Disclosures
Objectives

• Be able to identify at least 1 implication of maternal obesity on breastfeeding
• Be able to identify at least 1 implication of weight loss surgery on breastfeeding
• Be able to identify at least 2 ideas to help support breastfeeding mothers who are obese or have gone through weight loss surgery (or both)
Agenda

- Obesity
  - Definition & Background
  - Hormonally
  - Physically
- Types of Weight Loss Surgeries
  - Definition and Types
  - Nutritional Implications
  - Physical Implications
- Other Factors
- Group Activity
- Support and Advice
Questions
Obesity

- Obesity means having too much body fat. It is different from being overweight, which means weighing too much. The weight may come from muscle, bone, fat, and/or body water. Both terms mean that a person's weight is greater than what's considered healthy for his or her height.

Obesity

- Body Mass Index (BMI) is a number calculated from a person's weight and height. BMI is a fairly reliable indicator of body fatness for most people.

- Formula: weight (kg) / [height (m)]^2

## Obesity

<table>
<thead>
<tr>
<th>BMI</th>
<th>Weight Status</th>
<th>Weight Range</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 18.5</td>
<td>Underweight</td>
<td>124 # or less</td>
<td></td>
</tr>
<tr>
<td>18.5-24.9</td>
<td>Normal</td>
<td>125-168 #</td>
<td>5’9”</td>
</tr>
<tr>
<td>25.0-29.9</td>
<td>Overweight</td>
<td>169-202 #</td>
<td></td>
</tr>
<tr>
<td>30.0-39.9</td>
<td>Obese</td>
<td>203-270 #</td>
<td></td>
</tr>
<tr>
<td>40.0 &amp; above</td>
<td>Extreme Obesity</td>
<td>271 # and above</td>
<td></td>
</tr>
</tbody>
</table>

Source: [NHLCBI](http://www.nhlbi.nih.gov/health/health-topics/topics/obe/diagnosis.html)
Obesity

Obesity Trends* Among U.S. Adults
BRFSS, 1990, 2000, 2010

(*BMI ≥30, or about 30 lbs. overweight for 5’4” person)
Prevalence* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2011

*Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

Prevalence ranges:
- 15%–<20%
- 20%–<25%
- 25%–<30%
- 30%–<35%
- ≥35%

http://www.cdc.gov/obesity/data/prevalence-maps.html
Prevalence* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2012

*Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

http://www.cdc.gov/obesity/data/prevalence-maps.html
Prevalence* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2013

*Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

http://www.cdc.gov/obesity/data/prevalence-maps.html
Obesity

MIHA Regions of California
Maternal and Infant Health Assessment (MIHA) Survey

Counties in Each MIHA Region
- Central Coast Region: Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura
- Greater Sacramento Region: El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba
- Los Angeles County
- North/Mountain Region: Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Plumas, Shasta, Sierra, Siskiyou, Tehama, Trinity, Tuolumne
- Orange County
- San Diego County
- San Francisco Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma
- San Joaquin Valley: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare
- Southeastern California: Imperial, Riverside, San Bernardino
Obesity

The 10 Most Obese U.S. Cities and Associated 2009 Healthcare Costs

http://businessjournal.gallup.com/content/145778/cost-obesity-cities.aspx
Obesity


![Image of obesity statistics]

- Prior Poor Birth Outcomes
  - Prior low birth weight or preterm delivery
  - Prior delivery by c-section
- Health Status
  - In good to excellent health before pregnancy
  - Chronic conditions before or during pregnancy
  - Diabetes or gestational diabetes
  - Hypertension, pre eclampsia or eclampsia
  - Asthma
- Nutrition and Weight
  - Daily folic acid use, month before pregnancy
  - Overweight before pregnancy
  - Obese before pregnancy
  - Inadequate weight gain during pregnancy
  - Excessive weight gain during pregnancy
  - Food insecurity during pregnancy
- Intimate Partner Violence (IPV) and Depressive Symptoms
  - Physical IPV in the year before pregnancy
  - Physical or psychological IPV during pregnancy
  - Prental depressive symptoms
  - Postpartum depressive symptoms
- Hardships and Support during Pregnancy
  - Homeless or did not have a regular place to sleep
  - Moved due to problems paying rent or mortgage
  - Woman or partner lost job
  - Woman or partner had pay or hours cut back
  - Became separated or divorced
  - Had no practical or emotional support

