

A STUDY OF SLEEP QUALITY AND QUALITY OF LIFE IN PATIENTS OF ATTEMPTED SELF HARM ATTENDING TERTIARY CARE HOSPITAL

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Received : 08/02/2023

Received in revised form : 11/03/2023

Accepted : 03/04/2023

Keywords:

Deliberate self-harm, quality of sleep, quality of life.

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DOI: 10.47009/jamp.2023.5.3.310

Source of Support: Nil,

Conflict of Interest: None declared

Int J Acad Med Pharm

2023; 5 (3); 1548-1552



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Abstract

Deliberate self-harm is a widespread yet often hidden problem in the community. Insomnia is known to be an independent risk factor for suicide. The quality of life of a person paints a picture of the stressors which might have lead to the act of self harm. So we conducted a cross sectional study of 40 patients who presented within 15 days of an act of self harm to find an association between sleep quality and quality of life and self harm. The socio-demographic data was collected using a specially designed proforma. A clinical interview was done to identify any underlying psychiatric illness using ICD-10 diagnostic criteria, the quality of sleep was assessed using Pittsburgh Sleep Quality Index and quality of life by WHOQOL-BREF scale. A significant correlation was found between sleep disturbance, poor quality of life with presence of suicidal intent in patients of self harm.

INTRODUCTION

Deliberate self harm (DSH) is a widespread yet hidden problem in our society and affects all irrespective of their gender, education, socio-economic status. The difference between suicidal and non-suicidal self injurious behavior is determined by the intent to die. Suicidal thoughts and behaviours have been conceptualised to lie on a continuum whereby those who experience suicidal thoughts may progress to make suicide plans and then, subsequently, make an attempt or die by suicide,^[1,2] so intervention in the start of this trajectory is of utmost importance for prevention. It is also important to know and understand some of the independent risk factors which can predispose an individual towards suicide. Psychiatric illnesses make up a large portion but a few psychological and biological factors like Quality of life and quality and pattern of sleep are often overlooked especially in developing countries. Insomnia has been established as a risk factor for depression and mental illness for decades, but a growing body of evidence has recently exposed insomnia to be an independent risk factor for suicide that encompasses all age ranges.^[3] Serotonin (5-HT) appears to play a significant role in suicide and in the regulation of sleep.^[4] The release of serotonin

appears to be highest during waking states, reduced during slow wave sleep, and lowest during REM sleep.^[4] Recent research suggests that serotonin release during waking states drives the homeostatic regulation of slow wave sleep.^[5] Serotonergic dysfunction, particularly a reduction in the synthesis of serotonin, is believed to promote wakefulness.^[4,6]

Assessing sleep and quality of life may reveal prognostic indicators for suicidal patients, inform clinical decision-making, and guide the development of more precise risk models for suicide. Delineating risk parameters related to sleep disturbances may also enhance assessment procedures, as well as prevention and intervention efforts. Importantly, sleep may be particularly amenable to treatment. Disturbed sleep and poor quality of life, unlike many chronic risk factors, have the potential to be undone.^[7] The present study is designed to explore the association between sleep and quality of life with self harm.

MATERIAL AND METHODS

This is a cross sectional study. The patients between age group 18-60 years, who attempted self harm attending tertiary care hospital, Sangli, Maharashtra were assessed. At the time of

interview the patient was required to be conscious, and oriented to time, place and person and should also be able to comprehend the psychiatric interview and give written informed consent. They were interviewed within 15 days of the attempt and the ones who had severe physical illness and required prolonged intensive care were excluded. 40 patients were enrolled in this study. A detailed psychiatric assessment was done and psychometric assessment of Sleep quality was done by Pittsburgh Sleep Quality Index(PSQI)^[8] where components of sleep like subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance, use of sleeping medication and daytime dysfunction was assessed. The Quality of life was assessed using WHO-QOL BREF^[9] where domains of Physical health, psychological health, social relationships, and environmental factors were taken into consideration. The physical health domain includes items on mobility, daily activities, functional capacity, energy, pain, and sleep.^[18,19] The psychological domain measures include self-image, negative thoughts, positive attitudes, self-esteem, mentality, learning ability, memory concentration, religion, and the mental status.^[18,19] The social relationships domain contains questions on personal relationships, social support, and sex life.^[18,19] The environmental health domain covers issues related to financial resources, safety, health and social services, living physical environment, opportunities to acquire new skills and knowledge, recreation, general environment (noise, air pollution, etc.), and transportation.^[18,19] Along with the socio-demographic variables, the different modes of the DSH attempts were and intention to die were assessed and their association with PQSI scores and WHOQOL-BREF scores was

