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Research Article

Prevalence of Thyroid Disorders among Somali Women of Childbearing Age at Mogadishu, Somalia

Abdullahi Abdulkadir Abdiaziz[1], Mohamed Hassan Osman Ebar[2]*

[1] *Nova Diagnostics and Research, Somalia*

[2] *Somali Sudanese Specialized Hospital, Somalia*

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*Address for Correspondence:

Mohamed Hassan Osman Ebar, Nova Diagnostics and Research, Somalia

Abstract

Background: Thyroid diseases are among the most prevalent of medical conditions, and considered the most prevalent disorders in women during their most fertile years (15 - 35 Years), and can adversely affect obstetric outcomes. The aim of the study was to determine the frequency of Thyroid dysfunction disorders among among Somali Women of Childbearing Age at Mogadishu, Somalia.

Materials and methods: This study was descriptive cross-sectional Hospital-based study conducted at Jazeera University Hospital, Mogadishu, Somalia during the period of December 2022 to April 2023. a total of 100 subjects were included in the study. A total of five ml of whole blood was collected from each participant into sterile plain containers for thyroid hormones estimation. Estimation of thyroid hormones was done by using ELISA machine (Maglumi 800). The data was gathered using per-designed structural questionnaire and the SPSS 26.0 statistical software (SPSS Inc., USA) was used for statistical analysis.

Results: The age of the study population ranges from 15–40 years with a mean age of 25.4 ± 8.11 years. There was insignificant correlation between the age and the frequency of thyroid dysfunction with P-value of 0.453. According to their BMI maximum respondents 42 (42%) were grouped under normal BMI, 40 (40%) respondents were over weighted, 2 (2%) of the respondents were grouped underweight and 16 (16%) were obese. The family history of thyroid dysfunction was found in 51% of the study population where 49% of them had no family history of thyroid dysfunction. For the laboratory diagnosis, maximum respondents were Euthyroid 87 (87%) followed by 8(8%) of respondents, were hyperthyroid and 5(5%) respondents had hypothyroid.

Conclusion: This study concluded that there is a slightly higher frequency of thyroid dysfunction disorders among Somali Women of Childbearing Age.

Keywords: Thyroid dysfunction, hyperthyrodism, hypothyrodism, childbearing age

INTRODUCTION

Thyroid gland is a part of endocrine system and controls many important functions; metabolism, growth and development of the human body [1].

Thyroid diseases are among the most prevalent of medical conditions, and considered the most prevalent in women during their most fertile years (15 - 35 Years), and can adversely affect obstetric outcomes. Many studies reported that for a long time thyroid dysfunctions have been linked with poor reproductive health and pregnancy outcomes [2,3].

Thirty percent of the world's populations live in areas of iodine deficiency [4]. Thyroid dysfunction is ten times more common in women than men [5].

The diagnosis and management of thyroid dysfunction are not part of routine screening protocols for women in childbearing age, where the delay in diagnosing and managing of thyroid dysfunctions has been reported and proved to effect on the wellbeing of women's children lately and their selves. Because of lack of data published about the prevalence of thyroid dysfunctions in Somalia, this study was designed to assess the prevalence of thyroid dysfunctions in women of childbearing age, so as to provide the health institutions with basic data importance for intervention.

MATERIALS AND METHODS

This study was descriptive cross-sectional Hospital-based study conducted at Jazeera University Hospital, Mogadishu, Somalia during the period of December 2022 to April 2023. Women of childbearing age who came at Jazeera University Hospital during the aforementioned period were included. In addition to that, any participant who refused to give consent was excluded. 100 subjects were included. From each participant, a total of five ml of whole blood was collected from each participant into sterile plain containers for thyroid hormones estimation. Estimation of thyroid hormones was done by using ELISA machine (Maglumi 800). The data was gathered using per-designed structural questionnaire and the SPSS 26.0 statistical software (SPSS Inc., USA) was used for statistical analysis. Finally, the study was licensed by the ethical committee of Jazeera University Hospital.

RESULTS

A Total of 100 samples were collected from women of child bearing age,Their age ranged from 15–40 years with a mean age of 25.4 ± 8.11 years. There was insignificant correlation between the age and frequency of thyroid dysfunction with P-value of 0.453. According to their BMI maximum respondents 42 (42%) were grouped under normal BMI, 40 (40%) respondents were over weighted, 2 (2%) of the respondents were grouped underweight and 16 (16%) were obese. The family history of thyroid dysfunction was found in 51% of the study population where 49% of them had no family history of thyroid dysfunction. For the laboratory diagnosis, maximum respondents were Euthyroid 87 (87%) followed by 8(8%) of respondents, were hyperthyroid and 5(5%) respondents had hypothyroid.

