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Center for Health Statistics

Birth Outcomes of Infants Born to Asian Mothers, Minnesota 2005-2009

The United States' Asian population is a diverse minority group with more than 30 racial groups. These groups are distinguishable by differences in culture, religion, health practices and country of origin[1]. Asian mothers who give birth in Minnesota are also very diverse, with more than 20 different racial groups represented in the 2005-2009 birth cohort. Despite this diversity, Minnesota Asian birth data are most commonly reported as one race group. This Vital Signs will examine the diversity among Minnesota Asian mothers by comparing selected birth indicators (prenatal care, prematurity, low birth weight and infant mortality) of the 10 most common Asian races for 2005-2009.

Diversity within Asian Mothers

In 2005-2009, 23,793 Minnesota women indicated they were Asian on their infant's birth certificate. These women also further specified their race; Table 1 shows the 10 most common Asian race categories for this time period. Hmong was the largest Asian racial group with 31.4 percent of Asian women indicating they were Hmong. The second most common group was Asian Indian at 15.2 percent followed by 7.9 percent for Vietnamese. Altogether, there were 21 different race categories with 20 or more births among Minnesota Asian women who gave birth in the time period 2005-2009 (See Vital Signs Volume 7, No. 1, *Births to Asian Mothers by Specific Asian Races,* for a more detailed description of the different races reported on the Minnesota birth certificate by Asian mothers, www.health.state.mn.us/divs/chs/vitalsigns/asianracesbirths.pdf

Table 1: Specified Race of Asian Mothers, Minnesota 2005-2009

Rank	Race Group	Births	Percent
1	Hmong	7,474	31.4
2	Asian Indian	3,617	15.2
3	Vietnamese	1,889	7.9
4	Chinese	1,410	5.9
5	Korean	1,356	5.7
6	Laotian	988	4.2
7	Filipina	848	3.6
8	Cambodian	714	3.0
9	Thai	481	2.0
10	Japanese	283	1.2

Source: Minnesota Department of Health, Center for Health Statistics

Prenatal Care*

Women who receive inadequate or no prenatal care are at increased risk of having a premature and/or low birth weight infant, as well as an increased chance of infant mortality. For the top 10 Asian race groups, the 2005-2009 rate of inadequate or no prenatal care* ranged from 10.4 percent for Thai women to 1.9 percent for Japanese women (Table 2). Asian Indian, Chinese, Japanese, Korean and Vietnamese women had significantly lower rates of inadequate/no prenatal care than the overall Asian rate. Hmong and Thai women had rates significantly higher than the overall Asian rate.

Low Birth Weight

Infants who are born at low birth weight (less than 2,500 grams or 5 pounds 8 ounces) may face increased risk of serious medical conditions or death. In 2005-2009, the low birth weight (LBW) rate varied widely among Asian race groups: from 9.4 percent for infants born to Laotians to 3.2 percent for Chinese. Chinese and Korean were significantly lower than the overall Asian LBW rate of 6.5. Only Laotians had a significantly higher LBW rate than the overall Asian rate. In 2005-2009, Laotians were 2.5 times more likely to give birth to a low birth weight infant compared to Chinese women (best LBW rate).

Table 2: Selected Birth Indicators, Asian Race Groups and All Asians, Minnesota 2005-2008

Asian Race Group	Percent of Births		
	Inadequate or No Prenatal Care	Low Birth Weight[2]	Premature[3]
Asian Indian	2.7	7.6	7.2
Cambodian	5.1	8.6	14.1
Chinese	2.9	3.2	5.6
Filipina	4.6	8.3	9.8
Hmong	7.4	6.2	9.2
Japanese	1.9	6.5	5.3
Korean	2.6	3.5	7.5
Laotian	7.2	9.4	12.3
Thai	10.4	8.9	11.0
Vietnamese	4.0	5.2	9.1
All Asian	5.9	6.5	9.0

Source: Minnesota Department of Health, Center for Health Statistics
[1]Measured by GINDEX (number of prenatal care visits, when prenatal care was initiated, and gestational age)
[2]Less than 37 weeks gestation, singleton births
[3]Less than 2,500 grams (5 lb, 8 oz) at birth, singleton births

Note: 3.3% of Minnesota mothers received inadequate or no prenatal care, 4.9% of Minnesota singleton births were low birth weight, and 8.3% of Minnesota singleton births were premature (2005-2009).

Green: Significantly better than all Asian rate*

Red: Significantly worse than all Asian rate *

Yellow: Not statistically different from All Asian rate

*95% confidence intervals were used to determine significant differences

* For this report, the prenatal care index, GINDEX, was used to measure inadequate or no prenatal care. The GINDEX was developed by Dr. Greg Alexander. Adequacy of prenatal care is determined by combining measures of the month or trimester prenatal care began, the number of prenatal visits and the gestational age of the fetus at the time of birth. The GINDEX includes gestational age of over 36 weeks and the number of prenatal visits exceeding nine to impute adequacy of prenatal care. An adequate or better categorization means prenatal care started in the first trimester and the woman had an adequate number of prenatal visits; intermediate means prenatal care started in the first or second trimester and the woman had an intermediate range of visits; and inadequate or none means either that prenatal care was nonexistent or started in the third trimester or that the woman had an inadequate number of visits, regardless of when prenatal care began.

