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ANXIETY, DEPRESSION AND SUBJECTIVE WELL-BEING AMONG THYROID GROUP

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Abstract
The main goal is to study the anxiety, depression, and subjective well-being among thyroid group. The sample for the study consisted of two groups: a clinical group comprising of 30 women diagnosed with thyroid problem and a comparison group comprising of 30 healthy normal women. The age of the subjects ranged from 15 to 60 years'. A personal data sheet was included with the questionnaire to collect data from the patients regarding their age, gender, educational status and the thyroid related problems. The major tools used in the study are the hospital anxiety and depression scale (HADS), by Zigmond and snaith (1983). Subjective well-being inventory (SUBI) by Nagpal and sell (1992). The result shows that there is significant difference obtained among thyroid groups based on age, thyroid type, family type, family history, weight problem, and hair loss problems. Comparison between thyroid and non-thyroid group also shows significance difference in anxiety. Correlation analysis reveals that there is significant positive correlation between anxiety and depression and significant negative correlation between anxiety and subjective well-being as well as depression and subjective well-being.

Keywords: Depression, Anxiety, Subjective Well-Being, Thyroid Disorder.

Introduction

Thyroid can be defined as a gland that makes and stores hormones that help regulate the heart rate, blood pressure, body temperature, and the rate of which food is converted into energy. Thyroid hormones are essential for the function of every cell in the body. People with abnormal hormone produced by the thyroid gland are thyroid patients. Recently the number of patients seeking medical treatment for thyroid problem is increasing. Detection of the thyroid problem is complicated by the fact that everyone feels anxiety and tension to some degree. Thyroid disorder problem symptoms may not be easily recognized at first, subtle reactions in emotions or behaviour may be the only visible signs of thyroid disorder. Thyroid disorders for the most part are treatable; however, untreated thyroid disease can produce serious results in other parts of the body.

In present scenario, there is a rapid increase in thyroid patients and in India 1 out of 8 women are victim to thyroid. A cross-sectional survey in central Kerala found the overall prevalence of thyroid function abnormalities in 19.6% of the population. Some cross-sectional studies suggested that subclinical thyroid dysfunction is associated with depression, cognitive impairment, and memory loss. Not much studies in Kerala have been conducted on anxiety, depression and subjective wellbeing of thyroid patients. So it is relevant to conduct a study on anxiety, depression and subjective well-being of thyroid patients.

Objectives

- To find out the level of anxiety, depression, and subjective wellbeing among thyroid group based on age.
- To find out the level of anxiety, depression, and subjective wellbeing among thyroid group and non-thyroid group.
- To find out the relationship among anxiety, depression, and subjective wellbeing among thyroid group.

Hypothesis

1. There is no significant difference among thyroid group based on age in anxiety, depression and subjective wellbeing.
2. There is no significant difference between thyroid group and non-thyroid group in anxiety, depression and subjective wellbeing.
3. There is no significant relationship among anxiety, depression and subjective wellbeing in thyroid group.

Method

The sample for the study consisted of two groups: a clinical group comprising of 30 women diagnosed with thyroid problem and a comparison group comprising of 30 healthy normal women. The age of the subjects ranged from 15 to 60 years. Random sampling technique was used to select the samples for the present study.

Instruments

Hospital Anxiety and depression scale (HADS) (Zigmond and snaith, 1983). The hospital anxiety and depression scale (HADS) was originally designed to assess psychological distress of patients in medical and surgical settings. It consists of

two subscales, one measuring Anxiety scale (A-scale) and one measuring Depression scale (D-scale), which scored separately.The HADS has been shown to have adequate to excellent internal consistency, cronbach's alpha was 0.93 for the A scale and 0.90 for the D scale. The test-retest reliability indicated significant correlations of 0.92 for D scale and 0.89 for the A scale.

