# Article information:

Increased expression of microRNA-15a and microRNA-15b in skeletal muscle from adult offspring of women with diabetes in pregnancy - PubMed
<https://pubmed.ncbi.nlm.nih.gov/29528396/>

# Article summary:

1. Offspring of women with diabetes in pregnancy have an increased risk of developing type 2 diabetes and skeletal muscle insulin resistance.

2. The expression of microRNA-15a and microRNA-15b is increased in the skeletal muscle of adult offspring exposed to maternal diabetes.

3. The increased expression of these microRNAs may contribute to the development of metabolic disease in these subjects.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article titled "Increased expression of microRNA-15a and microRNA-15b in skeletal muscle from adult offspring of women with diabetes in pregnancy" presents findings on the potential epigenetic mechanisms that may contribute to the increased risk of cardiometabolic disease in offspring of women with diabetes during pregnancy. The study measured the expression of miR-15a and miR-15b in skeletal muscle biopsies obtained from three groups: offspring of women with gestational diabetes, offspring of women with type 1 diabetes, and a control group from the background population.

The article provides a detailed account of the study's methodology, results, and conclusions. However, there are some potential biases and limitations that need to be considered. Firstly, the study only measured the expression of two microRNAs and did not investigate other potential epigenetic mechanisms that may contribute to metabolic disease development. Therefore, it is unclear whether these two microRNAs are the sole contributors or just part of a larger network.

Secondly, while the study found a significant association between maternal glucose levels during pregnancy and miR-15a expression in offspring skeletal muscle, it is unclear whether this association is causal or merely correlative. Additionally, there may be other confounding factors that were not accounted for in the analysis.

Thirdly, while the article acknowledges that all groups collectively showed a positive association between miRNA expression and fasting plasma glucose, 2 h plasma glucose, and HbA1c levels, it does not provide any information on how these associations differ between groups or whether they are statistically significant.

Finally, while the article concludes that fetal exposure to maternal diabetes is associated with increased skeletal muscle expression of miR-15a and miR-15b and may contribute to metabolic disease development in these subjects, it does not explore any counterarguments or alternative explanations for these findings.

Overall, while the article presents interesting findings on potential epigenetic mechanisms contributing to metabolic disease development in offspring exposed to maternal diabetes during pregnancy, there are some limitations and potential biases that need to be considered when interpreting these results.

# Topics for further research:

* Other epigenetic mechanisms contributing to metabolic disease development
* Causal relationship between maternal glucose levels and miRNA expression in offspring
* Confounding factors in the association between maternal diabetes and miRNA expression in offspring
* Differences in associations between miRNA expression and metabolic markers between groups
* Alternative explanations for the association between maternal diabetes and miRNA expression in offspring
* Long-term health outcomes in offspring of women with diabetes during pregnancy

# Report location:

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