**Note:** The image contains a table with data comparing obesity statistics between the San Joaquin Valley and California.
# Obesity

## MIHA Snapshot, San Joaquin County, 2012

Maternal and Infant Health Assessment (MIHA) Survey

<table>
<thead>
<tr>
<th></th>
<th>San Joaquin County</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prior Poor Birth Outcomes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior low birth weight or preterm delivery</td>
<td>14.6 (9.6 - 19.7)</td>
<td>8.8 (7.6 - 9.9)</td>
</tr>
<tr>
<td>Prior delivery by c-section</td>
<td>16.7 (11.0 - 22.4)</td>
<td>16.1 (14.5 - 17.7)</td>
</tr>
<tr>
<td><strong>Health Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In good to excellent health before pregnancy</td>
<td>88.9 (84.4 - 93.5)</td>
<td>92.2 (91.1 - 93.4)</td>
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<tr>
<td>Chronic conditions before or during pregnancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes or gestational diabetes</td>
<td>14.9 (9.7 - 20.0)</td>
<td>11.3 (10.0 - 12.7)</td>
</tr>
<tr>
<td>Hypertension, preeclampsia or eclampsia</td>
<td>7.1 (3.4 - 10.8)</td>
<td>8.5 (7.5 - 9.6)</td>
</tr>
<tr>
<td>Asthma</td>
<td>7.7 (4.0 - 11.5)</td>
<td>8.0 (6.9 - 9.1)</td>
</tr>
<tr>
<td><strong>Nutrition and Weight</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily folic acid use, month before pregnancy</td>
<td>29.1 (22.6 - 35.5)</td>
<td>34.0 (31.9 - 36.1)</td>
</tr>
<tr>
<td>Overweight before pregnancy</td>
<td>25.6 (19.2 - 32.0)</td>
<td>18.3 (16.6 - 19.9)</td>
</tr>
<tr>
<td>Obese before pregnancy</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Inadequate weight gain during pregnancy</td>
<td>12.8 (7.3 - 18.3)</td>
<td>16.5 (14.7 - 18.4)</td>
</tr>
<tr>
<td>Excessive weight gain during pregnancy</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Food insecurity during pregnancy</td>
<td>56.5 (48.2 - 64.7)</td>
<td>42.5 (40.0 - 45.1)</td>
</tr>
<tr>
<td><strong>Intimate Partner Violence (IPV) and Depressive Symptoms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical or psychological IPV during pregnancy</td>
<td>8.9 (5.0 - 12.8)</td>
<td>8.8 (7.5 - 10.2)</td>
</tr>
<tr>
<td>Prenatal depressive symptoms</td>
<td>18.6 (13.0 - 24.1)</td>
<td>16.4 (14.7 - 18.1)</td>
</tr>
<tr>
<td>Postpartum depressive symptoms</td>
<td>17.7 (12.1 - 23.2)</td>
<td>16.0 (14.3 - 17.6)</td>
</tr>
<tr>
<td><strong>HARDSHIPS AND SUPPORT DURING PREGNANCY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homeless or did not have a regular place to sleep</td>
<td>∗</td>
<td></td>
</tr>
<tr>
<td>Moved due to problems paying rent or mortgage</td>
<td>14.1 (9.3 - 18.9)</td>
<td>3.7 (3.0 - 4.5)</td>
</tr>
<tr>
<td>Woman or partner lost job</td>
<td>21.9 (16.0 - 27.8)</td>
<td>17.3 (15.7 - 18.9)</td>
</tr>
<tr>
<td>Woman or partner had pay or hours cut back</td>
<td>18.5 (13.1 - 23.8)</td>
<td>14.3 (12.8 - 15.8)</td>
</tr>
<tr>
<td>Became separated or divorced</td>
<td>9.2 (5.0 - 13.4)</td>
<td>7.9 (6.8 - 9.0)</td>
</tr>
<tr>
<td>Had no practical or emotional support</td>
<td>7.6 (3.8 - 11.4)</td>
<td>5.5 (4.4 - 6.5)</td>
</tr>
<tr>
<td><strong>Substance Use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any smoking, 3 months before pregnancy</td>
<td>10.8 (6.4 - 15.3)</td>
<td>11.9 (10.6 - 13.3)</td>
</tr>
</tbody>
</table>