The Subjective Well-being Inventory (SUBI) (Nagpal and sell 1992). The subjective well-being inventory is designed to measure feelings of well-being or ill-being as experienced by an individual or a group of individuals in various day-to-day life concerns. It consist of 40 questions about eleven positive and negative factorial dimensions. It has been shown to have adequate to excellent internal consistency, cronbach's alpha was 0.881. The test-retest reliability indicated significant correlations of 0.92.

Personal Data Sheet A personal data sheet was included with the questionnaire to collect data from the patients regarding their age, gender, educational status, employment status, socio economic status, marital status, thyroid problem, thyroid problem type, diagnosis, thyroid value, thyroid nodule, menstrual irregularities, menopause, treatment type, family history, weight problem, appetite problem, palpitation problem, sleep disturbance ,allergic problems, dry skin , hair loss problem, other medical and psychological illness.

Results and Discussions

Demographic and Clinical Details of the Samples

Table 1

Domain	Thyroid group (N=30)	Frequency	Percentage
Age	Adolescents (15-20)	12	40
	Early adulthood (21-40)	14	46.67
	Middle adulthood (40-60)	4	13.33
Marital status	Married	16	53.33
	Single	14	46.67
Thyroid type	Hypo thyroid	15	50
	Hyper thyroid	15	50
Thyroid Nodule	Yes	6	20
	No	24	80
Menstrual irregularities	Yes	14	46.67
	No	16	53.33
Family history	Yes	18	60
	No	12	40
Weight problem	Gain	14	46.67
	Loss	16	53.33
Appetite problem	Yes	8	26.67
	No	22	73.33
Sleep disturbance	Yes	13	43.33
	No	17	56.67
Palpitation problem	Yes	12	40
	No	18	60
Hair loss problem	Yes	23	76.67
	No	7	23.33
Dry skin problem	Yes	12	40
	No	18	60

The demographic details of the of the thyroid group was taken from each of the 30 participants who completed the study.

Table 1 shows the detailed demographic information about the thyroid group, and their thyroid related issues variables. The thyroid group contains 30 samples, only females were selected in the study for the data collection, because the thyroid problems are mostly seen in women's than men. There are 12 variables in demographic details, about the thyroid related issues. The First variable in the demographic detail is age. The samples are in the range group between the ages of 15–60

years. It may be classified into 3 group's, adolescents (15–20 years),early adulthood (21–40 years), and middle adulthood (41–60 years), number of samples are more in early adulthood (46%). Married and single were in the marital status domain. 16 were married and 14 were single. Thyroid type may be in 2 types hypo thyroid and hyper thyroid, both thyroid types have 15 samples each (50 %). Other domains are the based on the difficulties related to the thyroid problem. Each domains contains 2 types of division, Yes and NO. Yes means patients who suffer the related problems and No means they don't have related problem. The presence and the absence of the thyroid nodule, where the 24 samples that is 80 % does not have the presence of thyroid nodule. 14 samples have the menstrual irregularities problem (46%), 60 % of the samples have the family history of the thyroid problem. In weight problem domain, 14 samples who have weight gain (46%) and 16 samples have weight loss (53 %), 73% of the samples doesn't have the appetite problem. 13 samples who suffer the sleep disturbance, 18 samples (60%) have the palpitation problem. In hair problem domain 23 samples that are 76% have hair loss and 7 samples do not have the problem. In dry skin domain 12 samples have the problem (40%) and 18 samples do not have the problem.

Table 2

The frequency distribution of samples based on Anxiety, Depression and Subjective well-being.

