

ANXIETY, DEPRESSION, AND SELF-CARE MANAGEMENT AMONG PATIENTS WITH HYPOTHYROIDISM

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ABSTRACT

Objective: The objective of the study was to assess anxiety, depression, and self-care management among patients with hypothyroidism.

Methods: A qualitative descriptive study was done among 65 patients who was diagnosed with hypothyroidism, and the data were collected using structured questionnaire to know about self-care management of hypothyroidism and standardized tool (Hamilton rating scale) for assessing anxiety and depression.

Results: The result showed that among 65 subjects, 30 (46.2%) had good self-care management, only 1 (1%) had excellent self-care management, 46.1% had severe anxiety, whereas 4.6% subjects had severe depression. There was a positive association between anxiety and depression with self-care management.

Conclusion: Hypothyroidism is now becoming more prevalent in the Indian population. From the results of the study, it is obvious that patients with hypothyroidism are at increased risk of anxiety and depression. Self-care management decreases with an increase in anxiety and depression. Hence, proper management is necessary to reduce the deleterious effect of hypothyroidism on physical as well as mental health.

Keywords: Self-care management, Anxiety, Depression, Hypothyroidism.

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INTRODUCTION

Thyroid gland is one of the most significant gland in our body. It releases hormones, and the main function of the gland is to take iodine found in many foods and to convert it into thyroid hormones thyroxine [T₄] and triiodothyronine [T₃]. When the gland does not produce enough thyroid hormone, it is called "hypothyroidism" or unreactive thyroid. Hypothyroidism is a clinical syndrome due to deficiency of thyroid hormone. Thyroid hormone is responsible for maintaining the brain hemostasis and helps in central nervous system global development. Hypothyroidism, due to a deficiency of circulating thyroid hormones, is a disease with wide-ranging symptoms and signs affecting many systems and presenting to various specialists. It can cause many symptoms such as depression, anxious mood, weight gain, and poor ability to concentrate. Subclinical hypothyroidism (SCH) is a common endocrine disorder presented by mildly elevated thyroid-stimulating hormone above the reference range along with a normal concentration of free thyroxine (FT₄) and triiodothyronine (T₃).

Thyroid dysfunction has been recognized to cause significant manifestations in mental health. The most common psychiatric symptoms related to hypothyroidism are depression and cognitive dysfunction. They lead to disturbance in emotions and cognition. Both increase and decrease in thyroid function can cause mood abnormalities. Vice versa, depression can also go hand in hand with subtle thyroid dysfunction. Hypothyroidism impacts certain aspects of cognitive functioning and mood. More severe hypothyroidism can mimic melancholic depression and dementia. Thus cause reduction in health-related quality of life. High prevalence of moderate to high level depression, anxiety cause increased stress response and it triggers a cascade which producing a series of changes in human vital physiological functions such as blood pressure, respiratory rate and heart rate which was significantly higher. Although the results are inconsistent, data to suggest that the neuropsychiatric symptoms tend

to improve with treatment for both overt hypothyroidism and SCH and normalization to an euthyroid state.

In case of acute hypothyroidism, anxiety disorders occur in about 30%-40% of patients. Patients with SCH can present with anxiety, irritability, poor concentration, and slow information process in comparison to the normal subject.

A study to assess the prevalence of anxiety depression and self-care management among patients with hypothyroidism is conducted in selected wards and OPDs of AIMS, Kochi, Kerala, India, with the objectives to find the level of anxiety, level of depression, and self-care management of patients with hypothyroidism and to associate depression, anxiety, and self-care management of selected demographic variables, depression, anxiety with self-care management, and depression with anxiety. Assumptions were hypothyroidism impacts on certain aspects of cognitive functioning and mood, and efficient management of hypothyroidism will help to decrease thyroid related morbidity and mortality.

METHODS

Quantitative approach with the descriptive design was used for the study. Patients who diagnosed with hypothyroidism and who were available during data collection were included in the study. The sample size was 65 and was selected by purposive sampling technique. Endocrinology OPD and selected wards of Amrita Institute of medical science and research Center, Kochi, were the research setting.

Data collection instruments were semi-structured questionnaire to assess self-care management, which has two sections. Section A contains sociodemographic data, which include the age, gender, religion, educational status, occupation, marital status, history of illness of hypothyroidism, and family history of patients with hypothyroidism.

