



Short communication

Immigration enforcement exposures and COVID-19 vaccine intentions among undocumented immigrants in California

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ABSTRACT

COVID-19 vaccines are effective in preventing COVID-19 infection, disease, and death. However, there is no data about vaccine intentions among the 10.7 million undocumented immigrants in the US. This study examined the associations between immigration enforcement exposure and vaccine intentions among undocumented immigrants in California. This community-engaged study partnered with immigrant organizations across California during the COVID-19 pandemic to recruit 366 study participants to an online survey regarding their attitudes about the COVID-19 vaccine and past exposure with the immigration enforcement system. Data collection occurred from September 2020 – February 2021 before the vaccine became available. Overall, 65% of study participants indicated that they would definitely get the vaccine were it to become available. In multivariable logistic regressions, an increase in immigration enforcement scores were associated with a 12% decrease in vaccine acceptance (aOR = 0.88, CI: 0.78–0.99). Additionally, undocumented women were 3.09 times more likely to report vaccine acceptance compared to undocumented men (CI: 1.79–5.35) and undocumented Asians were 57% less likely to report vaccine acceptance compared to undocumented Latinx immigrants (aOR = 0.43, CI: 0.21–0.88). Exposure to the immigration enforcement system may undermine public health efforts to prevent further transmission of COVID-19 by reducing acceptability of vaccines among immigrant populations.

1. Introduction

Authorized COVID-19 vaccines are effective in preventing COVID-19 infection, disease, and death (CDC. *Coronavirus Disease*, 2019). As such, understanding COVID-19 vaccine intentions can inform strategies to increase vaccine uptake and address COVID-19 health and social disparities. However, there is no data about vaccine intentions among the 10.7 million undocumented immigrants in the US, who face increased risks and consequences for COVID-19 due to their disproportionate participation in essential occupations and restricted access to healthcare and public benefits (COVID-19, xxxx; Clark et al., 2020).

Multiple studies and validated scales assessing vaccination willingness incorporate trust as a determinant of vaccine acceptance (Betsch et al., 2018; Szilagyi et al., 2021; Latkin et al., 1982). Among undocumented immigrants, an overwhelming number of studies suggest immigration enforcement actions undermine trust in public institutions, making individuals less likely to engage in everyday behaviors or seek health and social services (Hacker et al., 2015). However, immigration enforcement does not inhibit all health seeking behavior (Yasenov et al.,

2020) and the extent to which immigration enforcement influences vaccine acceptance is unknown.

To address these gaps, this study provides data about undocumented immigrants' vaccine intentions and associations with exposure to the immigration enforcement system, including encounters, worries, or fears.

2. Methods

Data come from the COVID-19 BRAVE Study (Building community Raising All immigrant Voices for health Equity), a community-engaged cross-sectional survey that examined the social, economic, and health impacts of COVID-19 among undocumented immigrants in California. Data collection occurred between September 2020- February 2021 before the COVID-19 vaccine became publicly available. The study partnered with a Community Advisory Board, schools and immigrant-serving community-based organizations who recruited through listservs, social media, and flyers. Those who reported being undocumented, Asian and/or Latinx, ages 18–39, living in California at the time

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of participation, and ability to take a 15-minute online survey in English or Spanish were eligible. All participants provided informed consent and were emailed a password-protected, unique and time-sensitive survey link to minimize fraudulent participation. A total of 24 respondents were excluded from our sample due to inconsistent immigration-related responses (i.e., born in the US, reported having Deferred Action for Childhood Arrivals (DACA) but not meeting program requirements, etc.). To conduct a complete case analysis, we excluded an additional 16 participants who were missing a response for study items. The final analytic sample included 326 participants.

Participants were asked “If a vaccine becomes available for COVID-19, would you get it?” and could select definitely, probably, or definitely not. Reporting “definitely” indicated vaccine acceptance, while “probably” or “definitely not” were not vaccine accepting. Respondents’ total immigration enforcement exposures were summed using affirmative responses to questions about their experiences, worries, and fears related to: (a) deciding not to apply for one or more needed non-cash government benefits because they were worried it would disqualify them or a family member from obtaining a green card or becoming a US citizen; (b) their own/someone they know experiences of immigration raids; (c) their own/someone they know experiences of detention or deportation by immigration authorities; (d) if they have experienced deportation proceedings; (e) restrained movement to avoid the police or immigration authorities; (f) restrained movement to avoid internal checkpoints or TSA; (g) surveillance by law enforcement; (h) being stopped for no good reason by law enforcement; (i) inquiries about their citizenship or legal status by a police officer or other law enforcement authority; (j) seen immigration authorities in their neighborhood; and (k) fear getting deported. Measures come from the Research on Immigrants Health and State Policy Study, which aimed to develop cumulative measures of immigration enforcement experiences, including surveillance, policing, and deportation (Young and Tafolla, 2021).

Other covariates included gender (female or male), race/ethnicity (Latino or Asian), DACA status (DACA or no DACA) and age (18–24, 25 and older). Respondents also reported their highest level of education, employment status, school enrollment, language spoken at home, and health insurance status. The insurance variable was derived from responses about health plans. Having a county health plan, Medi-Cal, school health plan, private/employee health plan or other health insurance was coded as having insurance.

2.1. Analyses

We investigated the distribution of study variables and examined bivariate relationships before fitting multivariable logistic regression models to assess the association between immigration enforcement exposures and vaccine intentions. To evaluate the robustness of our results, we used alternative immigration enforcement categorizations. Our findings held when the immigration enforcement exposure score was dichotomized, as reporting one or more exposures or cut off at the mean. Analyses were conducted using Stata 15, with statistical significance set at $p < .05$. Study materials and procedures were approved by the Institutional Review Board at the University of California, Los Angeles.

