ORIGINAL RESEARCH ARTICLE   **OPEN ACCESS**

STUDY TO ASSESS SLEEP DISTURBANCE AND SYMPTOMS AMONG PATIENTS WITH PULMONARY ARTERIAL HYPERTENSION AT SAVEETHA MEDICAL COLLEGE AND HOSPITAL

*,1**Towar Shilshi Lamkang, 2Dr. Aruna, S. and 3Dr. Mangala Gowri, P.**

1MSc (Nursing) II Year, Saveetha College of Nursing, Saveetha University, Thandalam, Chennai ,India
2Vice Principal, Saveetha College of Nursing, Saveetha University, Thandalam, Chennai, India
3Principal, Saveetha College of Nursing, Saveetha University Chennai

ABSTRACT

Aim of the study: is to assess the level of sleep disturbance and severity of symptoms interference among patients with pulmonary arterial hypertension.
Background: During clinical posting in the Saveetha Medical College Hospital Chennai, the investigator came across many patients with pulmonary artery disease and the impact the disease has on patients' and the symptoms was less well understood until recently. By this experience, the investigator felt that the nurses need to know the impact of the disease condition and the severity of the disease symptoms of pulmonary arterial hypertension.
Design: descriptive study.
Methods: Non probability convenient sampling technique was used. A total of 30 admitted patients participated in the study. Insomnia severity index scale and severity of symptoms of PAH were used to assess the level of symptoms of pulmonary arterial disease.
Result: The frequency and percentage distribution of severity of pulmonary arterial hypertension. Among them 9(30%) had mild symptoms, 19(63.33%) had moderate symptoms and 2 (6.66%) had severe symptoms and the majority of patients has mild level of sleep disturbance (53.33%) and 46.66% has a moderate level of sleep disturbance
Conclusions: This study indicates that there sleep disturbance and symptoms among patients with pulmonary arterial hypertension which affect the quality of life.

*Corresponding author

INTRODUCTION

Pulmonary arterial hypertension (PAH) is a devastating disease, characterized by progressive dyspnea and exercise limitation. If not effectively controlled, PAH often progresses to right heart failure and premature death. Pulmonary arterial hypertension (PAH) is a rare form of high blood pressure. It occurs in the pulmonary arteries that flow from heart and through lungs. Constricted and narrowed arteries prevent heart from pumping adequate blood. When constriction occurs, the heart will need to work harder to compensate. This causes the blood pressure in the pulmonary arteries and in the heart to increase dramatically. As the condition worsens and the pressure becomes greater and the patient may begin experiencing a variety of signs and symptoms. The effect of disease symptoms on the patient's physical mobility and emotional state adversely affects health-related quality of life .The importance of the symptom experience as well as the severity of symptoms can impact a person's activities of daily living, and this is important in overall quality of life. Signs and symptoms of PAH (Pulmonry arterial hypertension) includes shortness of breath when active, chest pain , fatigue, passing out, Dizziness or fainting spells (syncope), Swelling (edema) in your ankles, legs and eventually in your abdomen (ascites)

Bluish color to lips and skin (cyanosis) Racing pulse or heart palpitations and sleep apnea.

Background

For patients living with PAH, the disease can be hugely devastating and exert an adverse impact on all aspects of life: physical, social and emotional. However, despite the significant progress that has been made in the development of new therapies for PAH in the past two decades, the impact the disease has on patients' HRQOL was less well understood until recently. The prevalence of pulmonary arterial hypertension is estimated base on Individual studies reported estimated prevalence of idiopathic pulmonary arterial hypertension ranging from 10.9 cases per million population to 2500 cases per million population. National prevalence estimated as idiopathic pulmonary arterial hypertension was 12 cases per million population (95 % CI, five cases per million population to 22 cases per million population). The recent statistical prevalence pulmonary arterial hypertension in Tamil Nadu were estimated as 65% per year. So, understanding which PAH symptoms interfere the most and the extent of their interference is important to understand to develop and implement symptom management strategies. Much of the research investigating symptom interference has been conducted in oncology patients. Commonly reported symptoms that are severe and interfere with patients' lives include fatigue, pain, and sleep disturbance. By understanding this phenomenon, we can determine those symptoms that most interfere with patients' lives, so that targeted interventions can be developed and tested.