Section B consists of 15 questions which include clinical parameters, physical activity, dietary pattern, and medication. Hamilton rating scale was used for assessing anxiety and depression. Tool was assessed by 5 experts from the Department of Medical Surgical Nursing and Head of the Department of Endocrinology of AIMS, Kochi. The reliability was assessed using the split-half method, $r=0.86$. A pilot study was conducted to find the feasibility of the study. The ethical certificate is obtained from the research committee of Amrita College of Nursing and thesis review committee on AIMS, Kochi. Permission was obtained from the Head of Department of Endocrinology of AIMS, Kochi. The purpose of the study was explained and informed consent was obtained from participants before conducting the study.

RESULTS AND DISCUSSION

Data obtained were analyzed using descriptive and inferential statistics based on study objective. The sociodemographic characteristics of subjects presented in Table 1 suggested that, among 65 subjects of hypothyroidism, 34 (52.30%) of subjects were under the age group of ≤ 40 and 31 (47.69%) subjects were under the age group of >40 . Most 53 (81.5%) resides in an urban community, and 12 (18.5%) belongs to the rural community. Regarding the education status, degree and above degree were 37 (56.9%) and below degree was 28 (43.07%). In view of occupational status of subjects, most 36 (55.3%) were unemployed, and 29 (44.6%) were employed. Regarding family history, 33 (56.7%) have hypothyroidism, and 32 (49.2%) not having a family history.

Fig. 1 shows among 65 subjects, majority of 30 (46%) was having good self-care management followed by 18 (28%) of the subject have very good self-care management, and 16 (25%) have average self-care management. It was found that only 1 (1.5%) have excellent self-care management.

Fig. 2 shows that 28 (43%) of the subjects have severe anxiety, followed by 16 (24.6%) have moderate level, 12 (18.5%) have mild, and it was found that only 9 (13.8%) were normal.

Fig. 3 shows that 3 (4.6%) have severe depression, followed by 21 (32.3%) was moderately depressed, 29 (44.6%) have mild depression, and it was found that 12 (18.5%) were normal.

Table 2 depicts the association between anxiety and selected demographic variables of subjects. It shows that there is no significant association between anxiety and selected demographic variables.

Table 3 shows that there is no significant association between depression and selected demographic variables.

Table 4 shows that there is no significant association between self-care management and selected demographic variables.

Table 5 depicts that there is a positive association between depression and self-care management among patients with hypothyroidism ($p>0.05$).

Table 6 shows that there is a positive association between anxiety and self-care management among patients with hypothyroidism ($p>0.05$).

Table 7 shows that there is a significant association between anxiety and depression. ($p>0.05$).

DISCUSSION

In this present study, the level of depression was assessed using Hamilton Rating Scale, out of 65 sample, it showed that 3 (4.6%) had severe depression followed by 21 (32.3%) were moderately depressed, 29 (44.6%) had mild depression, and 12 (18.5%) were normal.

Similar study was conducted by Rupeesh *et al.* in Ludhiana in 2009 on psychiatric morbidity among patients with hypothyroidism. The sample size was 100. The study was concluded as 63% of patients with hypothyroidism had comorbid depression. Females were showing a high

Table 1: Distribution of demographic variables

Variables	Frequency (%)
Age	
>40	34 (52.2)
≤ 40	31 (47.3)
Gender	
Female	64 (98.4)
Male	1 (1.53)
Occupation	
Employed	29 (44.6)
Unemployed	36 (55.4)
Area of residence	
Urban	53 (81.5)
Rural	12 (18.5)
Family history	
Yes	33 (50.8)
No	32 (49.2)
Duration of illness	
<5 years	36 (55.4)
≥ 5 years	29 (44.6)
Educational status	
Graduation and above graduation	28 (44.6)
Below graduation	37 (55.4)

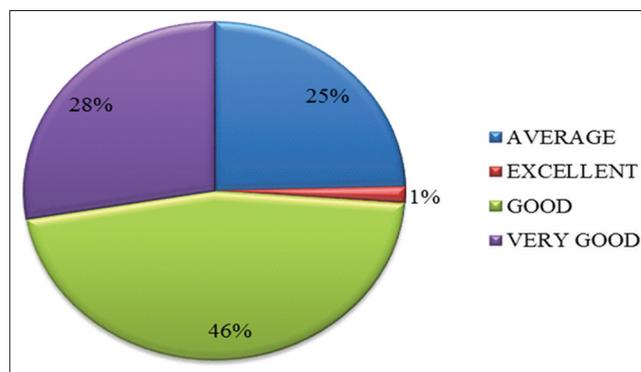


Fig. 1: Percentage of self-care management among patients with hypothyroidism n=65

