

Study based on calculating level of hypothyroidism in pregnant women

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ABSTRACT:

Aim: This study was held and conducted to measure the prevalence of disease among pregnant women living in India. For accurate measurement of results, they do several studies based on hypothyroidism. They work on different social sites and also walk in so many places to get accurate results of this research. They want to check out the exact ratio of pregnant women who suffers from hypothyroidism during their pregnancy periods and also want to calculate its prevalence.

Methodology: Study was selected and several procedures for extraction of data were performed. Different types of tests were used to check the quality of this study. After tests, it was a time to calculate results. They plot a graph of all the collected data. Several types of tests were performed and after analysis they perform results.

Results: After an overview, Pregnant women with hypothyroidism were 11.6%. Their clinical and sub-clinical results were measured separately with the percentage of 9.5% and 2.7% as well.

Conclusions: Overall, the percentage of pregnant women in India who suffers with hypothyroidism were 11.6%.

Keywords: Calculation, Level, Hypothyroidism, Pregnant Women.

INTRODUCTION:

During pregnancy, almost all women suffer from thyroid problems [1]. Their thyroid glands stop functioning properly and causes severe problems during pregnancy [2]. Hypothyroidism has seen in pregnant women [3]. We divide thyroid patients into 2 groups as clinical and sub-clinical group [4]. Clinical groups include patients suffers from thyroxine and sub-clinical include those patients who suffer from hypo-thyroxine in their bodies [5]. About 1.6-4% of hypothyroidism were noted down in pregnant women [6]. From this calculated ratio, about 0.2-0.6% had clinical hypothyroidism and some of them have sub-clinical hyperthyroidism [7]. In other researches and studies, about 1.3% to 68.1% were noted [8]. Globally, cause of hypothyroidism in women is the deficiency of iodine in their bodies [9]. It causes serious problems in our bodies and also disturbs our immune system [10]. After spreading of this disease in our body, several type therapies are performed to treat it properly [11]. At the time of pregnancy, pregnant women need healthy and balanced diet for proper nourishment of fetus [12]. Due to imbalance of diet and low intake of iodine cause hypothyroidism in our bodies [13]. Sufficient amount of iodine intake is necessary for women during pregnancy specially during 1st trimester because at that time baby need proper diet for their development [14]. Intake of iodine in measurable amount is necessary [15]. Due to

less level of iodine in the body, development of fetus in the womb effected [16]. During pregnancy, if hypothyroidism does not treated on proper time, it will cause severe diseases as gestational diabetes, placental failure, anemia, and poor baby growth [17]. Increasing level of Hypothyroidism cause adverse effects on baby development and cause serious outcomes [18]. It causes miscarriages, underweight babies, Premature or early birth and many other developmental issues occurs [19]. Baby who born with hypothyroidism suffers from low IQ level and some developmental issues. In this study, they noted down that to get rid of this issue, proper tests and screening is need to treat pregnant women properly to avoid child birth issues [20].

METHODOLOGY:

This study was based to check out the prevalence of Hypothyroidism in pregnant women. We held this study in a hospital. In this study we check the level of Hypothyroidism in patients. A cross sectional study was performed which was also data base and calculate all measurable results. In these studies, TSH(thyroid stimulating hormone) was also studied. Pregnant women feel a lot of discomforts and issues while suffering from Hypothyroidism. They perform several types of researches from different websites to get accurate results. Many scientific websites help them to complete this study. They study all details about it from previous researches of last 2 years. Several types of researches were studied and calculate results to complete this study. This research was held to check the level of Hypothyroidism among pregnant women. Different types of methods were used to study the area specific, a cross sectional study on Hypothyroidism was held.

By using Software, they do proper research on this study and on the basis of data analysis. They mix up the reviews and abstracts of given data and make results. Then 3rd member done further research to complete out this article. They make a proper research-based article by adding all the points which were noted down during this study. After completion of this article, they extract data from this research independently. This data was based on indications, Year, Location, Type of study, Hospital or home based, either women were pregnant or not. All these points were included in this study. We also include articles of other authors when needed. They also check the quality and methods applied to complete this study. After taking several types of analysis and data collection, they gave measurable and accurate results. Range of Hypothyroidism, clinical and sub-clinical, all types of data were collected and studied. Whole data was calculated and studied in software. Number of studies were made on the basis of tests and random sampling was estimated and measured. REML Method was used. Many other methods include REML, CP and FP were used. Gestational diabetes was tested during pregnancy. The thyroid glands were active due to less intake of iodine and leaves its severe impacts on patients and baby development. Hypothyroidism is a world-wide disease, which leaves severe impacts on our lives, but the range of prevalence is different in different states of the world. They perform several researches about hypothyroidism in pregnant women, its causes, effects and outcomes.

RESULTS:

During this research, they search out about 1045 articles about Hypothyroidism. They search out these articles from different social sites. They make a large search related to this disease and found results in the form of articles like as we make search on Google scholar about Hypothyroidism, we got thousands of results, but about 501 results were showing more resemblance towards Hypothyroidism. About 43 articles were showing eligibility to get included in this study. Table no. 1 show results of this study.