Obesity

MATERNAL AND INFANT HEALTH ASSESSMENT (MIHA)

The Maternal and Infant Health Assessment, or MIHA, is an annual, statewide representative survey of women with a recent live birth in California. MIHA collects self-reported information about maternal and infant experiences and about maternal attitudes and behaviors before, during and shortly after pregnancy.

New! MIHA releases 2011 data! Use the query below to select MIHA data products.

MIHA Comparison Maps

MIHA Comparisons illustrate geographic differences in key maternal and infant health indicators. Select the “Annual Reports” tab above to find all Comparison Maps, Snapshots and technical information in one document.

Please make a selection from each of the pull down menus to search for a specific MIHA Comparison Map.

- County
- Nutrition and Weight
- WIC during Pregnancy
- Year (2008-2011)

There is no MIHA product available for this search. Please make another selection.

More information about indicators, methods and comparability across years is provided in the Technical Document on the Methods page.

View maps of MIHA counties and MIHA regions.

Contact MIHA at MIHA@cdph.ca.gov

http://www.cdph.ca.gov/data/surveys/MIHA/Pages/ComparisonMaps.aspx
## MIHA County Comparison 2012

### Maternal and Infant Health Assessment (MIHA) Survey

#### Excessive weight gain during pregnancy

<table>
<thead>
<tr>
<th>County</th>
<th>Percent</th>
<th>95% CI</th>
<th>Population Estimate of Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>42.5</td>
<td>40.0 - 45.1</td>
<td>164,200</td>
</tr>
<tr>
<td>Alameda</td>
<td>43.2</td>
<td>35.3 - 51.1</td>
<td>6,700</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>43.5</td>
<td>34.5 - 52.0</td>
<td>3,900</td>
</tr>
<tr>
<td>Fresno</td>
<td>39.6</td>
<td>31.3 - 47.9</td>
<td>4,300</td>
</tr>
<tr>
<td>Kern</td>
<td>45.1</td>
<td>35.7 - 54.5</td>
<td>4,800</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>36.4</td>
<td>28.7 - 44.1</td>
<td>36,400</td>
</tr>
<tr>
<td>Monterey</td>
<td>37.8</td>
<td>28.7 - 45.9</td>
<td>1,600</td>
</tr>
<tr>
<td>Orange</td>
<td>43.7</td>
<td>35.0 - 52.4</td>
<td>13,300</td>
</tr>
<tr>
<td>Riverside</td>
<td>43.2</td>
<td>36.0 - 50.5</td>
<td>10,000</td>
</tr>
<tr>
<td>Sacramento</td>
<td>43.5</td>
<td>35.9 - 51.0</td>
<td>7,000</td>
</tr>
<tr>
<td>San Bernardino</td>
<td>49.4</td>
<td>42.1 - 56.6</td>
<td>11,300</td>
</tr>
<tr>
<td>San Diego</td>
<td>48.5</td>
<td>40.3 - 56.7</td>
<td>16,800</td>
</tr>
<tr>
<td>San Francisco</td>
<td>39.5</td>
<td>31.5 - 47.5</td>
<td>3,100</td>
</tr>
<tr>
<td>San Joaquin</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Mateo</td>
<td>39.0</td>
<td>30.1 - 47.8</td>
<td>2,700</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>45.2</td>
<td>34.9 - 55.5</td>
<td>1,600</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>37.0</td>
<td>28.4 - 45.6</td>
<td>7,200</td>
</tr>
<tr>
<td>Sonoma</td>
<td>49.9</td>
<td>41.3 - 58.5</td>
<td>2,100</td>
</tr>
<tr>
<td>Stanislaus</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tulare</td>
<td>45.3</td>
<td>36.0 - 54.6</td>
<td>2,600</td>
</tr>
<tr>
<td>Ventura</td>
<td>46.7</td>
<td>38.0 - 55.5</td>
<td>3,800</td>
</tr>
</tbody>
</table>

