Background

- In the Philippines, overweight and obesity prevalence (BMI > 25 kg/m²) among adult women has risen to 35.2% in 2019.
- Underweight (BMI < 18.5 kg/m²) also remains as an important health risk for women, 13.2% of women were underweight in 2016.
- Maternal weight status is associated with adverse health outcomes for mothers and offspring:
  - Maternal Obesity:
    - Increased risk of developing chronic diseases + infant born LGA
  - Maternal Underweight:
    - Increased risk of infertility + preterm birth + infant SGA
  - Gestational weight gain (GWG) and postpartum weight retention (PWR) are significant contributors to overweight/obesity patterns seen in women
  - Affected by lactation and number of births
- Additional factors that affect maternal weight include: maternal education and socioeconomic status (SES)

Aims

1. To determine how maternal education and SES relate to maternal weight changes from age 18-35 years.
2. To determine how pregnancies relate to maternal weight change.
3. To determine how cumulative breastfeeding patterns relate to maternal weight

Materials and Methods

Study Population: Utilized information from the Cebu Longitudinal Health and Nutrition Survey (CLHNS) and followed the 2nd generation of mothers (Children who were born between May 1st, 1983 to April 30th, 1984). This study draws from the data collected in 2002, 2005, 2009, and 2018 (ages 18, 21, 25, and 35 respectively).

- Outcome: Non-pregnant Weight in kg and Annual Change in weight
- Exposure: Total number of pregnancies and Cumulative months breastfeeding
- Covariates: Education, Assets, and Urbanity
- Statistical Analysis: Descriptive and Quantitative*
  - T-Tests, Chi², ANOVA
  - Longitudinal Linear Regression for minimally adjusted (by survey) and adjusted
- Each model was run with and without breastfeeding

Table 1: Weight Variation Characteristics

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Weight</strong></td>
<td>Proportion [%]</td>
<td>Proportion [%]</td>
<td>Proportion [%]</td>
<td>Proportion [%]</td>
</tr>
<tr>
<td>Normal (18.5-25 kg/m²)</td>
<td>18.93</td>
<td>23.48</td>
<td>28.75</td>
<td>30.77</td>
</tr>
<tr>
<td>Overweight (25-29.9 kg/m²)</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
</tr>
<tr>
<td>Obese (≥30 kg/m²)</td>
<td>2.30</td>
<td>2.30</td>
<td>2.30</td>
<td>2.30</td>
</tr>
<tr>
<td>Changes in Non-Pregnant Weight</td>
<td>5.83</td>
<td>5.83</td>
<td>5.83</td>
<td>5.83</td>
</tr>
<tr>
<td>Gained Weight from Surveys</td>
<td>3.93</td>
<td>3.93</td>
<td>3.93</td>
<td>3.93</td>
</tr>
</tbody>
</table>

Summary

- Women shifted from underweight BMI to overweight from 2002 to 2018.
- Weight increased over the survey years (net gain of nearly 12 kg).
- Women with 4 or more pregnancies weighed significantly less than women with no pregnancies.
- Adjusted non-pregnancy weight showed 2 pregnancies having positive effect on weight.
- Found that women consistently gained weight from ages 18-35.
- Less weight gain was seen with more breastfeeding, which may reflect state of negative energy balance.

Public Health Implications

- Information obtained from this study provides may motivate further assessment in other Asian nations.
- Public health efforts can also be made to reduce prevalence of overweight in women of childbearing age.
  - Nutritional and physical activity interventions.

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