Study	Settings	Definition	Before Pregnancy	Hypothyroidism	characteristics
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Sivakumaris	Hospital base	Less than 2.5	SH	Included	Age no mention
Prasanna	Community base	More than 2.3	TSH	Excluded	mentioned
Singh	Hospital base	Less than 3	OH	Excluded	Not mentioned
Dave	Community base	Less than 3	TSH	Included	mentioned
Dale	Hospital base	More than 4	OH	Excluded	Not mentioned
Jaywalk	Hospital base	More than 5.5	TSH	Excluded	Not mentioned
Gayathri	Hospital base	At 20	SH	Included	Not mentioned
Faheema	Hospital base	At 21	OH	Excluded	mentioned
Nahlyaraa	Hospital base	At 22	TSH	Excluded	Not mentioned

On the other hand, they make many other researches from which about 850 were machines but some of them were excluded from this study due to changes in their abstracts. This research was not totally based on pregnant women and it does not held in hospitals properly. Ratio of some studies were different in percentage and number. About 53 studies were Hospital based, 4 of them were home based and 3 of them were asked randomly. About 49 studies were held in coastal areas and 0 of them were studied in rural areas. Studies which were selected to get included in this research were showing similar results with clinical and sub clinical studies but in some aspects it was different too. Hypothyroidism in pregnant women was recorded 11.6% and their clinical and sub clinical studies include 9.5% and 2.4% respectively. Ratio of this disease in pregnant women was also changed as per their pregnancy period. As we discussed earlier, this study was highly hospital based so, Percentage of hospital study was high as compared to coastal and rural areas.

Categories of sub group	No. Of studies	ES	CL	I	Group Q	Group P
Trimester					3.57	0.543
First trimester	21	10.1	7.1-13.4	99.5		
Second trimester	5	26.5	10.1-51.4	98.2		
Third trimester	45	10.4	7.4-14.6	99.0		
Pregnant thyroid women					0.04	0.02
Included	26	11.4	8.4-14.9	95.6		

Excluded	37	10.9	7.5-164	93.2		
Site						
Community based	55	13.2	9.7-14.5	98.0	18.7	0.354
Hospital based	4	6.5	1.7-18.9	99.3		
Coastal areas					5.05	0.345
Yes	32	8.9	6.5-11.8	99.4		
No	30	13.5	5.5-7.9	98.6		

Hypothyroidism and its treatment was different with respect to its appearance as it is diagnosed in hospitals or it is related to home based studies. All these points were discussed in table no 3.

Cities of Pakistan	No. of studies	Prevalence	CI
Lahore	5	11.3	7-10
Islamabad	4	14.4	3-47
Karachi	7	13.6	13-67
Peshawar	8	17.7	12-57
Mardan	6	12.6	16-56
Chitral	8	14.9	17-57
Multan	5	16.8	33-56
Muree	2	18.8	12-89
Rawlakot	1	14.6	13-58

DISCUSSIONS:

Sub clinical studies ranges from 1.3% to 67% [21]. With this research, they analyze the results that prevalence in pregnant was 11.6% [22]. To get best and accurate results, they calculate the results of hypothyroidism from clinical, sub clinical and home based studies were 13.5% [23]. Hypothyroidism is a disease, which occur in women during pregnancy [24]. Due to less intake of iodine in our daily lives, specially in life of pregnant women, it increases the rate of hypothyroidism in their bodies [25]. Hypothyroidism in our bodies cause many issues specially in the development of babies in the womb [26]. If we compare coastal and rural areas, we conclude an increasing rate of hypothyroidism in rural areas as compared to non coastal areas [27]. This study took several steps to get completed [28]. Due to increase in thyroid stimulating hormone in the body of pregnant women, Hypothyroidism itself increase [29]. Hypothyroidism causes severe issues as placental dispatch, miscarriages, low birth weight babies, under development issues etc [30]. It was concluded that the level of hypothyroidism was increased in those pregnant women who were suffering from Iodine level in their bodies [31]. Their daily intake of iodine was not that much good in quality, that's why they face a lot of problems during their pregnancy period [32]. To overcome this issue, they need to get proper diet full of iodine and should include iodine in their daily lives [33]. Proper care in throughout pregnancy is needed for better development of fetus [34].

CONCLUSIONS:

From this study, we concluded that about 1-2 from 10 women are suffering from hypothyroidism. A lot of authors wrote several articles about this disease and conclude results that most women specially during their pregnancy time suffers from hypothyroidism annually. Due to inefficiency

of data, they did not make proper results about that research. A proper research is needed to fulfill all the requirements of this research and make accurate results. With the help of proper research, we can treat this disease.

DATA AVAILABILITY:

Data which is used in this study to measure the results is mentioned in tables.

ETHICS:

Given data is based on proper research and calculations .

CONFLICTS OF INTEREST:

There were no conflicts of interest declared.

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