		THYROID GROUP (N=30)		**NON-THYROIDGROUP(N=30)**	
Variable	**Range**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Anxiety	Normal (0 -7)	13	43.33	22	73.33
	Mild (8-10)	10	33.33	5	16.67
	Moderate (11-14)	5	16.67	3	10
	Severe (15-21)	2	6.67	0	0
Depression	Normal (0 -7)	21	70	26	86.67
	Mild (8- 10)	6	20	3	10
	Moderate (11-14)	2	6.67	1	3.33
	Severe (15-21)	1	3.33	0	0
Subjective well-being	Difficulty (40-60)	0	0	0	0
	Normal (61-80)	6	20	2	6.67
	Good sense (81-120)	24	80	28	93.33

Table 2 shows the three variables and their different range dimensions and frequency of the thyroid groups and Non- thyroid group. Anxiety and depression contains four ranges each, they are normal, mild, moderate and severe. When compare the frequency of the anxiety level in the thyroid and Non-thyroid group. It can see that number of samples are more in the normal range group, that is 13 in the thyroid group (43%) and 22 (73%) in the non-thyroid group. But there is 30 % variation in the normal category between the two groups. In mild range of anxiety between two groups, 10 in thyroid and 5 in the other. Mild range of anxiety more in the thyroid group. Moderate level of anxiety samples are also more in thyroid group that is 5 and 3 in the non-thyroid group. In the case of severe range of anxiety there is 2 samples in the thyroid group and no samples from the non-thyroid group.

When compare the frequency of the depression level in the thyroid and Non-thyroid group. It can see that number of samples are more in the normal range group, that is 21 in the thyroid group (70%) and 26 (86%) in the non-thyroid group. But there is 16 % variation in the normal category between the two groups. In mild range of depression between two group's, 6 in thyroid and 3 in the other. Mild range of depression more in the thyroid group. Moderate level of depression 2 samples in the thyroid group and 1 sample in the other. In the case of severe range of anxiety there is only 1 samples in the thyroid group and no samples from the non-thyroid group.

Subjective wellbeing contains three category, they are difficulty sense, normal sense and good sense. More samples are in the good sense of subjective well-being in both groups. In thyroid group there is 24 (80%) samples and 28 (93%) samples are in the non-thyroid group. Good sense of subjective well-being more in non-thyroid samples, 13% more in this group. In the normal sense of well-being 6 samples in thyroid group and 2 in non-thyroid group. There is no samples in the difficulty sense from the both groups.

Comparison of the Thyroid Group based on Different Demographic as well as Clinical Variables

Comparison Based on Age

This section main include comparison of the 3 age group using one way ANOVA. Thyroid group is mainly divided into 3 age category, adolescents (15-20 years), early adulthood (21-40 years), middle adulthood (41-60 years).

Table 3

Result of one way ANOVA obtained for 3 age groups of thyroid group in anxiety, depression, and subjective well-being.

ANOVA					
		Sum of Squares	**df**	**Mean Square**	**F**
ANXIETY	Between Groups	80.200	2	40.100	2.981*
	Within Groups	363.167	27	13.451	
	Total	443.367	29		
DEPRESSION	Between Groups	28.200	2	14.100	1.129
	Within Groups	337.167	27	12.488	
	Total	365.367	29		
SUBJECTIVEWELL-BEING	Between Groups	16.571	2	8.286	.068
	Within Groups	3275.595	27	121.318	
	Total	3292.167	29		

*significant at 0.01 level

Table 3 shows that the result of the one-way ANOVA, in which anxiety, depression, and subjective well-being are analysed in 3 age group such as adolescents, early adulthood and middle adulthood. In this study analysis of variance was used to determine whether there are significant difference in different age groups of the thyroid group. From the ANOVA table, the results indicate that F-value obtained for the anxiety has only significance difference. Anxiety level is higher than the other two variables. There is no significance in the age among the depression and subjective wellbeing. Anxiety has more significance but which age group does anxiety more is not clear. So to find out the anxiety the anxiety level in which group, use the Duncan's analysis.

Table 4

Duncan's tests for different age groups of thyroid group in anxiety, depression, and subjective well-being.