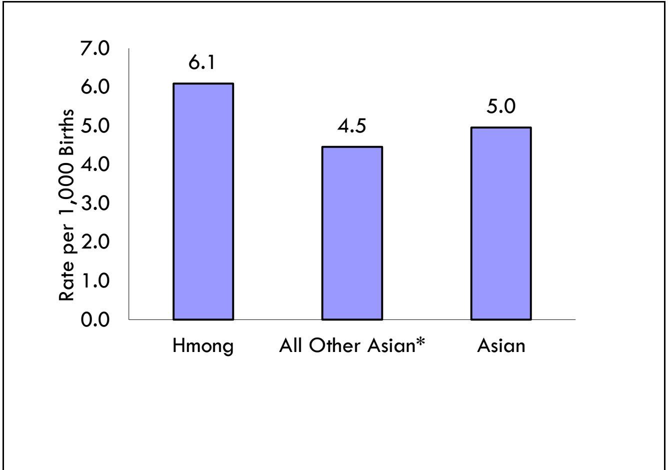
PREMATURITY

Premature infants (born less 37 weeks gestation) may face a higher risk of serious medical conditions or death. Like LBW rates, the prematurity rate varied widely among the Asian race groups. Cambodians had the highest prematurity rate at 14.1 percent and Japanese had the lowest at 5.3 percent. The prematurity rates for Asian Indians and Japanese were significantly lower than the All Asian rate of 9.0 percent for 2005-2009 while the Cambodian and Laotian rates were higher than the All Asian rate. When comparing the worse rate to the best rate: Cambodians were 2.6 times as likely to give birth prematurely compared to Japanese.

INFANT MORTALITY

Infant mortality, the death of an infant in the first year of life, has a profound impact on families, extended families, and communities and serves as an important indicator of the health and well-being of a population. 114 infants born to Minnesota Asian women in the 2004-2008 time period died before their first birthday (Figure 1). Of these infants 43 were born to Hmong women. There were less than 10 deaths for the remaining Asian race groups for this time period. Figure 1 compares the infant mortality rates for infants born to: Hmong women, Asian women (excluding Hmong), and all Asian women.

Figure 1: Infant Mortality Rates for Asian Mothers, Minnesota 2004-2008



Source: Minnesota Department of Health, Center for Health Statistics, Linked birth/death cohort which are a year behind birth data.
*All Asians except Hmong

Note: The 2004-2008 Minnesota infant mortality rate was 5.3 deaths per 1,000 births.

The Hmong infant mortality rate was slightly higher than the All Other Asian and Asian rates. However, when using a 95% confidence interval, none of the rates shown in Figure 1 were statistically different from each other.

DISCUSSION

This Vital Signs looked at the differences in inadequate prenatal care, low birth weight and prematurity for Asian women by their specific Asian race. A 95% confidence interval was used to determine if the indicators' percentages for the Asian groups were different from the All Asian percentages. Table 3 summarizes these differences. Only Chinese women had percentages for all three indicators that were better than the All Asian percentages. Asian Indians, Japanese, and Koreans had two indicators with better outcomes than the All Asian group, and one that was no different. For Cambodians, Hmong and Thai one outcome was worse than the All Asians, and two were no different. Laotians were the only group to have two outcomes that were worse than the All Asian percentages.

Table 3: Summary of Indicators[1] for Asian Race Groups compared to All Asian, Minnesota 2005-2009

Percentages[1] compared to All Asians	Asian Race Groups	Better (Green)/Worse (Red)
All better	Chinese	**PNC, LBW, Prematurity**
2 better, 1 not different	Korean Asian Indian and Japanese	**PNC and LBW** **PNC and Prematurity**
1 better, 2 not different	Vietnamese	**PNC**
All not different	Filipina	
2 equal, 1 worse	Hmong and Thai Cambodian	**PNC** **Prematurity**
1 equal, 2 worse	Laotian	**LBW and Prematurity**

[1]Inadequate or no prenatal care (PNC), low birth weight (LBW) and prematurity (for rates and indicator definitions see Table 2)

Endnotes

Sources:
[1]Qin, C, Gould JB. The Asian birth outcome gap. Paediatric and Perinatal Epidemiology 2006: 20: 279-289.

Confidence Intervals and Significance Testing for a Standardized Ratio
www.portal.state.pa.us/portal/server.pt?open=514&objID=556449&mode=2 Pennsylvania Department of Health

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