

The Prevalence of Thyroid Disorders Among Pregnant Women in Omdurman Maternity Hospital, 2019-2020

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BACKGROUND

The thyroid gland plays a vital role in body metabolism, through the production of thyroid hormones. The thyroid gland undergoes definite physiological changes during pregnancy. Moderate thyroid enlargement and increased vascularity occurs as a result of pregnancy hormone induced glandular hyperplasia. Thyroid stimulation starts as early as the first trimester by human chorionic gonadotropin hormone (beta-HCG), which shares some structural homology with thyroid-stimulating hormone (TSH). There is also an estrogenic-mediated increase in circulating levels of thyroid-binding globulin (TBG). Furthermore, there is a relative decline in the availability of iodide, secondary to the increased renal clearance and overall losses to foetus and placenta.

OBJECTIVES

To determine the prevalence of thyroid disorders in pregnant women, analyze their effects on pregnancy outcomes, and evaluate the effectiveness of current management strategies at Omdurman Maternity Hospital, Sudan.

METHODS

The study employed a retrospective, case-finding, hospital based cross-sectional design. Master sheets were used to collect data from the files of participants who met the inclusion criteria at Omdurman maternity hospital. The data collection period spanned from December 2019 to December 2020. Data was analyzed in a descriptive manner using IBM SPSS version 17.0. Results were presented in the form of frequency tables, pie charts and bar graphs.

CONCLUSIONS

In conclusion, the findings of this study support existing international research, indicating that hypothyroidism is the most common thyroid disorder in pregnant women. It is important to screen high-risk pregnancies for thyroid dysfunction to prevent complications. The current management guidelines in Sudan are consistent with global standards and should continue to be followed to improve pregnancy outcomes. The study also recommends improving data management, particularly through the use of electronic patient records, to enhance research and patient tracking. Challenges such as poorly organized patient files, missing information, slow approval processes, and limited recent research on the subject were encountered.

ACKNOWLEDGEMENT

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DISCUSSION AND RESULTS

Among the 869 females in the study, 838 (96.43%) were euthyroid, 23 (2.64%) were hypothyroid and 8 (0.92%) were hyperthyroid. The prevalence of thyroid disorders was found to be 3.68%. Among the hyperthyroid patients, 3 (37.50%) delivered normal term pregnancy, 3 (37.50%) delivered low birth weight children, 2 (25.00%) had preterm delivery. Among the hypothyroid patients, 16 (69.56%) delivered normal term pregnancy, 4 (17.39%) had preterm delivery and 3 (13.04%) delivered low birth weight children. Among the hyperthyroid group, 5 (62.50%) received anti-thyroid medications and 3 (37.50%) received B-blockers. Among the hypothyroid group, All 23 (100%) patients received thyroid hormone replacement.