- x: Statistically worse than the rest of California (p<0.05, chi-square test)
- : Statistically better than the rest of California (p<0.05, chi-square test)
- : No statistical difference between county and the rest of California

### Notes:
- MIHA is an annual population-based survey of California resident women with a live birth in 2012, with a sample size of 6,810. Percent (%), 95% confidence interval (95% CI), and estimated number of women in the population with the health indicator/characteristic (N), i.e., numerator of the percent rounded to the nearest hundred, are weighted to represent all women with a live birth in California and the county in 2012. See the Technical Document on Weighting for further information on weighting, comparability to prior years and technical definitions.

- Data Source: Maternal and Infant Health Assessment Survey
- Prepared by: Maternal, Child and Adolescent Health Program, Center for Family Health, California Department of Public Health
- Visit the MIHA website at www.cdph.ca.gov/MIHA.
Obesity

- Hormonally
  - Prolactin
  - Insulin
Obesity

- Prolactin Response
  - Lower prolactin response to suckling
    - 48 hours & 7 days pp
  - Important in the first week
    - No difference in progesterone concentrations
  - Bigger babies
    - Larger babies=decreased prolactin response to suckling
Obesity

- Insulin
  - 28-44% higher concentrations
  - At the time insignificant, but is it?
- 2013 Study & Insulin’s role
  - Women with lower insulin sensitivity
  - Over expression to insulin resistance
Obesity

- Physical Considerations
  - Larger (heavy) breasts
  - Larger & flatter nipples
  - Inadequate mammary development?

http://girldujour.wordpress.com/tag/breast-obsession/
Obesity

- Whole-mount analysis of mammary glands on day 14 of pregnancy in lean (A) and obese (B) mice. Scale bar represents 1 mm.

Flint et al. 2005 AJP-Endocrinol Metab, 288: E1179-E1187
Whites Are Heavier Users of Weight-Loss Surgery, Study Finds
Insurance differences may explain disparity

MONDAY, Aug. 5 (HealthDay News) -- Obese white Americans are twice as likely as obese blacks to have weight-loss surgery, even though more black adults qualify for the procedures, a new study says.

Researchers analyzed rates of weight-loss (bariatric) surgery in the United States from 1999 to 2010 and found that 22 percent of black women and 11 percent of black men met medical eligibility guidelines for the procedure, compared with 12 percent of white women and 8 percent of white men.

However, twice as many whites as blacks underwent gastric bypass or other types of weight-loss surgery, according to the study, which was published Aug. 5 in the American Journal of Gastroenterology.

Insurance coverage appears to play a role in this discrepancy, the researchers say. They found that about 70 percent of whites had private health insurance, compared with 50 percent of blacks.

"Our new findings suggest that differences in insurance coverage are part of the reason why black Americans are less likely to have bariatric surgery, but it may not be the whole story. We need more research to look at whether cultural differences, perhaps a greater acceptance of obesity, lack of awareness of the risks or mistrust of doctors, might also be contributing," Dr. Sonia Saxena, from the School of Public Health at Imperial College London in England, said in a college news release.
Weight Loss Surgery

• Types
  ◦ Roux-en-Y
  ◦ Lap-band
  ◦ Gastric Sleeve or resection
  ◦ Biliopancreatic diversion with duodenal switch
Weight Loss Surgery

- **Roux-en-Y**
  - Both restrictive and malabsorption

Weight Loss Surgery

- Gastric Sleeve
  - Restrictive

http://www.lapbandinformation.com/surgery_gastricsleeve.shtml
Weight Loss Surgery

- Lap Band
  - Restrictive
  - Adjustable

http://www.fda.gov/medicaldevices/productsandmedicalprocedures/deviceapprovalsandclearances/recently-approveddevices/ucm248133.htm
# Weight Loss Surgery