AGE	**N**	**Subset for alpha = 0.05**	
		1	**2**
1.Adolescense (15-20 years)	12	7.083	
2.Early adulthood (21-40 years)	14	8.500	8.500
3.Middle adulthood (41-60 years)	4		12.250
Sig.		.464	.059

Table 4 shows the Duncan's test result. In this study significance difference obtained in the anxiety level, but which age group does anxiety more is not clear. When significant F-ratio is obtained, which indicate significant differences, when there are more than two groups involved. For this purpose Post Hoc comparison is used. First group is the adolescent group (15 -20 years) and third group is the middle adulthood (41-60 years).The result show that in the level anxiety there is significance difference between adolescents and middle adulthood group. When thyroid was diagnosed in the adolescents, it creates a serious traumatic incident to the girls of that age. More anxious about the thyroid condition and their symptoms such as weight gain or loss, menstrual irregularities, hair loss problems etc. and more think about future. This may be a reason may increases in the anxiety level of the adolescents. When thyroid was diagnosed in the middle adulthood, they also worried about the new illness.

Comparison between thyroid and non-thyroid group
Anxiety, Depression and subjective wellbeing

Table 5

The mean and the standard deviation of the scores obtained by the thyroid and non-thyroid groups in anxiety, depression, subjective wellbeing and the corresponding 't' value.

Variables	Thyroid group(N=30)		Non-thyroid group (N=30)		
	Mean	S.D	Mean	S.D	t value
Anxiety	8.433	3.910	6.700	2.718	1.994*
Depression	6.233	3.549	4.700	2.7935	1.859
Subjective wellbeing	88.167	10.654	92.00	9.9724	1.439

*significant at .05 level

Table 5 shows the mean and the standard deviation of the scores obtained by the thyroid and non-thyroid group in anxiety, depression and subjective wellbeing. The obtained 't' value clearly shows that there is significant difference in anxiety between the thyroid group and non-thyroid groups. In depression, there is no significant difference in't' value, but mean value of depression is more in thyroid group than non-thyroid group. There is no significant difference in subjective wellbeing between thyroid group and non-thyroid group but the mean values for the subjective wellbeing is more in thyroid group.

Correlation Analysis

In order to find out the relationships among the main variables examined the study a series correlation coefficients were computed among anxiety, depression, and subjective wellbeing and the results are in the following sections.

Correlation among Anxiety, Depression and Subjective Wellbeing

Table 6

The coefficient of correlation among anxiety, depression, and subjective wellbeing.

	Anxiety	Depression	Subjective wellbeing
Anxiety	1	.653**	-.563**
Depression	.653**	1	-.530**
Subjective wellbeing	-.563**	-.530**	1

*significant at 0.01 level

Table 6 shows the relationship between anxiety, depression, and subjective wellbeing was examined by computing the correlation coefficient (table 5).The obtained correlations shows that there is significant positive correlation between anxiety and depression. The magnitude of the correlation coefficient indicates substantial relationship between the variables indicating that as anxiety increases the depression also increases or vice versa. There are studies which support this findings. According to Hage and Azar (2012) the study revealed that patients with thyroid disorders are more prone to develop depressive symptoms and conversely depression may be accompanied by various subtle thyroid abnormalities.

There is significant negative correlation between anxiety and subjective wellbeing. The magnitude of the correlation coefficient indicates substantial relationship between the variables indicating that as anxiety increases the subjective wellbeing decreases.

There is significant negative correlation between depression and subjective wellbeing. The magnitude of the correlation coefficient indicates substantial relationship between the variables indicating that as depression increases the subjective wellbeing decreases.

The continued study of the thyroid may yield important knowledge in other areas of medical science. Improved public awareness and understanding of thyroid disorders will enable patients and their families to cope more effectively with the sometimes disturbing course of thyroid illness. Based on the study, anxiety, depression common in thyroid patients. So it is necessary to aware about the psychological problems associated with the thyroid disorder. So give awareness about the importance of thyroid hormone and their functions. Psychological support and therapies to the patients improve the quality of their life and subjective wellbeing.

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