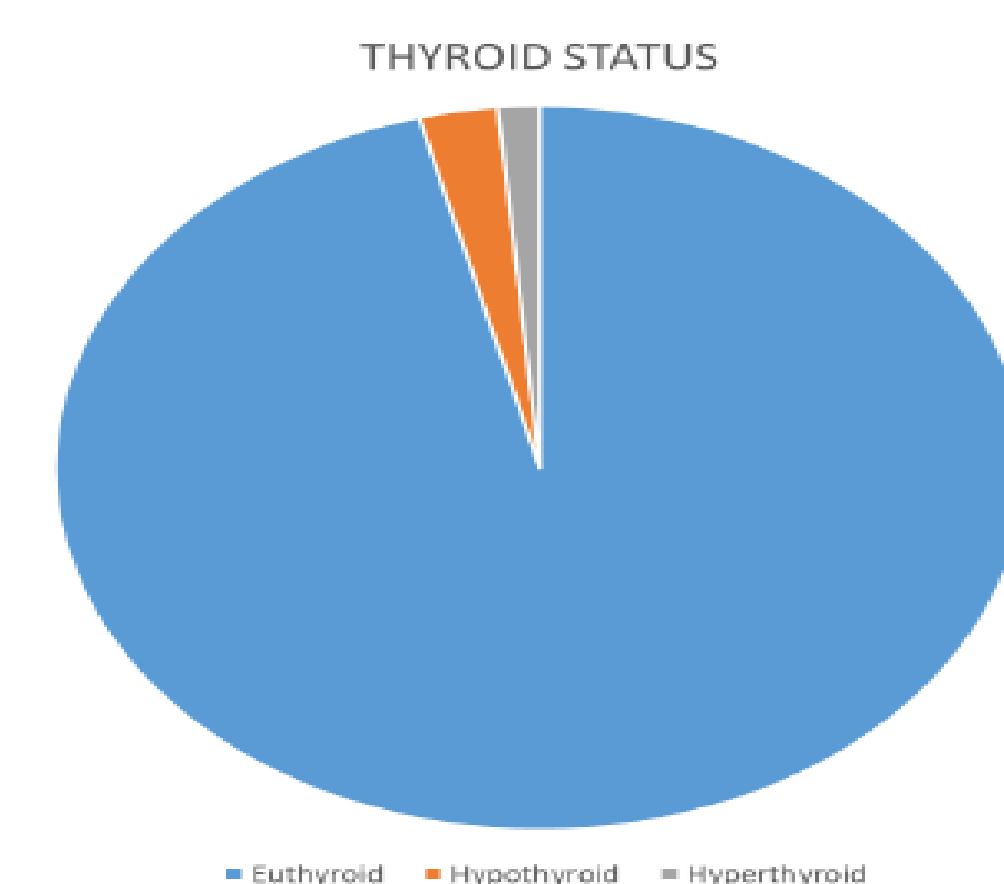


Figure 1 | Thyroid status among pregnant females. The figure shows the thyroid status among the 869 participants in the study. The majority of 838 (96.43%) were found to be euthyroid, 23 (2.64%) were hypothyroid and 8 (0.92%) were hyperthyroid. It shows that hypothyroidism is more common than hyperthyroidism.