<table>
<thead>
<tr>
<th></th>
<th>Roux-en-Y</th>
<th>Gastric Sleeve</th>
<th>Lap Band</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pros:</strong></td>
<td>Highest expected weight loss.</td>
<td>Modulation of gut hormones.</td>
<td>Adjustments can be made if losing weight too slowly or not</td>
</tr>
<tr>
<td></td>
<td>Modulation of hunger hormones.</td>
<td>Less complicated surgery.</td>
<td>quickly enough.</td>
</tr>
<tr>
<td></td>
<td>Strongest potential for improving T2DM.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Micronutrient Deficiencies.</td>
<td>Gastric Ulcers.</td>
<td>GERD.</td>
</tr>
<tr>
<td></td>
<td>Risk of Ulcers (esp. with NSAIDS/smoking).</td>
<td></td>
<td>Slippage/migration.</td>
</tr>
<tr>
<td></td>
<td>Anastomotic Ulcers.</td>
<td></td>
<td>Erosion.</td>
</tr>
</tbody>
</table>

Weight Loss Surgery

• Eligibility Criteria
  ◦ BMI of ≥ 40
  ◦ BMI ≥35 but <40 + weight related comorbidity
    • T2DM
    • HTN
    • CVD
    • OSA
    • Metabolic Syndrome
    • Other
Weight Loss Surgery

- Nutritional Implications
  - Deficiencies
  - Digestion
- Supplements
  - *Life long*
  - Protein
  - B12*
  - Iron*
  - Folate
  - Calcium
Weight Loss Surgery

- Physical Implications
  - Overweight?
  - Lose skin
  - Softer pendulous breasts
Other Factors

- 2 ½ to 3 ½ times more likely to stop BF
- Only 29% “believed” less successful
- 74% “agreed” that obese women are not more or less successful
- 42% “believed” it’s large breasts
- “Majority” advised mothers no differently
- Lack of guidance & advice
Other Factors

• Labors
  ◦ More likely to have longer labors-stressors
  ◦ More likely to have labor complications
  ◦ Cesarean rates increase with BMI increase
  ◦ More likely to have PCOS

• Breast size not to blame?
Other Factors

- Pacifier Use
- Less:
  - Information provided
  - Staff assistance
  - Breastfeeding 1st hour
  - Receiving resources
  - Rooming in
  - On demand
- Stigma?

http://www.cdc.gov/prams/
http://scottq.blogspot.com/2012/04/is-discrimination-acceptable-fat-people.html
http://www.obesityaction.org/weight-bias-and-stigma
Group Activity

• Get into groups
• At least 3 ideas
  ◦ Biological, physiological, physical, behavioral, or cultural, or environmental.
• Share 1 or 2 ideas with the group
Support and Advice

Obesity

- **Duration**
  - Encouraging maximum stimulation
    - Skin-to-skin
    - Baby wearing
    - Freq feedings
    - Pumping if needed
- **Position and latching**
  - Supporting large (pendulous) breasts
  - Positioning
Support and Advice

- Weight Loss Surgery
  - Positioning & Latch
    - Excessive lose skin, skin rolls
    - Supporting large breasts
    - Duration
    - Encouraging maximum stimulation
    - Skin-to-skin
    - Baby wearing
    - Freq feedings
    - Pumping if needed
Support and Advice

- Weight Loss Surgery
  - Ensure they are taking their vitamins
    - Ca, B12, Fe, MVI
    - Blood work
  - Infant weight & growth
  - Check for infant lethargy
  - Blood work
Support and Advice