Table 1: Distribution of the participants according to age groups

Age group	Frequency	Percent
15-19 years	19	19.0
20-24 years	45	45.0
25-29 years	9	9.0
30-34 years	10	10.0
>=35 years	17	17.0
Total	100	100.0

Table 2: Distribution of the study subjects on the basis of body mass index

BMI Status	Frequency	Percent
Normal	42	42
overweight	40	40
Underweight	2	2
Obese	16	16
Total	100	100

Table 3: Distribution of the study subjects on the basis of family history of thyroid dysfunction

Family History	Frequency	Percent
YES	51	51.0
NO	49	49.0
Total	100	100.0

Table 4: Distribution of the study subjects on the basis of Thyroid function status

Thyrod function status	Frequency	Percent
Eu-thyroid	87	87
Hyperthyroid	8	8
Hypothyroid	5	5
Total	100	100

Table 5: Associations between research variables

		Thyroid dysfunction		Total	(P-value)
		Yes	No		
age group	15-19 years	2(15.4%)	17(19.5%)	19(19.0%)	0.453
	20-24 Years	4(30.8%)	41(47.1%)	45(45.0%)	
	25-29 Years	2(15.4%)	7(8.0%)	9(9.0%)	
	30-34 Years	1(7.7%)	9(10.3%)	10(10.0%)	
	>=35 years	4(30.8%)	13(14.9%)	17(17.0%)	
	Total	13(100.0%)	87(100.0%)	100(100.0%)	
BMI	Underweight	0(0.0%)	2(2.3%)	2(2.0%)	0.036
	Normal weight	4(30.8%)	38(43.7%)	42(42.0%)	
	Overweight	3(23.1%)	37(42.5%)	40(40.0%)	
	Obese	6(46.2%)	10(11.5%)	16(16.0%)	
	Total	13(100.0%)	87(100.0%)	100(100.0%)	
family history of thyroid	YES	9(69.2%)	42(48.3%)	51(51.0%)	0.159
	NO	4(30.8%)	45(51.7%)	49(49.0%)	
	Total	13(100.0%)	87(100.0%)	100(100.0%)	

DISCUSSION

Thyroid diseases are amongst the most prevalent of medical conditions, and considered the most prevalent in women during their most fertile years (15 - 35 Years), and can adversely affect obstetric outcomes. The present study was a descriptive cross-sectional hospital-based study conducted at Somali Sudanese specialized hospital, Mogadishu, Somalia, for the determination of prevalence of Thyroid dysfunction in Somali women of childbearing age.

The results of this study revealed that the age of the study population ranged between 15–40 years with a mean age of 25.4 ± 8.11 years. There was insignificant correlation between the age and frequency of thyroid dysfunction with P=value of 0.453. this finding disagree with a study done by Amel K.

Saeed, et al, who reported that the age had a significant correlation with the prevalence of thyroid dysfunction [6].

According to their BMI maximum respondents 42 (42%) were grouped under normal BMI, 40 (40%) respondents were over weighted, 2 (2%) of the respondents were grouped underweight and 16 (16%) were obese, which shows a significant association between the prevalence of thyroid dysfunction and BMI with a P-value of 0.036. this find agree with a study done by Nils Knudsen, et al who suggested that thyroid function (also within the normal range) could be one of several factors acting in concert to determine body weight in a population. Even slightly elevated serum TSH levels were associated with an increase in the occurrence of obesity [7]

For the laboratory diagnosis, maximum respondents were Euthyroid 87 (87%) followed by 8(8%) of respondents, were hyperthyroid and 5(5%) respondents had hypothyroid. This finding was in contrast with a study done by Khalid Eltohami Medani at Sudan in 2019, which stated that the The overall prevalence of thyroid disorders were 120 (24.3%), 23.3% of them were hyperthyroidism and the rest 1% were hypothyroidism [8].

But the result of this study was agree with a study done by Velayutham K, et al in India which reported that Thyroid dysfunction was common in young women in south India. One out of every eight young women had thyroid dysfunction, and mild TSH elevation was the most common abnormality [9].

This study concluded That there is a slightly higher frequency of thyroid dysfunction disorders among Somali Women of Childbearing Age.

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Author's contribution:

Mohamed Hassan Osman Ebar

- Conceived and designed the analyses
- Collected the data
- Contributed data/analysis tools
- Performed the analysis
- Wrote the paper
- Submitted the paper for publication

Abdullahi Abdulkadir Abdiaziz

- Conceived and designed the analyses
- Collected the data
- Contributed data/analysis tools

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Conflicts of interest

There are no conflicts of interest

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