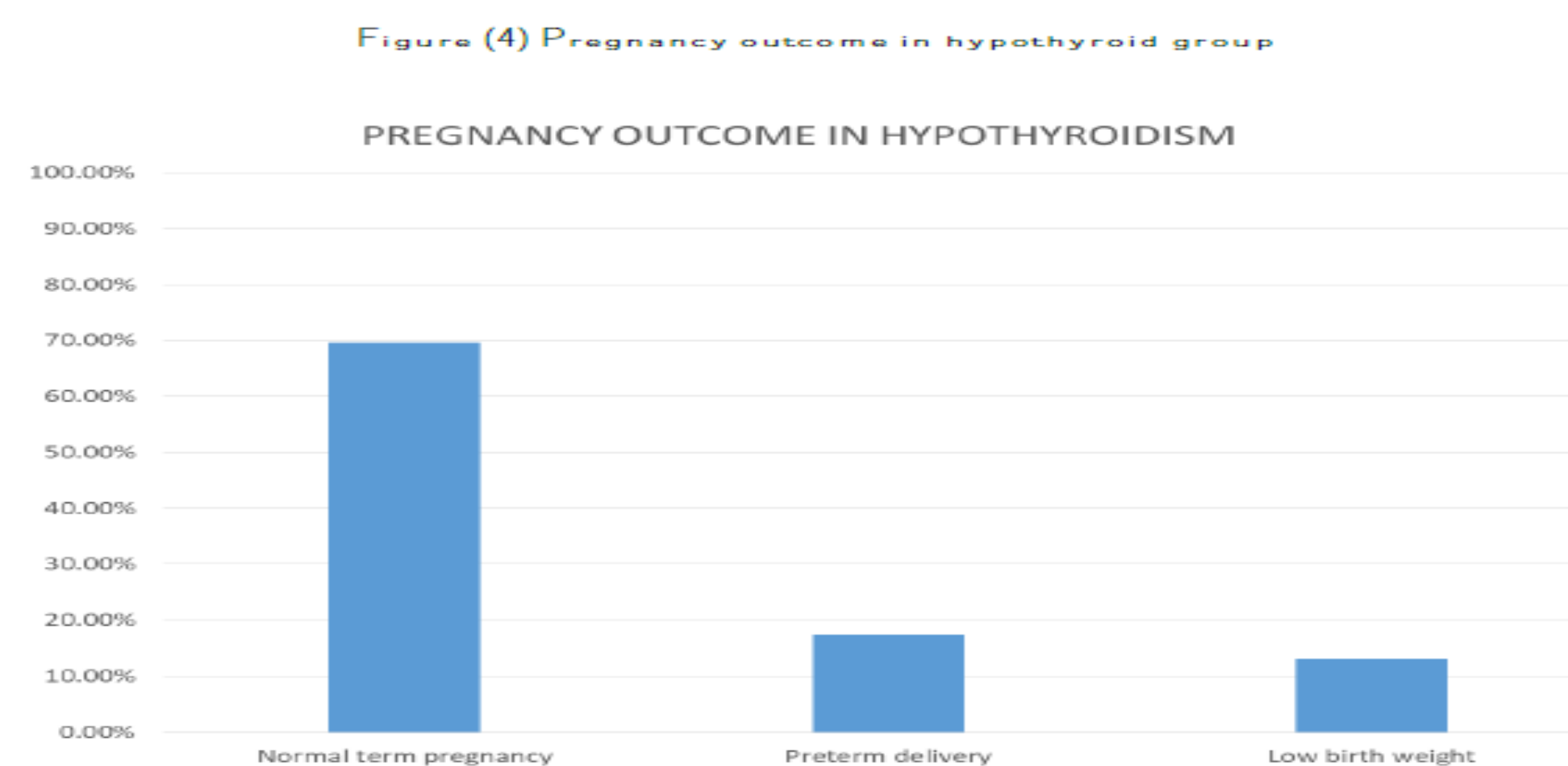


Figure 4 | Pregnancy outcome of the hypothyroid group. The figure shows the different pregnancy outcomes of the hypothyroid group. Among the hypothyroid group 16 out of 23 patients (69.56%) delivered normal term pregnancy, 4 (17.39%) had preterm delivery and 3 patients (13.04%) delivered low birth children.

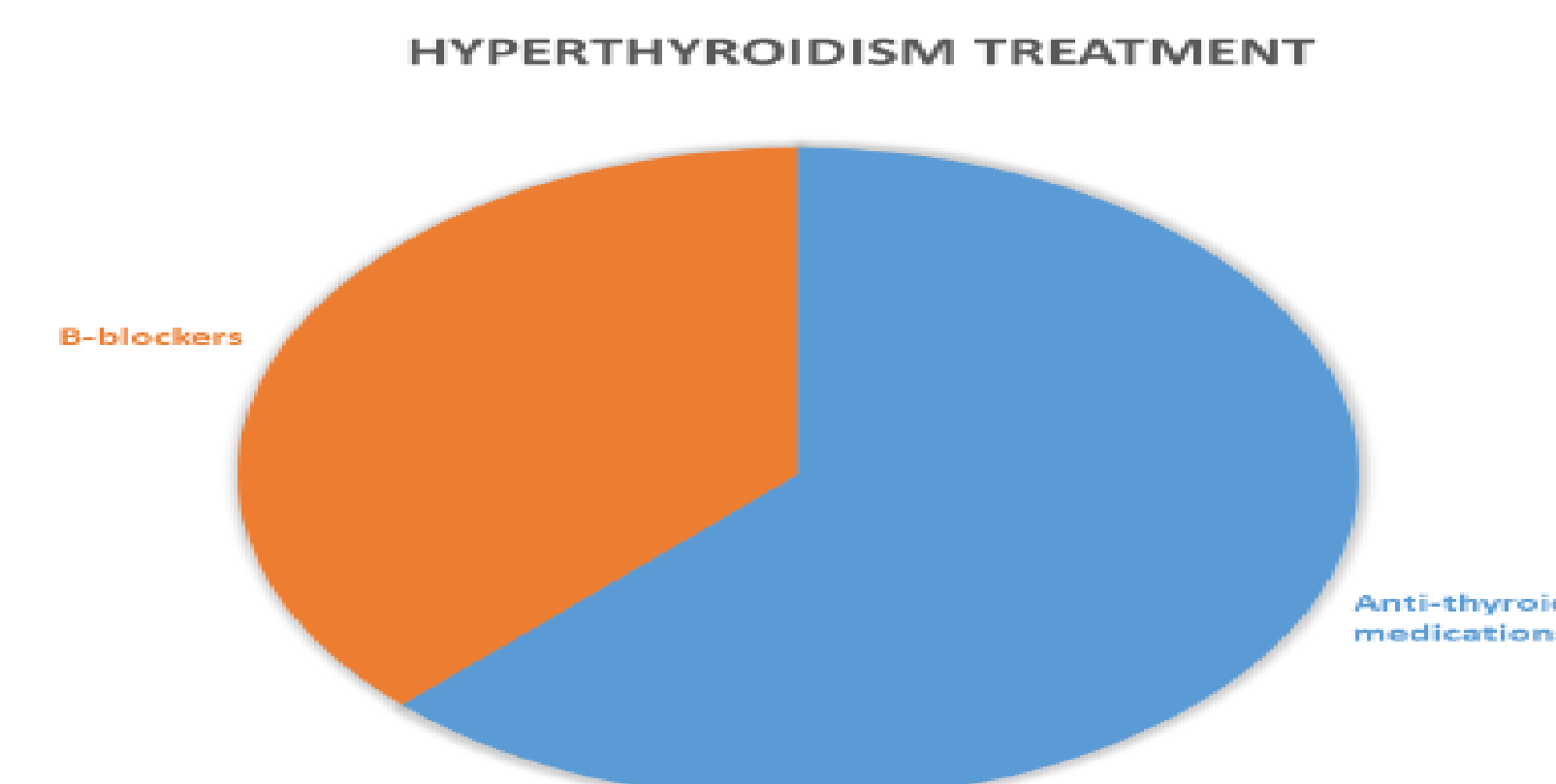


Figure 2 | Treatment of hyperthyroidism. The figure shows the most common treatment for hyperthyroidism among pregnant females. Five out of 8 patients (62.50%) received anti-thyroid medications and three patients (37.50%) received B-blockers.