MIHA County Comparison 2012
Maternal and Infant Health Assessment (MIHA) Survey

Participated in WIC during pregnancy

<table>
<thead>
<tr>
<th>County</th>
<th>Percent</th>
<th>95% CI</th>
<th>Population Estimate of indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>55.6</td>
<td>54.1 - 57.1</td>
<td>269,800</td>
</tr>
<tr>
<td>Alameda</td>
<td>36.9</td>
<td>33.1 - 40.6</td>
<td>7,000</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>48.0</td>
<td>40.3 - 55.7</td>
<td>5,600</td>
</tr>
<tr>
<td>Fresno</td>
<td>72.6</td>
<td>69.4 - 75.9</td>
<td>11,300</td>
</tr>
<tr>
<td>Kern</td>
<td>75.0</td>
<td>71.2 - 78.8</td>
<td>10,600</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>63.6</td>
<td>59.3 - 67.8</td>
<td>80,400</td>
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<tr>
<td>Monterey</td>
<td>70.7</td>
<td>63.9 - 77.6</td>
<td>4,500</td>
</tr>
<tr>
<td>Orange</td>
<td>46.3</td>
<td>41.3 - 51.2</td>
<td>17,000</td>
</tr>
<tr>
<td>Riverside</td>
<td>60.2</td>
<td>56.5 - 63.9</td>
<td>17,800</td>
</tr>
<tr>
<td>Sacramento</td>
<td>54.1</td>
<td>49.1 - 59.1</td>
<td>10,300</td>
</tr>
<tr>
<td>San Bernardino</td>
<td>62.3</td>
<td>58.6 - 66.0</td>
<td>18,600</td>
</tr>
<tr>
<td>San Diego</td>
<td>44.4</td>
<td>40.4 - 48.4</td>
<td>18,900</td>
</tr>
<tr>
<td>San Francisco</td>
<td>26.4</td>
<td>18.8 - 33.9</td>
<td>2,300</td>
</tr>
<tr>
<td>San Joaquin</td>
<td>68.7</td>
<td>61.8 - 75.5</td>
<td>6,600</td>
</tr>
<tr>
<td>San Mateo</td>
<td>36.2</td>
<td>28.2 - 44.2</td>
<td>3,100</td>
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<td>Santa Barbara</td>
<td>60.4</td>
<td>52.7 - 68.2</td>
<td>3,300</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>30.1</td>
<td>26.8 - 33.3</td>
<td>7,000</td>
</tr>
<tr>
<td>Sonoma</td>
<td>51.0</td>
<td>43.2 - 58.9</td>
<td>2,500</td>
</tr>
<tr>
<td>Stanislaus</td>
<td>63.8</td>
<td>56.6 - 71.0</td>
<td>4,700</td>
</tr>
<tr>
<td>Tulare</td>
<td>71.0</td>
<td>63.9 - 78.0</td>
<td>5,600</td>
</tr>
<tr>
<td>Ventura</td>
<td>51.1</td>
<td>43.1 - 59.1</td>
<td>5,200</td>
</tr>
</tbody>
</table>

Data Source: Maternal and Infant Health Assessment Survey
Prepared by: Maternal, Child and Adolescent Health Program,
Center for Family Health, California Department of Public Health

Notes: MIHA is an annual population-based survey of California resident women with a live birth in 2012, with a sample size of 8,810. Percent (N), 95% confidence interval (95% CI), and estimated number of women in the population with the health indicator/characteristic (N), i.e., numerator of the percent rounded to the nearest hundred, are weighted to represent all women with a live birth in California and the county in 2012. See the Technical Document for information on weighting, comparability to prior years and technical definitions.
Support and Advice

- Resources
  - LLL
  - WIC
  - Mom groups
  - Websites
  - Apps
  - Counseling
  - Nursing attire
Support and Advice

- **Resources**
  - [http://www.cdph.ca.gov/programs/wicworks/Pages/WICBreastfeeding.aspx](http://www.cdph.ca.gov/programs/wicworks/Pages/WICBreastfeeding.aspx)
  - [http://www.lli.org/llleaderweb/lv/lvmayjun89p35.html](http://www.lli.org/llleaderweb/lv/lvmayjun89p35.html)
  - [Text4baby](http://www.cdph.ca.gov/programs/wicworks/Pages/WICBreastfeeding.aspx)
  - [BF Guide (Texas dept PH & WIC)](http://www.cdph.ca.gov/programs/wicworks/Pages/WICBreastfeeding.aspx)
  - [LactMed](http://www.cdph.ca.gov/programs/wicworks/Pages/WICBreastfeeding.aspx)
  - [LatchME](http://www.cdph.ca.gov/programs/wicworks/Pages/WICBreastfeeding.aspx)
  - [Breastfeeding Solutions](http://www.cdph.ca.gov/programs/wicworks/Pages/WICBreastfeeding.aspx)
Support and Advice

- http://www.nursingbraexpress.com/catalog/nursing-bras
Thank You!


Bibliography


Bibliography


Bibliography


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- Centers for Disease Control and Prevention Healthy Weight Assessment http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html