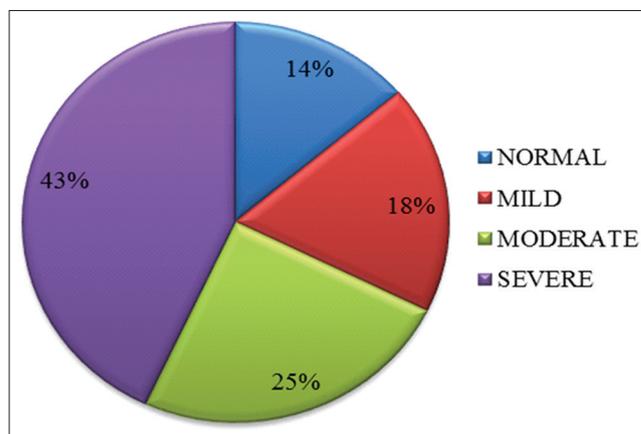


Fig. 2: Level of anxiety among patients with hypothyroidism n=65

percentage of depression as compared to males. This study concluded that level of depression is higher among patients with hypothyroidism.

A case of hypothyroidism-induced recurrent depressive disorder was discussed by Rita *et al.* of Sree Balaji Medical College in the year 2015. Identification of comorbid physical conditions adding fuel to the disease process has to be identified and treated promptly. This case is reported

Table 2: Association of anxiety with demographic variables n=65

Variables	Category	Anxiety n (%)		χ ² value	p value
		Normal	Abnormal		
Age	≤40 (34)	6 (17.6)	28 (82.3)	0.863	0.353
	>40 (31)	3 (9.7)	28 (90.4)		
Duration of illness	<5 (36)	6 (16.7)	30 (37.1)	0.538	0.463
	≥5 (29)	3 (10.3)	26 (89.7)		
Family history	No (32)	6 (18.8)	26 (81.2)	1.27	0.260
	Yes (33)	3 (9.1)	30 (90.9)		
Employed	Employed (29)	4 (13.8)	25 (86.2)	0.406	0.840
	Unemployed (36)	5 (13.9)	27 (86.1)		
Education	Below degree (28)	6 (21.4)	22 (78.6)	2.37	0.124
	Degree and above (37)	3 (8.1)	34 (91.8)		

Table 3: Association of depression and selected demographic variables n=65

Variables	Category	Depression n (%)		χ ² value
		Normal	Abnormal	
Age	≤40 (34)	6 (17.6)	28 (82.4)	0.863
	>40 (31)	3 (9.7)	28 (90.3)	
Duration of illness	<5 (36)	6 (16.7)	30 (83.4)	0.173
	≥5 (29)	6 (20.7)	23 (79.3)	
Family history	Yes (33)	6 (18.2)	27 (81.9)	0.348
	No (32)	6 (18.8)	26 (81.3)	
Employed	Employed (29)	5 (17.2)	24 (82.8)	0.518
	Unemployed (36)	7 (19.4)	29 (80.5)	
Education	Below degree (28)	7 (25.0)	21 (74.9)	1.40
	Degree and above (37)	5 (13.5)	32 (86.5)	

Table 4: Association between self-care management and selected demographic variables n=65

Variables	Category	SCM n (%)		χ ² value	p value
		Average and good	Very good and excellent		
Age	≤40 (34)	24 (70.6)	10 (29.4)	0.113	0.973
	>40 (31)	22 (71.0)	9 (29.0)		
Duration of illness	<5 (36)	25 (69.4)	11 (30.6)	0.685	0.793
	≥5 (29)	21 (72.4)	8 (27.6)		
Family history	No (32)	23 (71.9)	9 (28.1)	0.373	0.847
	Yes (33)	23 (69.7)	10 (30.3)		
Employed	Employed (29)	22 (75.9)	7 (24.1)	0.657	0.418
	Unemployed (36)	24 (66.7)	12 (33.3)		
Education	Below degree (28)	18 (64.3)	10 (37.7)	1	0.319
	Degree and above (37)	28 (75.7)	9 (24.3)		

Table 5: Association between depression and self-care management n=65

Variables	Depression n (%)				p value
	Normal	Mild	Moderate	Severe	
Self-care management	12 (18.5)	29 (44.6)	21 (32.3)	3 (4.6)	0.014

to show the significance of undetected hypothyroidism in a patient with recurrent depressive disorder.

This case reported the significance of hypothyroidism-induced mood disorders, especially in females.

In this present study, the level of anxiety was assessed using Hamilton rating scale, of 65 subjects, 28 (46.1%) had severe anxiety, followed by 16 (24.6%) had moderate level, 12 (18.5%) had mild, and it was found that only 9 (13.8%) were normal.

