



Maternal nutrition and birth outcomes in Efate Vanuatu: A preliminary cross-sectional analysis

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Abstract text

Background: Dietary folate (folic acid) substantially reduces congenital anomalies, including neural tube defects (NTDs) and associated stillbirths, by up to 90%. Despite dark green leafy vegetables like Aelan cabbage being rich local sources of folate, crop growth is often impacted by severe weather events such as cyclones. Neighbouring Pacific nations (Fiji, Solomon Islands, and PNG) address potential folate deficiencies by fortifying staple grains (rice/wheat) to ensure sufficient folate intake for healthy fetal development. Currently, Vanuatu lacks mandatory folate fortification, and we do not know if ni-Vanuatu women consume enough folate-rich foods to support good fetal health. This study aims to assess stillbirth rates, NTDs, and folate-rich food consumption to determine the need for folic acid fortification in Vanuatu.

Methods: In September 2023, 470 women aged 18 and above were surveyed in peri-urban (Mele/Meleamat) and rural (North/North East Efate) Efate. Surveys recorded participant demographics, pregnancy and birth history, self-reported stillbirth and NTD occurrences, and folate-rich food intake (evaluated using diet diversity scores).

Results: Preliminary analysis reveals an Efate-wide stillbirth rate of 47.8/1,000 live births. Notably, rural areas exhibit significantly higher stillbirth rates (63.7/1,000) compared to peri-urban areas (26.2/1,000). Across Efate, the NTD rate was found to be 27.6/10,000 births. Additionally, we found that in months post cyclone Judy/Kevin, women struggle to maintain daily intake of folate-rich foods.

Discussion: This represents the first report of NTD incidence in Vanuatu. The NTD rate in Vanuatu exceeds the global average, and rural Efate's stillbirth rates are six times higher than that currently reported by the World Bank (10.6/1,000). We propose that recent cyclonic events have impacted the availability of green leafy vegetables like Aelan cabbage, and advocate for considering staple grain fortification in Vanuatu to safeguard fetal and maternal health, given the susceptibility of ni-Vanuatu people to food security challenges.