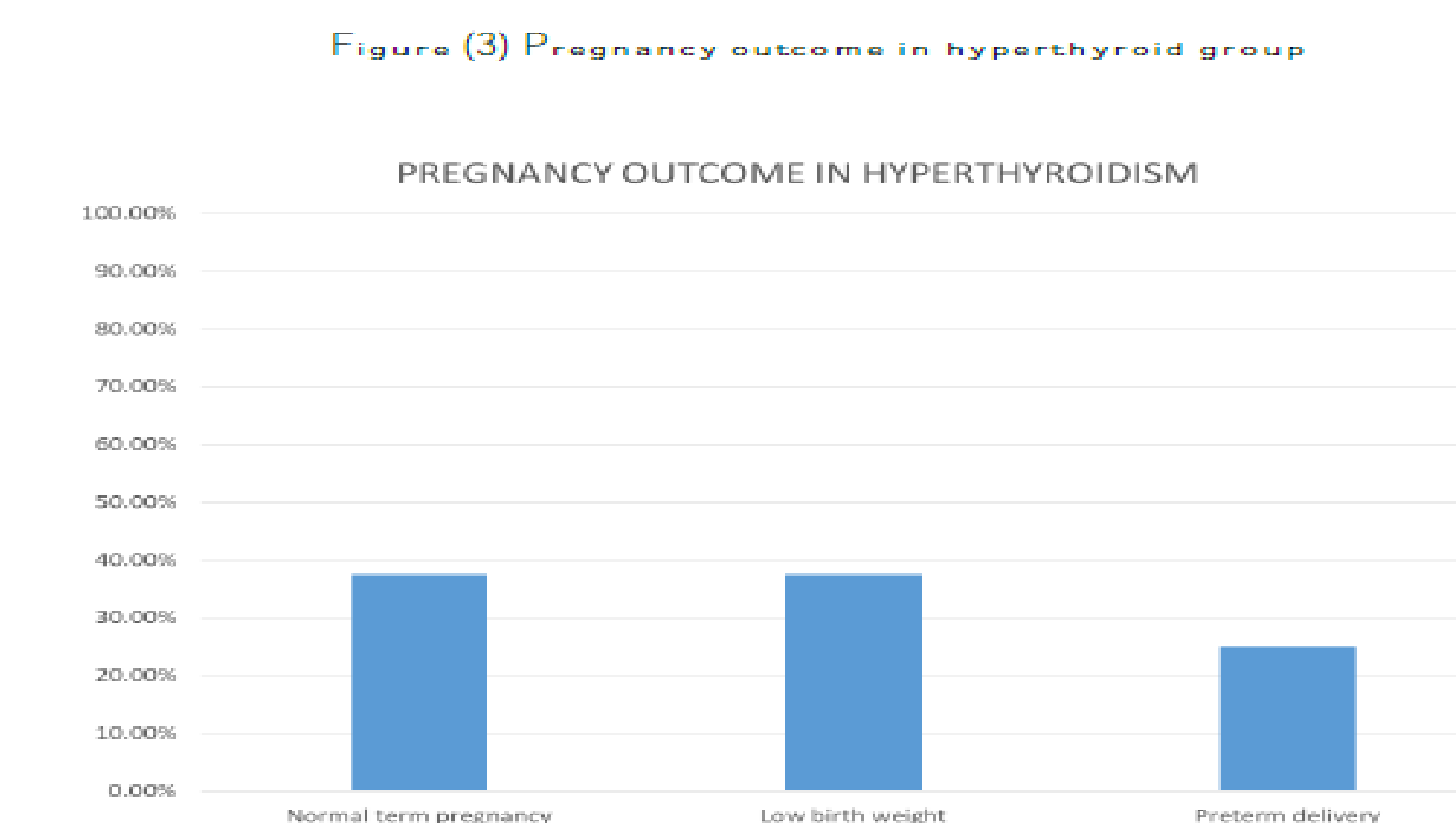


Figure 3 | Pregnancy outcome of the hyperthyroid group. The figure shows the different pregnancy outcomes in the hyperthyroid group. Three out of 8 patients (37.50%) delivered normal term pregnancy, 3 (37.50%) delivered low birth weight children, and two (25.00%) had a preterm delivery.

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