A similar study was conducted by Zainil and Kaur A in 2003 on the level of anxiety among patients with hypothyroidism. The sample

size was 160, and the result was the current prevalence of 9.4% for major depressive disorder (MDD) and 22.5% for anxiety disorder (AD). Lifetime prevalence was 17.5% for MDD and 27.5% for AD. Panic disorder was the most common type of AD (16.9%), followed by generalized AD (11.3%), social phobia (4.4%), agoraphobia (2.5%), and obsessive-compulsive disorder (1.9%). The prevalence of MDD and AD among patients with thyroid disorders should be recognized. In addition, patients with MDD and AD had poorer quality of life.

In this present study, the self-care management was assessed using a semi-structured questionnaire, and it was found that, of 65 samples, majority (46%) were having good self-care management, followed by 28% of subjects had very good self-care management and 25% had

Table 6: Association between anxiety and self-care management n=65

Variables	Anxiety n (%)				p value
	Normal	Mild	Moderate	Severe	
Self-care management	9 (13.8)	12 (18.5)	16 (24.6)	28 (43.1)	0.020

Table 7: Association between anxiety and depression n=65

Variables	Depression n (%)				p value
	Normal	Mild	Moderate	Severe	
Anxiety	12 (18.5)	29 (44.6)	21 (32.3)	3 (4.6)	0.010

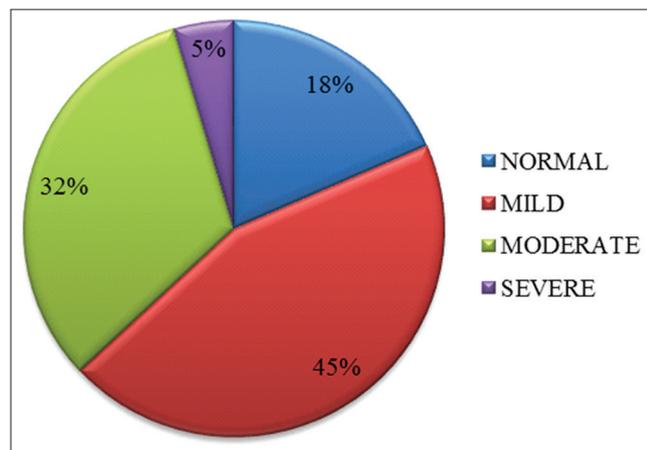


Fig. 3: Level of depression among hypothyroid patient n=65

average self-care management. It was found that only 1% had excellent self-care management.

Another study conducted by Shaileh *et al.* on assessment and knowledge regarding thyroid disorder among 250 sample. In the study, 29.2% of females do not heard the word "thyroid," 48.8% if females had excessive sensitivity to heat or cold, 25.2% of females had constipation/diarrhea from long time, 61.2% of females had joint or muscle pain/weakness, 69.6% of females had anxiety/depression/mood swing, 39.6% of females had menstrual irregularity, 82.4% of females had problem of hair loss/skin changes, and 18.67% of females had trouble in getting pregnant/repeated miscarriages/stillbirth. Only 49.20% of females knew about hyperthyroidism and hypothyroidism, 25.2% of females have undergone the thyroid screening test, and 55.2% of females thought that thyroid disorders could be cured using alternative medicine.

In this present study, there is no association between anxiety, depression, and self-care management among selected demographic variables, but there is a positive association between anxiety and self-care management, $p=0.020$ (>0.05), and also, there is a positive association between depression and self-care management, $p=0.014$ (>0.05).

A similar study was conducted by Anee E, Innherred hospital, Norway, in 2002 with the aim to examine the association between depression, anxiety, and thyroid dysfunction. The result showed that the group with biochemical hypothyroidism had a significantly lower risk for depression and anxiety compared with the reference group with normal

thyroid function. SCH and latent and overt biochemical hyperthyroidism were not risk factors for depression or anxiety. When individuals with former known thyroid disease were excluded from the analyses, the results were essentially identical, but this group had an increased risk of both anxiety and depression, independent of thyroid function. The study was concluded, as in this large, unselected population, we found no statistical association between thyroid dysfunction and the presence of depression or AD. A study conducted by Valeria CB, Joao RH, Lauraws SC conducted a study on subclinical hypothyroidism increased risk of depression in elderly and revealed that subclinical hypothyroidism increases the risk for depression and they emphasize the importance of thyroid screening tests in the elderly.

CONCLUSION

From the results of the study, it is obvious that patients with hypothyroidism are at increased risk of anxiety and depression. Self-care management decreases with an increase in anxiety and depression. Hence, proper management is necessary to reduce the deleterious effect of hypothyroidism on physical as well as mental health.

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