made. The data analysis was done with the help of statistician

RESULTS

A sample of 40 patients with attempted self-harm were assessed out of which 21(52.5%) were male and 19(47.5%) were female. The age group 26-45years comprised of 47.5% of the sample with 40% in 18-25years age group and the remaining 12.5% in above 45 years age group. The education status showed that 77.55 had secondary level of education, 15% for primary level and the remaining 7.5% were educated up to graduation level. There were equal number of employed and unemployed individuals. When the various modes of DSH were compared, 24 patients (60%) had used method of Insecticide, followed by 6(15%) using drug overdose method, 5(12.5%) had hesitation cuts and 4(10%) used hanging as a method. Only 1 patient used drowning as a method of self-harm. The various modes of DSH were compared, drowning(PSQI: 15.0) and hesitation cuts (PSQI: 10.20±4.025) were associated with the most sleep disturbance. Quality of life was poor (<70) in all domains for all patients with the social domain affected the most(61.3). Intention to die was associated with more sleep disturbance (PSQI:12.81±2.834; p value 0.001) compared with individuals with no intent(PSQI: 5.38±3.005). Quality of life was worse in individuals with intent to die(p value 0.001) [all domains below 60, most affected domains- psychological(51.62±9.932) and social(51.38±5.644)] compared to individuals without intention to die(QOL in range: 60-70s)

Table 1: Sociodemographic details of the patients

Characteristics	Frequency (n= 40)	Percentage (%)
Age(in years)		
• 18-25	16	40
• 26-45	19	47.5
• ≥46	5	12.5
Gender		
• Male	21	52.5
• Female	19	47.5
Religion		
• Hindu	38	95
• Islam	2	5
Education		
• Primary	06	15
• Secondary	31	77.5
• Graduation	3	7.5
Employment status		
• Employed	20	50
• Unemployed	20	50
Residence:		
• Urban	33	82.5
• Rural	07	17.5

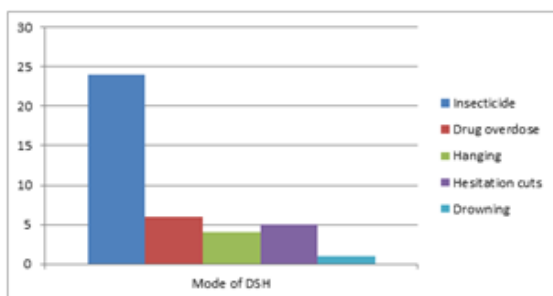


Diagram 1: Various modes of DSH attempts

Table 2: Correlation of methods of DSH attempts with PQSI scores.

DSH MODE	Global PSQI Mean±SD
Insecticide (n= 24)	7.71±4.639
Drug overdose (n=6)	8.00±4.817
Hanging (n=4)	8.75±6.076
Hesitation cuts (n=5)	10.20±4.025
Drowning (n=1)	15.0± 0
Total (n=40)	8.35±4.693

Table 3: Correlation of methods of DSH attempts with WHOQOL-BREF domain scores.

DSH MODE	QOL physical Mean±SD	QOL Psychological Mean±SD	QOL social Mean±SD	QOL Environmental Mean±SD
Insecticide (n= 24)	69.62±16.924	66.29±16.541	66.58±16.986	68.87±14.609
Drug overdose (n=6)	66.67±14.010	61.67±14.556	53.33±6.154	69.17±12.592
Hanging (n=4)	70.00±21.787	63.75±14.930	55.50±5.260	68.50±10.116
Hesitation cuts (n=5)	64.00±18.330	59.20±17.138	53.20±9.550	60.40±18.188
Drowning (n=1)	52.00±0	45.00±0	46.00±0	50.00±0
Total (n=40)	68.08±16.612	63.92±15.208	61.30±15.208	67.35±14.282

