CONCLUSIONS AND DISCUSSIONS

This study was aimed to examine potential correlations between thyroid disease and exposure to PFOs and phthalates (indicated by their biological concentrations). A logistic model was utilized to explore the best predictor out of 17 candidate species tested by NHANES, after accounting for demographic covariates. The analysis indicated that SSBPFOA (branched isomer of perfluorooctanoate) and URXMC1 (Mono-(3-carboxypropyl) phthalate) were good predictors in the model, with a positive and negative correlation, respectively. Interestingly and unexpectedly, the urine creatinine levels were found to be significantly lower in the diseased group ($P<0.001$). The mild correlation between age and creatinine levels, shown in **Table 4b,** may be a contributing factor.

Thyroid disorder is known to have multiple comorbidities. A cursory examination on the NHANES data is listed in the table below. It may be of interest to further explore the NHANES data sets in search of other confounding factors, for example, the Liver condition and Kidney condition data in the Questionnaire Data component may be worth exploring. Also, the urine iodine levels could be another point of interest to investigate potential link for thyroid function.

Thyroid Disease Status		Observed Percent Prevalence in Study Sample		
		Any Cancer	Liver Condition	Heart Disease
Thyroid Disease		24.0	8.0	4.4
No Thyroid Disease		9.8	2.9	3.3

Taken together, the findings of this project could provide potentially promising leads into further in-depth analyses in statistics and biochemistry to fully investigate the exposure to PFOs and phthalates in relation to thyroid disorders.