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A Retrospective Study on Thyroid Disorder with Fertility Problem among Married Couples at Lucknow City, India

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Abstract

The objective of the study was to elicit fertility problem among case and control group in study area. A retrospective study was adopted (case – control) for the study. This desired sample size of the study was computed by in study are screening method of the population. At the time of collection of information of case and control group about their thyroid disease, all pathodologiacal records examined and prescribed by registered doctor were checked. The present study showed that the fertility problem among case group majority of miscarriage respondents are 41.86% female and 35.29% male fertility problem showed that the low sperm motility in case group respondents and maximum marriage age present with outcomes of child birth are 41.66% case group and 43.33% control group are 15 to 20 years and maximum child birth readiness and duration in fertility problem and thyroid disorder are 27 respondents case group in 3 to 4 years and 37 respondents control group in 2 to 3 years.

Keywords: Thyroid disease, fertility, infertility.

Introduction

In spite of high prevalence of recognized thyroid disease in the population a considerable number of inhabitants have undiagnosed thyroid dysfunction. Thyroid disease is a common condition with varied audiology in primary care, whereas hyperthyroidism and other thyroid conditions usually require input from hospital specialists. Infertility and reproduction impairment can be compromised by abnormality in both the endocrine and the immune system. A close interplay between thyroid hormone and normal steroid action secretion exists, necessary for normal ovarian function and thus fertility. Women with thyroid dysfunction often have menstrual irregularities. Infertility and increase mortality during pregnancy.

Untreated thyroid disease is associated with mortifies. Which can be reduced by effective treatment? The important of understanding the epidemiology of thyroid disease is needful because of direct relation with immune system and infertility effected fertility outcomes among adult person.

Infertility and reproduction impairment can be compromised by abnormalities in both the endocrine and the immune system. A close interplay between thyroid hormone and normal steroid action and secretion exists, necessary for normal ovarian function and thus fertility. Women with thyroid dysfunction often have menstrual irregularities, infertility and increase morbidity during pregnancy.

The prevalence of hypothyroidism in women in the reproductive age (20-40years) varies between 2%to 4%. Hypothyroidism is associated with a broad spectrum of reproductive disorder ranging from abnormal sexual development through menstrual irregularities to infertility.

Research Methodology

The study was undertaken for a period of 11 month (July 2011 to May 2012) in urban area. The desired sample size for the study purpose was computed by screening method of the population. The eligibility criteria were made for selection of case and control group. The division of sample size between case and control ground on the basis of their major criteria i.e. married condition, thyroid disorder and fertility problem.

Using retrospective study case and control study by applying screening method and self structured interview schedule too draw the sample. In the urban area (8 blocks) and (19 sectors), 472 case and 359 control group were studies respectively.

The selection of respondents will be drawn for married couples residing the Lucknow city for determination of sample size a pilot study will be undertaken to screening of case and control group subject for the study subject. A sample of 60 each belonging to two respondents (normal married couples and thyroid disorder married couples) totaling to 120 male and female between the age of 20 to 50 years will be selected in retrospective study method. At the time of collection of information of case and control group about their thyroid disease, all pathodological records examined and prescribed by registered doctor were checked.

Results and Discussion

A retrospective study on thyroid disorder among married couples with reference to their fertility. This study was carried out 120 married couples belonging to the age group 15 to 49 years. The result showed that the fertility problem in female study subject are 18 (41.86%) are miscarriage, 12 (27.90%) are non fertilization in ovum, 3 (6.97%) are not made immunity fluid,10 (23.25%) are damaged fallopian tubes in case group fertility problem in the respondents but there are no anyone fertility problem in control group in the respondents.

The table 1 showed that the prevalence of thyroid disorder among study subjects belonging to case and control group. Case group was 472 and control group was 359 are screened study subjects. Distribution of study subjects with disorder 60 (12.72%) case group and 60 (16.71%) control group respondents. Distribution of study subjects without disorder 412 (87.28%) case group and 229 (83.23%) control group respondents

The result Showed that the fertility problem in male respondent are 6 (35.29%) are low sperm motility, 1(5.88%) are poor sperm motility, 7 (41.17%) are abnormally shaped sperm and 3 (17.64%) are anti sperm antibodies are case group fertility problem in the respondents but there are no anyone fertility problem in control group in the respondents.(table 2).

This table consist of readiness of child birth in duration of thyroid problem in study subject are 23 control group and 37 control group are 15 to 49 years respondent are readiness of child birth in duration of thyroid problem in 2 to 3 years, 27 case group and 18 control group are 15 to 49 years respondent are readiness of child birth in duration of thyroid problem in 3 to 4 years 10 are group and 5 control group are 15 to 49 years respondent are readiness of child birth in duration of thyroid problem in 4 to 5 years(table 3).