Aim of the study: was to assess the level of sleep disturbance and severity of symptoms interference among patients with pulmonary arterial hypertension.

MATERIALS AND METHODS

Total thirty (30) patients with pulmonary arterial hypertension were selected by using non probability convenience sampling technique from medicine intensive care unit (MICU). After selecting the sample informed, the consent was obtained by using structured questionnaire and the demographic was collected. After collecting consent the severity symptoms of pulmonary arterial hypertension were assessed by using structured questionaire checklist and the severity of sleep disturbance were assessed by using insomnia severity index scale. After assessing the severity or the level of symptoms and sleep disturbance among patient with pulmonary arterial hypertension were categorized into normal, mild, moderate and severe based on the scored. The data were analysed by descriptive and inferential stastistics.

Ethical consideration: The project has been approved by the ethics committee of the institution. Informed consent was obtained from the participants before initiating the study.

RESULTS

Table 1: shows the demographic variables of patients pulmonary arterial hypertension, among them majority belongs to (46-50) years 33.33% and majority of sex belongs to male in 63.33% and their education level majority group belongs to higher secondary in 46.66%.

Table 1. Frequency and percentage distribution of selected demographic variables among patient with pulmonary arterial hypertension

			N=30	
Sl. No	Demographic variable		Freq-Uency (N)	Percen-tage (%)
1	Age in years	a) 30 - 35 years.	3	10%
		b) 36 - 40 years	6	20%
		c) 41 - 45 years	8	26.6%
		d) 46 - 50 years	10	33.33%
		e) 50years and above.	3	10%
2	Sex	a) Male	19	63.33%
		b) Female	11	36.66%
3	Reli-gion	a) Christian.	10	33.33%
		b) Hindu.	11	36.66%
		c) Muslim.	9	30%
		d) Others.	0	00
4	Marrit-al status.	a) Married.	30	100%
		b) Unmarried.	0	00
		c) Divorced.	0	00
5	Educa-tion.	a) Elementary.	0	00
		b) Primary	0	00
		c) High school.	4	13.33%
		d) Higher Secondary.	14	46.66
		e) Grduation.	12	40%
6	Occup-ation.	a) Farmer.	2	6.66%
		b) Driver.	2	6.66%
		c) Labour	0	00
		d) Teacher.	8	26.66%
		e) Others.	18	60%
7	Period of hospit-alization	a)1-5 days	28	93.33%
		b)6-10 days	2	6.66%
		c)11-15 days	0	00
		d)More than 15 days	0	00

Table 2. frequency and percentage distribution of severity of symptoms among patients with pulmonary arterial hypertension

			(N=30)	
Sl. No	Severity of symptoms		Frequency (n)	Percentage (%)
1	Normal		0	00
2	Mild		9	30%
3	Moderate		19	63.33%
4	Severe		2	6.66%

Table 3. Frequency distribution level of sleep disturbance among pulmonary arterial hypertension and mean and standard deviation

(N=30)

Sl. No	Level of sleep Distur-bance	Fre-quen-cy (n)	Percen-tage (%)	Mean	S.D
1	Normal	0	00		
2	Mild	16	53.33%	14.3	0.71
3	Moderate	14	46.66%		
4	Severe	0	00%		

Table 4. Association of selected demographic variables and level of sleep disturbance among patient with pulmonary arterial hypertension

(N=30)

Demo-graphic Varia-bles	Moderate (0.4 – 0.75)		Mild (0.75 – 0.9)		Normal (0.9 – 1.3)		Chi-Square Value
	No.	%	No.	%	No.	%	
Dietary pattern							χ^2=9.370
Vegeta-rian	4	13.3	0	0	3	10.0	d.f=2
Non-Vegeta-rian	2	6.7	10	33.3	11	36.7	p=0.009 S**

S – Significant

Related to religion majority belongs to hindu in 36.66% and 100% were married. Regarding education level majority of the sample completed higher secondary in 46.66% and Considering occupation , majority of them belongs to other category. Regarding period of hospitalization , majority belongs to 1-5 days in 93.33%. Table 2 reveals the frequency and percentage distribution of severity of pulmonary arterial hypertension. Among them 9(30%) had mild symptoms, 19(63.33%) had moderate symptoms and 2 (6.66%) had severe symptoms. Table 3 reveals that the majority of patients has mild level of sleep disturbance (53.33%) and 46.66% has a moderate level of sleep disturbance.The mean value of level of sleep disturbance is 14.3 and the standard deviation value of sleep disturbance is 0.71. The table 4 shows that the demographic variable dietary pattern had shown statistically significant association level of sleep disturbance at p<0.01 level among patient with pulmonary arterial hypertension.