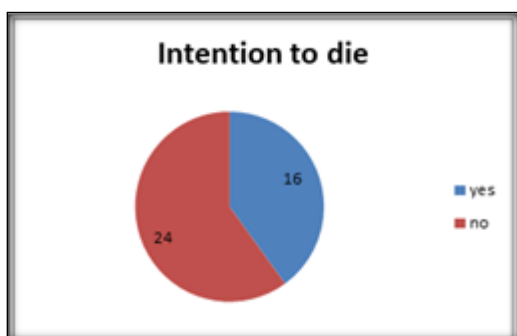


Diagram 2: Intention to die

Table 4: Correlation of PSQI scores with Intention to die

	Intent To die	N	Mean± SD	P value (T test)
Global PSQI	No	24	5.38±3.005	
	Yes	16	12.81±2.834	0.001**

Table 5: Correlation of WHOQOL-BREF domains with Intention to die

WHOQOL-BREF domains	Intent to die	N	Domain scores (Mean±SD)	P value(t test)
QOL physical	No	24	76.29±14.840	
	Yes	16	55.75±10.479	0.001**
QOL psychological	No	24	72.12±13.70	
	Yes	16	51.62±9.932	0.001**
QOL social	No	24	67.92±16.038	
	Yes	16	51.38±5.644	0.001**
QOL environmental	No	24	74.38±13.887	
	Yes	16	56.81±6.102	0.001**

DISCUSSION

This cross sectional study was done in order to find the association between sleep quality and quality of life of patients attempting self harm. The National Crime Records Bureau New Delhi^[20] in their records for 'Accidental deaths and suicides in India' states that the age group of 18-45 years are the most vulnerable group for suicidal risk accounting for a collective 66.2% of the suicides. Similar findings were reflected in our study where 87.5% of the sample comprised of individuals from 18-45 year age which makes them a high risk group. Poor sleep quality is a part of many psychiatric illnesses but multiple study findings, including work by Bernet RA *et al.*(2007),^[10] Krakow B *et al.*(2000),^[11] Agargun MY *et al.*(1997)^[12] indicate that suicidal ideation and behaviors are associated very closely with sleep complaints, and in some cases, this association exists above and beyond depression or other comorbid psychiatric illnesses.^[10,11,12] In consideration of those findings, sleep problems and more specifically, significant changes in sleep, are now listed among the top 10 warning signs of suicide from the Substance Abuse and Mental Health Services Administration (SAMSHA).^[10,13] Our study found a significant relationship between poor quality of sleep and intention to die. When various methods of self harm were compared, it was seen that individuals with most sleep disturbance attempted drowning and self harm by hesitation cuts. These findings are in tune with findings of Hochard *et al.*(2016)^[14] and Riberio (2014,2015).^[15,16] which indicate that acquired capability for suicide significantly interacted with states of hyperarousal, such as sleep disturbance, to predict both suicidal thoughts,^[15] and death by suicide,^[16] independent of depression. Specifically, hyperarousal amplified suicidal thoughts and risk in individuals with high levels of acquired capability for suicide.^[17]

Quality of life refers to individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.^[18] Quality of life in the domains of physical, social, psychological and environmental was assessed and it was seen that in all the cases there was poor quality of life, with the social and psychological domain affected the most in patients who had intention to end life. The psychological domain measures include self-image, negative thoughts, positive attitudes, self-esteem, mentality, learning ability, memory concentration, religion, and the mental status.^[18] The social relationships domain contains questions on personal relationships, social support, and sex life.^[18] This further emphasizes the impact of negative thinking pattern, poor self esteem and social support as predictors for self harm.

In clinical practice, when we encounter patients with suicidal thoughts and behaviours it is important to assess and monitor co-occurring sleep issues by using standardized psychometric measures and scales since various studies support sleep disturbances as an independent risk factor predisposing an individual to self harm. Also, restoration of healthy sleep could be beneficial to suicidal patients, particularly in conjunction with interventions targeted at resolving negative cognitive appraisals. Similarly, Quality of life is hardly assessed during psychiatric interview and the patient's subjective satisfaction with various aspects of his life also influences the outcome and prognosis. In patients with history of self harm, improving social support and inter personal relationships, as well as challenging negative thoughts, uplifting poor self image and overall psychological quality of life will be beneficial and protect against further possibility of self harm.

Limitations

This study was a cross sectional study with one time assessment of the parameters. A follow up study would be helpful to assess if improvement of sleep and quality of life further decreased suicidal intention. Finding correlation of other high risk factors for self harm such as personality traits, coping skills, impulsivity can be of interest of further research in this field.

CONCLUSION

In this study, a significant correlation was found between severity of sleep impairment and presence of suicidal intent in patients of self harm. The quality of life was also poor in these patients with social and psychological domain being the most affected.

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