COVID-19 and its impact on the health of Californian farmworkers and their families

The tale of two studies

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November 19, 2020
2020 NIH Rural Health Seminars
Rural Health Challenges in the Era of COVID-19
Monterey County, CA
“The Salad Bowl of the Nation”

California’s Blueprint for Safer Economy, November 12, 2020
https://covid19.ca.gov/safer-economy/
Most COVID-19 cases have occurred in the agricultural Salinas Valley.

As of November 9, 2020
Monterey County, CA
Land of Contrasts
Ethnic Disparity in COVID-19

Ethnic/Race distribution of COVID-19 cases

Agricultural workers represent 23% of all COVID-19 cases.

Why are farmworkers getting COVID-19?
How can we prevent illness?

As of November 9, 2020
Our community partner for 2+ decades: Clinica de Salud del Valle de Salinas

- Federally Qualified Health Center
- Founded 1980 to serve agricultural community families
- 12 clinics throughout Monterey County from King City to Pajaro
- ~50,000 patients with 200,000 appointments/year
- SARS-CoV-2 testing since June 15 supported by HRSA grant

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of tests</th>
<th>Positivity</th>
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<tbody>
<tr>
<td>Farmworkers</td>
<td>6,427</td>
<td>22.6%</td>
</tr>
<tr>
<td>Non-Farmworkers</td>
<td>6,587</td>
<td>17.2%</td>
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<tr>
<td>Total</td>
<td>13,014</td>
<td>19.8%</td>
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As of November 7, 2020
Study 1

Center for the Health Assessment of Mothers and Children of Salinas (CHAMACOS)

1998-the present

Enrolled 601 pregnant women 1999-2000 in a birth cohort study
- <20 weeks gestation
- Spoke Spanish or English
- Delivering at local county hospital
- Receiving prenatal care at CSVS or county hospital

In 2009 enrolled 305 more dyads.

A community-university partnership
We have followed the mothers and children to 18 years old
...until March 9, 2020!

Interviewed 479 mothers and youth
May 13 - August 12 2020

www.123rf.com; www.raisingchildren.net.au
Demographic characteristics at enrolment 1999-2000,

92% spoke Spanish
85% were born in Mexico
54% <5 years in the United States
96% were living in poverty
44% had 6th grade education or less
44% worked in agriculture
84% had farmworkers in the home
SARS-CoV-2 infection in Farmworkers of Monterey County

Criteria for participation:

- Receiving diagnostic test for SARS-CoV-2 at CSVS: OP swab
- Individuals ages ≥18 y
- Engaged in farm work in last 2 weeks (expanded since March)
- Not pregnant
- Had not received a positive COVID-19 test in the last 2 weeks

Procedure:

- Consent to release result PCR from CSVS
- Provide venous blood draw to measure IgG antibody against SARS-CoV-2 protein
- Provide saliva
- Answer detailed questionnaire by phone
- Allow specimens banked in biorepository for future health studies
- Received a $50 gift card for participation
Demographic characteristics of study population

N=792

2/3 recruited through the clinic
1/3 through outreach from the clinic

- Latino: 87%
- Mexico born: 56%
- Annual income > 25k: 48%
- Male: 47%
- Primary education or lower: 41%
- Obese: 21%
- Hypertensive: 12%
- Diabetic: 5%
- Current smoker: 0%
What has been the impact of COVID-19 on these farmworkers and families?

- Concern of COVID-19 effects
- Perceived impact on their lives
- Mental Health
  - Depression
  - Anxiety
- Food insecurity
Farmworkers and their families are concerned.

• CHAMACOS

- Not at all or very little concerned: 28%
- Very concerned: 31%
- Moderately concerned: 41%

• MC Farmworker Study

- Not at all or very little concerned: 15%
- Very concerned: 40%
- Moderately concerned: 45%

May to August, 2020

July to November, 2020
COVID-19 has impacted their lives.

- **CHAMACOS**
  - Not negative at all: 9%
  - Extremely negative: 14%
  - Somewhat negative: 39%
  - Moderately negative: 38%

- **MC Farmworker Study**
  - Not negative at all: 12%
  - Extremely negative: 24%
  - Somewhat negative: 28%
  - Moderately negative: 33%

May to August, 2020

July to November, 2020
They report anxiety and depression since the pandemic.

- **CHAMACOS**
  - Anxiety: Youth > Maternal
  - Depression: Maternal > Youth

- **MC Farmworker Study**
  - Anxiety: N=792
  - Depression: N=779

Maternal and Youth Anxiety GAD-7: mild, moderate and severe; Maternal Depression CES-D, Youth BASC: clinically sign., at risk
Farmworkers and their families have experienced food insecurity (USDA).

- **CHAMACOS**
  - Very low food security: 8%
  - Low food security: 22%
  - High/marginal: 70%

- **MC Farmworker Study**
  - Very low food security: 29%
  - Low food security: 29%
  - High/marginal: 61%

May to August, 2020

July to November, 2020
There is a measureable change in depression, anxiety, and food insecurity from before to during pandemic.

As reported by CHAMACOS mothers, N=265
In summary

In the farmworker communities in Monterey County California, we found:
• 20% positivity observed in clinics serving farmworkers
• 31-40% are very concerned about COVID-19.
• 14-24% say the pandemic has had an extremely negative effect on their lives.
• About 1/3 of the families are food insecure.
• These negative effects have included an increase in a before-after comparison:
  • Depression
  • Anxiety
  • Food insecurity
Next steps

• We will follow-up the CHAMACOS cohort starting in January.
  • Further impact on the families
  • Antibody status
  • We will examine whether exposure to pesticides increase risk of COVID

• We will be reporting next week on the Monterey County Farmworker study
  • SAR-CoV-2 infection from PCR in over 1000 farmworkers
  • Antibody status over time
  • Employer provisions
  • Home, community, and work factors that contribute to infection.
  • Broader impact of the pandemic on their lives
  • Willingness to be vaccinated
  • Barriers to sheltering, testing, medical care and vaccination.
Thank you to our colleagues at CSVS and CHAMACOS and Project 19 staff...

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