Conclusion

In conclusion the study findings show that sleep disturbance and symptoms among patients with pulmonary arterial hypertension affects the health related quality of life. Major finding shows that the frequency and percentage distribution of severity of pulmonary arterial hypertension. Among them 9(30%) has mild symptoms, 19(63.33%) has moderate symptoms and 2 (6.66%) has severe symptoms. The majority of patients has mild level of sleep disturbance (53.33%) and 46.66% has a moderate level of sleep disturbance.

REFERENCES

Badesch DB, Raskob GE, Elliott CG, *Pulmonary arterial hypertension: Baseline characteristics from the REVEAL registry*. Chest 2010; 137: 376–387

Basavanthappa B.T (2006) *nursing theories*, Bangalore, jaypee publications.

Black, 2005. *Medical Surgical Nursing*, New Delhi; Elsevier publishers.

Brown LM, Chen H, Halpern S, *Delay in recognition of pulmonary arterial hypertension.* Chest 2011; 140: 19–26.

Butrous G, Ghofrani HA, Grimminger F. *Pulmonary vascular disease in the developing world. Circulation 2008;* 118: 1758–1766.

Butrous G, Ghofrani HA, Grimminger F. *Pulmonary vascular disease in the developing world. Circulation 2008:* 118: 1758–1766.

Galiè N, Hoeper MM, Humbert M, *Guidelines for the diagnosis and treatment of pulmonary hypertension.* Eur Heart J 2009; 30: 2493–2537.

George J B, (2011) *Nursing Theories*, New Delhi: Pearson publications.

Gupta S.G and Kapoor, 1990. *Fundamentals of mathematical statistics*, New Delhi: Jaypee publishers.

Gurumani, N. 2005. *An introduction to bio statistics*, Chennai : MJP Publishers

Humbert M, Sitbon O, Chaouat A, *Pulmonary arterial hypertension in France: Results from a national registry.* Am J RespirCrit Care Med 2006; 173: 1023–1030.

Hungler, B.P. and polit denise, F. 1999. *Nursing research*, Philadelphia : Lipincott Company

Jennifer Mackenzie, 1998. *Ward management in practice*, UK: Churchill Livingstone

JOURNAL REFERENCE

Joyce J. Fitzpatrick et al, 2005. *Conceptual models of nursing, analysis and application.*Maryland: Aprentice Hall Publishing and communication company.

Lewis, 2011. *Medical surgical Nursing*, New Delhi; Elsevier publishers.

Lewis, 2015. *Medical and surgical nursing*, New Delhi: Elselvier India Pvt Ltd

Lippincott, 2005. *Manual nursing practice*, Noida: jaypee medical publishers.

Matura L, McDonough A, Carroll D. *Cluster analysis of symptoms in pulmonary arterial hypertension: A pilot study.* Eur J Cardiovasc Nurs 2012; 11: 51–61.

McDonough A, Matura L, Carroll D. *Symptom experience of pulmonary arterial hypertension patients. Clin Nurs* Res 2011; 20: 120–134.

Phipps (2009) *Medical surgical Nursing* , New Delhi :wolters publishers

Polit D F and Hungler B P (1999) *Nursing research principles and methods, Philadelphia*; jaypee publications.

Potter Perry, 2009. *Fundamentals of nursing*, New Delhi: Elselvier India Pvt Ltd

Potter, (2009) *Fundamentals of Nursing* .New Delhi: Elsevier India private limited.

Pricilla (2008) Medical surgical Nursing, New Delhi: Sanat Publications.

Ruth Tappen, 2001. *Essential of Nursing Leadership and Management*, Philadelphia: F A Davis Company

Straight .A, (2000) *Medical surgical nursing* , china :wolters Kluwer's publications.

uzanne. C (2001) *Medical Surgical Nursing* .Philadelphia: Lippincott publications.

Thenappan T, Shah SJ, Rich S, *Survival in pulmonary arterial hypertension: A reappraisal of the NIH risk stratification equation.* Eur Respir J 2010; 35: 1079– 1087.

****