Thyroid screening during the first trimester of pregnancy is shown to reduce the risk of miscarriage and other obstetric complications by the immediate intervention of levothyroxine (LT4). Thyroid screening should thus be implemented as universal screening during the first trimester of pregnancy. However, further research may be required to implement standard doses of LT4 throughout gestation.

**Discussion**

Thyroid screening during the first trimester of pregnancies is shown to reduce the risk of miscarriage and other obstetric complications by the immediate intervention of levothyroxine (LT4). Thyroid screening should thus be implemented as universal screening during the first trimester of pregnancy. However, further research may be required to implement standard doses of LT4 throughout gestation.

**References**

- **Key Findings**
  - Two of the studies that SCH is associated with earlier gestational age at miscarriage (Khatawkar & Awati, 2015) and TSH is indicative of SCH and thus increases the prevalence of miscarriage.
  - With treatment (levothyroxine/T4 therapy), pregnancy and abortion rates were similar to those of control groups.
  - Reduction in screening and treatment can elongate the time for conception, thus SCH can affect fertility as well.
  - One study suggests congenital malformations are likely not affected by LT4 treatment as a result of SCH.
  - One study suggests fetal macrosomia is prevalent in those with untreated SCH.
  - Presence of TPOAbs and TgAbs (thyroid antibodies) in combination of SCH increases the risk of miscarriage during the first trimester.

- **Contextualizing the Results**
  - SCH is the second most common endocrine disorder that affects women of reproductive age (Reid, Middleton, Cossich, Crowther, & Bain, 2013). SCH is asymptomatic and can only be recognized by biochemical testing (Reid, Middleton, Cossich, Crowther, & Bain, 2013). The prevalence of this disease accounts for 4-5% globally (Unnikrishnan et al., 2013). SCH is classified as having a low range of TSH levels (0.35-4.5 mIU/L) and a high range of T4 levels (>1.42 μg/dL). The thyroid stimulating hormone (TSH) levels during basal and a after TRH are lower than women with thyroid antibodies.

- **Conclusion**
  - SCH is a good comparison for thyroid function, to determine or characterize euthyroid women that may have a miscarriage as a result of thyroid dysfunction.
  - The evaluation of serum TSH and TRH responsiveness in pregnant women may help to identify those at risk of TSH.

- **Results**
  - Results show that screening for thyroid dysfunction is effective in reducing miscarriage rates.
  - The evaluation of serum TSH and TRH responsiveness in pregnant women may help to identify those at risk of TSH.

- **Methods**
  - Methods: Through the process of a structured review, PubMed, Scopus, and Medline was searched from 2003 to 2017. The following search terms were used: subclinical hypothyroidism, thyroid, and miscarriage. The search terms were filtered out of our search: postpartum, autonomi, autoimmune, in vitro, and menstrual irregularity. Studies comparing the prevalence of miscarriage before 20 weeks of pregnancy and subclinical hypothyroidism were used.

- **Results**
  - Results: Six articles satisfying the inclusion criteria were analyzed. Pregnant women with screened SCH had a higher prevalence of miscarriage in the first 20 weeks of pregnancy compared to pregnant women who had received medical intervention. Higher maternal thyroid-stimulating hormone (TSH) levels even within the normal reference range are associated with an increased risk of recurrent miscarriage. Evidence suggests that treating SCH in pregnancy women in their first trimester can prevent recurrent miscarriage as well as other adverse obstetric outcomes associated with SCH.

- **Conclusions**
  - Conclusions: Screening for thyroid-stimulating hormone (TSH) and Thyroxiene (T4) levels in pregnant women with a higher risk of SCH can prevent multiple obstetric complications. However, further research is needed to determine the levels required during specific stages of gestation. This would have a positive impact on diagnosis and future medical interventions for maternal and fetal health.