Postpartum Weight Retention and Its Related Factors in Taiwanese Women: A Pilot Study

Hsiu-Rong Cheng, RN, MSN,
Doctoral Candidate
The University of Texas at Austin
Obesity is a significant health issue for Taiwanese adult women. 

- 36% were overweight (BMI ≥ 24) and 17% were obese (BMI ≥ 27).\(^1\)
- 33.6% were central obese.\(^1\)
- Obesity-related diseases are the leading causes of death in Taiwan.\(^2\)
Compare to Caucasian women with the same BMIs, Taiwanese women

- Have higher percentage of body fat.\(^3\)
- Have higher mortality risk and more cardiovascular disease.\(^4\)
Postpartum weight retention (PWR) is a contributor of the development of obesity.\textsuperscript{5-11}

A weight gain of 5 kg or more will increase women’s risks of coronary heart disease.\textsuperscript{12}
At 6 months postpartum, Taiwanese women
- Retained 2.4-3.4 kg.\textsuperscript{13-16}
- 25% retained more than 5 kg.\textsuperscript{13}
- Prevalence of overweight increased to 28%.\textsuperscript{14}
Review of Literature

• More than 90% of Taiwanese women still follow the traditional custom of “doing the month”.

  - Limit physical activity
  - Increase food intake

  Increase the risk of PWR
Food for Doing the Month

Sesame Oil Chicken

DuZhong Kidney-Tang (Soup)
Review of Literature

- Few studies have explored postpartum weight changes and its predictors in Taiwanese women.
- Few studies investigate the influence of psychological factors on PWR.
- No studies measure waist circumference as a outcome variable.
Purposes

• To test the reliability of the questionnaires.
• To examine the magnitude of postpartum weight retention and waist circumference
• To examine the relationships among variables
Methods

- Cross-sectional design
- Setting: Two Health Care Centers in Southern Taiwan
- Convenience sample, N = 30
Sample

- Inclusion criteria: women who
  - Were ≥ 18 years
  - Had delivered a singleton and full-term baby
  - Were at postpartum 2 weeks to 6 months
  - Had no complications
  - Were not pregnant during the time of investigation
### Concepts & Measures

<table>
<thead>
<tr>
<th>Concepts</th>
<th>Measures</th>
<th>Cronbach’s α</th>
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</thead>
<tbody>
<tr>
<td>Stress</td>
<td>Perceived Stress Scale (PSS)</td>
<td>.706</td>
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<tr>
<td>Self-Esteem</td>
<td>Rosenberg Self-esteem Scale (RSES)</td>
<td>.835</td>
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<tr>
<td>Depression</td>
<td>Edinburgh Postnatal Depression Scale (EPDS)</td>
<td>.867</td>
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<tr>
<td>Social Support</td>
<td>Interpersonal Support Evaluation List-12 (ISEL-12)</td>
<td>.734</td>
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<td>Self-Efficacy</td>
<td>Exercise Self-Efficacy Scale (ESE)</td>
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<tr>
<td></td>
<td>Nutrition Self-Efficacy Scale (NSE)</td>
<td>.873</td>
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</tbody>
</table>
Results
Demographic Data

Parity
- 12
- 16
- 2
1
2
3

Sex of Baby
- 16
- 14
- Boy
- Girl

Education
- 12
- 9
- 7
- 2
- High School
- 2-Year College
- Bachelor
- Graduate

Feeding
- 20
- 8
- 2
- Breastfeeding
- Formula
- Mixed
<table>
<thead>
<tr>
<th></th>
<th>Scale</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
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<tbody>
<tr>
<td><strong>Total Score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Years</td>
<td>21-42</td>
<td>31.93</td>
<td>5.05</td>
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<tr>
<td>Postpartum days</td>
<td>Days</td>
<td>16-194</td>
<td>80.53</td>
<td>52.65</td>
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<tr>
<td>Prepregnancy Body Weight</td>
<td>kg</td>
<td>38-75</td>
<td>54.27</td>
<td>5.94</td>
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<tr>
<td>Prepregnancy Waist Circumference (WC)</td>
<td>cm</td>
<td>55.9-86.5</td>
<td>69.11</td>
<td>7.80</td>
</tr>
<tr>
<td>Postpartum WC</td>
<td>cm</td>
<td>66.5-104.3</td>
<td>77.61</td>
<td>7.95</td>
</tr>
<tr>
<td>Gestational weight gain (GWG)</td>
<td>kg</td>
<td>6.5-24.4</td>
<td>12.61</td>
<td>4.23</td>
</tr>
<tr>
<td>PWR</td>
<td>kg</td>
<td>1.2-9.1</td>
<td>4.24</td>
<td>2.03</td>
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</tbody>
</table>
Changes in Body Weight and Waist Circumference (WC): Compared to Prepregnancy

![Bar chart showing changes in body weight and waist circumference across different postpartum months compared to prepregnancy.](chart.png)
## Correlation Coefficients

<table>
<thead>
<tr>
<th></th>
<th>PWR</th>
<th>Age</th>
<th>Parity</th>
<th>Pre_BW</th>
<th>GWG</th>
<th>Snack_DOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR</td>
<td>1</td>
<td>-.010</td>
<td>-.259</td>
<td>.097</td>
<td>.331*</td>
<td>.382*</td>
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<tr>
<td>WC_Change</td>
<td>.625*</td>
<td>-.082</td>
<td>-.405*</td>
<td>.168</td>
<td>.111</td>
<td>.435*</td>
</tr>
</tbody>
</table>

Pre_BW: Prepregnancy body weight  
GWG: Gestational weight gain  
PWR: Postpartum weight retention  
WC_Change: Change in waist circumference  
Snack_DOM: Number of snacks eating per day during doing the month
# Correlation Coefficients

<table>
<thead>
<tr>
<th></th>
<th>PSS</th>
<th>RESE</th>
<th>EPDS</th>
<th>ISEL</th>
<th>ESE</th>
<th>NSE</th>
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</thead>
<tbody>
<tr>
<td>PWR</td>
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<td>-.222</td>
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<td>.212</td>
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<td>WC_</td>
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<td>-.252</td>
<td>.289</td>
<td>-.217</td>
<td>-.054</td>
<td>.204</td>
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<tr>
<td>Change</td>
<td></td>
<td></td>
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PSS: Perceived stress scale  
RESE: Rosenberg Self-esteem Scale  
EPDS: Edinburgh Postnatal Depression Scale  
ISEL: Interpersonal Support Evaluation List-12  
ESE: Exercise Self-Efficacy Scale  
NSE: Nutrition Self-Efficacy Scale
Results

- Prevalence of overweight increased from 21.4% (prepregnancy) to 32.1% (postpartum)
- Primiparas increased their waist circumference more than multiparas did ($t = 2.22, p = 0.037$).
Conclusion

• Significant weight retention and increase in waist circumference were found in postpartum Taiwanese women.
• Parity, gestational weight gain, snack eating during doing the month, and psychological factors may influence postpartum weight retention and waist circumference.
Limitations

• Cross-sectional study
• Small sample size
• Limited generalization
Comments & Questions