Table-1
Prevalence of thyroid disorder among study subject

Study Subject	Eligible criteria	Screened study subject	With disorder		Without disorder	
			N	%	N	%
Case	(Married +Couples Thyroid disorder + fertility Problem)	472	60	12.71	412	87.28
Control	(married Couples + thyroid disorder)	359	60	16.71	299	83.28
Total		831	120	29.42	711	170.00

Table-2
Fertility problem among case group in the study subject

Sr.No.	Fertility problem	Case Group(N=43)	Percentage
	Female related fertility problem		
1	Miscarriage	18	41.86
2	Non- Fertilization in ovum	12	27.90
3	Not made immunity fluid	3	6.97
4	Damaged fallopian tubes	10	23.25
	Total	**43**	**100.00**
	Male related fertility problem		
1	Low sperm motility	6	35.29
2	Poor sperm motility	1	5.88
3	Abnormally shaped sperm	7	41.17
4	Anti- sperm antibodies	3	17.64
	Total	**17**	**100.00**

Table-3
Child Birth Readiness and Duration among Case and Control Study On Basis of Their Out Comes

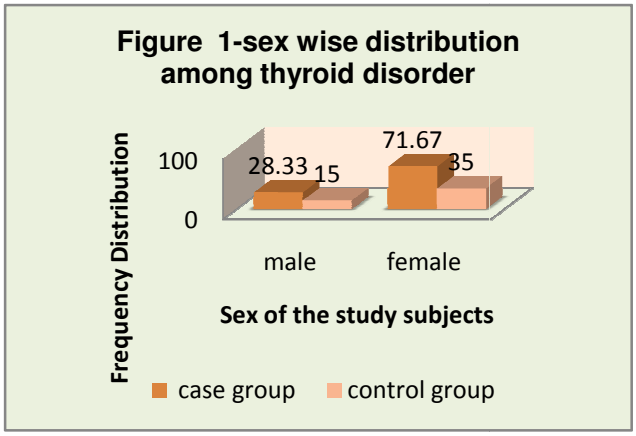
Readiness age duration for child birth	Outcomes(in year) thyroid disorder								Total Case control	
	15-23 Case control		24-31 Case control		32-40 Case control		41-49 Case control			
0-1	-	-	-	-	-	-	-	-	-	-
2-3	-	8	3	3	12	16	8	10	23	37
3-4	-	3	9	-	14	9	4	6	27	18
4-5	-	-	-	-	10	5	-	-	10	5
Total	-	11	12	3	36	30	12	16	60	60

The table consist child birth wise distribution was belonging to 41.66%(25) case group and 43.33% (26) control group respondents are belong to 15 to 20 years of child birth age, 31.66% (19) in case group and 30.00 %(18) control group respondents are belong to 21to 25 years of child birth age and 26.66% (16) in case and control group respondents are same in 26 to 30 years of child birth age.

In graph 1 showed that the sex wise distribution among thyroid disorder in their sex in case and control study subjects and maximum thyroid disorder in female study subjects and showed that the thyroid disorder in according to age in case and control group study subjects and maximum in thyroid disorder are 24 to 31 years case group study subjects and maximum in thyroid disorder are 32 to 40 years control group study subjects (graph 2).

Table-4
Association between marriage age with outcomes of child birth-

Marriage age	Outcomes of child birth									
	0-1		1-2		2-3		Total			
	Case	Control	Case	Control	Case	Control	Case	%	control	%
15-20	10	9	11	5	4	12	25	41.66	26	43.33
21-25	8	3	6	1	5	14	19	31.66	18	30.00
26-30	6	2	8	3	2	11	16	26.66	16	26.66
Total	24	14	25	9	11	37	60	100.00	60	100.00



