Unemployed =194	119.81		
	Student = 20	157.85		
<b>Current salary</b>	Rs. 10-20,000= 83	132.31	9.87 <sup>b</sup>	<b>0.043</b>
	Rs. 21-35,000= 102	104.34		
	Rs. 36-50,000= 89	123.00		
	>50,000=108	124.74		
<b>Co-morbidities present</b>	Yes = 266	130.53	4122.50 <sup>a</sup>	<b>0.001</b>
	No = 110	95.56		

Mann-Whitney<sup>a</sup>;Kruskal-Wallis<sup>b</sup> test (p ≥ 0.05)

**DISCUSSION:**

Insomnia is considered as a major public health disorder and a major cause of psychiatric problems and increased healthcare costs. HRQoL is negatively affected by insomnia and the affect is not limited to a single domain but to all domains such as mental, social and physical functioning as well as vitality and energy [9]. A number of adverse effects are observed due to improper sleep patterns. Its assessment is important in order to provide appropriate medical care [10]. The results of the present study reported lowest scores for HRQoL in the domain of role physical followed by domain of role emotional and social functioning among insomniacs. Physical functioning in most of insomnia patients was limited a lot in terms of vigorous activities and cutting down the amount of time spent in routine work. Contribution of vitality in HRQoL is inevitable. The present study reported declined vitality among insomniacs. This might be due to the low energy caused by sleep deprivation. Social functioning was extremely limited among insomnia patients, and the respondents felt the emotional problems are causing issues most of the time. Nervousness, low spirit and depressed mood was common complaints of insomnia patients. This might be associated with feeling tired and having low energy due to sleep deprivation in insomniacs. These findings are consistent with the study conducted in USA in which decreased physical and mental health as well as productivity loss and impairment in daily activities was observed in patients suffering from insomnia [11].

Moreover, the results of the current study reported most of respondents felt severe body pain during past month, which adversely affected their HRQoL. Perceived general health was also poor among insomniacs. Similar findings were reported by a study conducted in France in which mild and true insomniacs reported worst general health status than good sleepers [3]. The results of the present study revealed that among insomnia patients unmarried respondents had better HRQoL scores in terms of physical health. This might be due to having more time to look after for their selves. On the other hand married respondents were better in mental health. This could be due to relatively better sharing of responsibilities and companionship experienced by married respondents. Current study reported that among different age groups, respondents of group aged 18-30 years have significantly higher physical health, possibly due to greater incidence and risk of co-morbid conditions in insomniacs with increased age groups. Similar findings were reported from a Longitudinal Study conducted in 2009 that sleep disturbance is associated with reduced health-related

quality of life adults who were of middle age or elderly [12].

Furthermore, the results of the current study showed that better education level and income helped insomnia patients in managing their work. They had relatively better physical and mental health. This might be due to better health awareness and management of insomnia. Similar findings were reported from a study conducted in Europe [13]. On the other hand, the results of the present study revealed low sleep quality especially poor sleep latency, sleep disturbances and day time dysfunction. Gender and marital status had no effects on overall sleep quality, while quality of sleep was good in age group 40-50 and more in educated respondents. Moreover, co-morbidities also contributed in declined sleep quality. Similar findings were reported in a study conducted in Australia [14].

**CONCLUSION:**

The results of the present study concluded that insomnia had a negative impact on health related quality of life of insomnia patients across all domains with a significant likelihood of low sleep quality. The greatest impact was seen on physical health perceptions followed by mental health and role limitation due to emotional problems. HRQoL among elder patients was found to be more affected due to sleep deprivation while better qualification and income level help patient in disease management. Quality of sleep was most affected in domains of sleep latency, sleep disturbances and day time dysfunction. Pharmacological management of insomnia had no significant role in improving quality of sleep. Management care should be focused on behavioral and life style modification rather than a symptomatic relief by pharmacological treatment provided to insomnia patients at both primary and chronic phase of insomnia and treatment to avert treatment defaults.

**REFERENCES:**

1. Ohayon, M.M., *Epidemiology of insomnia: what we know and what we still need to learn*. Sleep medicine reviews, 2002. **6**(2): p. 97-111.
2. Grewal, R. and K. Doghramji, *Epidemiology of insomnia*, in *Clinical handbook of insomnia*. 2010, Springer. p. 13-22.
3. Léger, D., et al., *SF-36: evaluation of quality of life in severe and mild insomniacs compared with good sleepers*. Psychosomatic medicine, 2001. **63**(1): p. 49-55.
4. Qidwai, W., et al., *Knowledge, attitude and practices regarding sleep and sleep hygiene among patients presenting to out-patient and*

- emergency room services at a teaching hospital in Karachi.* Pakistan Journal of Medical Sciences, 2010. **26**(3): p. 629.
5. First, M.B., et al., *Structured clinical interview for DSM-IV axis I disorders*. New York: New York State Psychiatric Institute, 1995.
  6. Ware Jr, J.E. and C.D. Sherbourne, *The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection*. Medical care, 1992: p. 473-483.
  7. Buysse, D.J., et al., *The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research*. Psychiatry research, 1989. **28**(2): p. 193-213.
  8. Gliem, J.A. and R.R. Gliem. *Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales*. 2003. Midwest Research-to-Practice Conference in Adult, Continuing, and Community ....
  9. Cassano, P. and M. Fava, *Depression and public health: an overview*. Journal of Psychosomatic Research, 2002. **53**(4): p. 849-857.
  10. Strine, T.W. and D.P. Chapman, *Associations of frequent sleep insufficiency with health-related quality of life and health behaviors*. Sleep medicine, 2005. **6**(1): p. 23-27.
  11. Bolge, S.C., et al., *Association of insomnia with quality of life, work productivity, and activity impairment*. Quality of life Research, 2009. **18**(4): p. 415.
  12. Lee, M., et al., *Sleep disturbance in relation to health-related quality of life in adults: the Fels Longitudinal Study*. JNHA-The Journal of Nutrition, Health and Aging, 2009. **13**(6): p. 576-583.
  13. Chevalier, H., et al., *Evaluation of severe insomnia in the general population: results of a European multinational survey*. Journal of Psychopharmacology, 1999. **13**(4\_Suppl): p. 21S-24S.
  14. Hillman, D.R. and L.C. Lack, *Public health implications of sleep loss: the community burden*. Med J Aust, 2013. **199**(8): p. S7-S10.