

R056: An examination of the role of socio-economic factors and maternal health on child oral health – QUB

Diabetes in Northern Ireland has a prevalence of 4.5 percent and gestational diabetes mellitus (GDM) a prevalence of approximately 1.6 percent. With approximately 23,000 births per annum in Northern Ireland this suggests a minimum of approximately 370 pregnancies per annum in which the child may have been exposed to poor glycaemic control in utero. A small literature has posited the existence of a link between prenatal exposure to gestational diabetes mellitus and an increased risk of developmental defects in the enamel of offspring. This has suggested that GDM may be associated with defects in the dental enamel of offspring to that pregnancy that in turn may impact on subsequent prevalence of decayed, missing and filled teeth in children.

The studies were small and evidence of the relationship remains inconclusive.

If a relationship between GDM or diabetes more generally on the part of the mother and the oral health of offspring from the pregnancy can be established, however, it may provide for the deployment of targeted preventive interventions to improve health and reduce health inequalities.

This study will examine the relationship between GDM and treated diabetes status of mothers and subsequent use of oral health services of children using dyads of mothers and children in Northern Ireland between 2012 and 2020.

Research objectives:

- We will examine whether any relationship between maternal diabetes status and child's use of dental services is moderated by parental socio-economic status as reflected in the multiple deprivation index decile in which the child resides.
- We will examine whether any relationship between maternal diabetes status and child's use of dental services is impacted upon by maternal use of prescribed medicines and in particular use of specific antibiotics, or anti-depressants.
- We will examine whether birth outcomes such as macrosomia have had any effect on subsequent use of dental services.