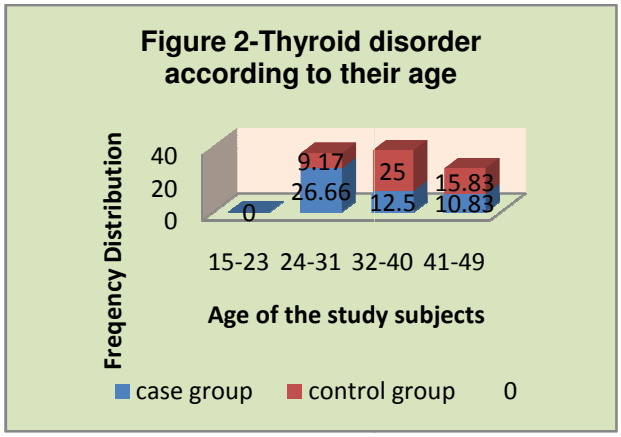


Figure-1 and 2
Sex and Age Wise Distribution among Thyroid Disorder

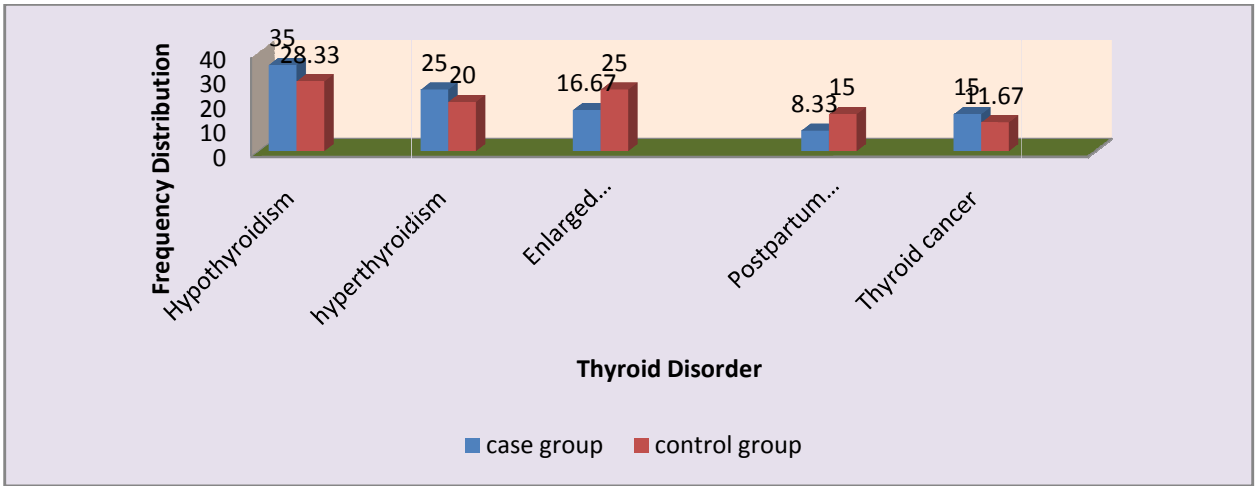


Figure-3
Prevalence of Thyroid Disorder on the Basis of Their Type of Disorder

In graph showed that the thyroid disorder in case and control group are done hypothyroid, hyperthyroid nodule or enlarged thyroid gland, postpartum thyroid and thyroid cancer in the study subjects. And highly prevalence of thyroid disorder in study subjects are hypothyroidism in case group and control group study subjects and minimum thyroid disorder are nodule or enlarged thyroid gland in case group and thyroid cancer in control group study subjects.

The aims of the present study were o elicit fertility problem among married couples with thyroid disorder under the age of 15 to 49 years, to find out the outcomes of study subjects among fertility problem and to find out association between marriage age with outcomes of child birth. In our study, in the urban area, the case groups respondents are 60 under the 120 respondents were done thyroid disorder.

Infertility is defined as the inability to conceive after 1 years of regular intercourse without contraception. The prevalence of infertility is estimated stable in recent years. Infertility evaluated usually identifies different causes, including male infertility (30%) female infertility (35%) the combination of both (20%) and finally unexplained or 'idiopathic' infertility (15%). This has scarcely been studied in Indian population except two studies which looked at the prevalence of hypothyroidism in female and male. Our study revealed that the prevalence of thyroid disorder was more among the females with fertility problem. Our study demonstrate a higher incidence of hypothyroid and fertility problem. Our study showed that the fertility problem among thyroid problem male and female in case and control group. The result showed that the female related fertility problem was (3.84) mean and (14.52) showed that the standard deviation in female fertility problem 4 mean and 1.25 showed that the standard deviation in male respondents is presented in male fertility problem. Present study showed that the outcomes of thyroid disorder in child birth readiness and duration among study subjects on majority of case group in 3 to 4 years duration for child birth and majority of control group in 2 to 3 years duration for child birth.

In our study showed that the higher prevalence in association between marriage age with outcomes of child birth on 25 case group respondents and 26 control group respondents are given 15 to 20 years age of marriage. The prevalence of hypothyroidism in this cohort is 4.8% which is higher than that in the western literature (25% versus 6.5% and 8% and a previous India study (3 .96%). The higher prevalence in our study could be due to the higher prevalence of hypothyroidism of with fertility problem are female in Lucknow India. In the present study the thyroid disorder reason for higher miscarriage (female) and low sperm motility (male) in patients with hypothyroidism was that they might have had undetected hypothyroidism at the marriage and readiness of child birth and the treatment might have been insufficient to restore in their problem.

The miscarriage rate was 3 times more common in subjects with TAI (7.35% versus 26.5%) in cohort. The association has previously been established by various studies. Women with thyroid antibodies tend to become pregnant at an average 3 to 4 years later and therefore more prone to pregnancy loss. In our study that the relatively higher age 32 to 40 years in the patients with hypothyroidism and miscarriage might also have contribution to pregnancy loss.

Conclusion

Our study showed that the majority of miscarriage fertility problem in female case group respondents in during thyroid problem and majority of abnormally shaped sperm in make case group respondents in during thyroid problem among fertility problem. 15 to 20 years respondents are given marriage age in outcomes of child birth in case and control group respondents are given thyroid disorder among fertility problem and fertility effected respondents are given child birth readiness and duration among case and control group in majority of 3 to 4 years case group and 2 to 3 years control group respondents are readiness age duration for child birth in their thyroid disorder among fertility effected problem.

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