3. Results

The sample included 326 participants, who were mostly women (75.2%), Latino (85.3%), DACA recipients (64.1%), and between 18 and 24 years old (73.9%). Most had completed some college (42.3%) and about half were employed (49.1%), enrolled in school (87.7%), spoke English at home (85.3%), and insured (78.2%) (Table 1).

Respondents reported an average of 3.52 (SD = 2.1) immigration enforcement exposures. Differences in mean immigration enforcement scores were only statistically significant by race/ethnicity (Latinx mean 3.7 (standard deviation (SD) = 2.0) vs. Asian 2.7 (SD = 2.1), $p < .001$), and no other demographic characteristics (data not shown). In adjusted

Table 1
Distribution and multivariable associations between immigration enforcement score and COVID-19 vaccine intentions.

	Distribution of the sample, N = 326	Prevalence of COVID-19 vaccine acceptability n = 211 ^b	Odds ratio of COVID-19 vaccine acceptability ^c
	n (%)	n (%)	OR (95% CI)
Immigration enforcement score, 0–9	3.52 (2.1) ^a	3.39 (2.1) ^a	0.88 (0.78,0.99)
Gender			
Female	245 (75.2)	174 (71.0)	3.09 (1.79,5.35)
Male	81 (24.9)	37 (45.7)	1.00 (1.00,1.00)
Race/ethnicity			
Latino	278 (85.3)	186 (66.9)	1.00 (1.00,1.00)
Asian	48 (14.7)	25 (52.1)	0.43 (0.21,0.88)
DACA status			
No DACA	117 (35.9)	74 (63.2)	1.00 (1.00,1.00)
DACA	209 (64.1)	137 (65.6)	1.03 (0.58,1.85)
Age			
18–24	241 (73.9)	159 (66.0)	1.00 (1.00,1.00)
25+	85 (26.1)	43 (61.2)	0.90 (0.47,1.72)
Highest level of education			
High school or less	77 (23.6)	52 (67.5)	1.00 (1.00,1.00)
Some college	138 (42.3)	90 (65.2)	0.88 (0.46,1.70)
College or graduate school	111 (34.1)	69 (62.2)	1.25 (0.55,2.84)
Employed			
No	166 (50.9)	107 (64.5)	1.00 (1.00,1.00)
Yes	160 (49.1)	104 (65.0)	1.09 (0.63,1.88)
Enrolled in school			
No	40 (12.3)	20 (50.0)	1.00 (1.00,1.00)
Yes	286 (87.7)	191 (66.8)	2.65 (1.10,6.35)
Speaks English at home			
No	48 (14.7)	26 (54.2)	1.00 (1.00,1.00)
Yes	278 (85.3)	185 (66.5)	1.30 (0.66,2.53)
Health insurance			
No	71 (21.8)	53 (74.6)	1.00 (1.00,1.00)
Yes	255 (78.2)	158 (62.0)	0.46 (0.24,0.88)
Constant			0.89 (0.22,3.67)

Note: OR = odds ratio; CI = confidence interval.

^a Mean and standard deviation are reported.

^b Row percents are shown.

^c Model adjusts for all study variables.

models, an increase in immigration enforcement exposures was significantly associated with a lower odds of vaccine acceptance (adjusted odds ratio (aOR) = 0.88, 95% confidence interval (CI): 0.78, 0.99). Compared to men, women were 3.09 times more likely to report definitely taking the vaccine (aOR = 3.11, 95% CI: 1.79, 5.35). Asian respondents were 57% less likely than their Latino counterparts to report vaccine acceptance (aOR = 0.43, 95% CI: 0.21, 0.88). Those who were enrolled in school reported a greater likelihood of vaccine acceptance (aOR = 2.65, 95% CI: 1.10, 6.35). Having health insurance was associated with a lower odds of accepting the vaccine (aOR = 0.46, 95% CI: 0.24, 0.88).

4. Discussion

In our sample of undocumented immigrants, 65% indicated vaccine acceptance, which is similar to other US reports that 67% would accept a COVID-19 vaccine were it to become available (Malik et al., 2020). Our finding that those who reported more immigration enforcement exposures were 12% less likely to accept the vaccine contributes to a growing literature demonstrating the harmful effects of the immigration enforcement regime on health behaviors and health outcomes (Hacker

et al., 2015). Immigration enforcement may deter undocumented immigrants from accessing public health programs, including vaccines, through fear, government mistrust, and limiting access to healthcare services (Kerani and Kwakwa, 2018; Page and Flores-Miller, 2021). We also examined each exposure individually with vaccine intentions. No individual exposure was statistically significantly associated with the outcome, suggesting that the cumulative exposure to immigration enforcement as a system – across surveillance, profiling, and deportation – is a better predictor of the outcome as opposed to individual exposures.

Other studies conducted prior to the COVID-19 vaccine rollout found that men vs. women and Asians vs. other races were more likely to accept the vaccine (Malik et al., 2020; Zintel et al., 2022). However, our study runs counter to these findings: women and Latinx undocumented were more likely to accept the vaccine compared to men and Asian undocumented, respectively. It is possible that the immigration enforcement tactics of surveillance, profiling, and detention and deportation disproportionately targeting undocumented men results in mistrust and fear of public health interventions and programs.

Additionally, our exploratory data suggests that Asian undocumented may be less accepting of the COVID-19 vaccine. It should be noted that Latinx participants reported higher levels of immigration exposures compared to Asian participants. This is in line with other research and administrative data that finds that Latinx immigrants are more likely to be apprehended and deported compared to other groups (Golash-Boza and Hondagneu-Sotelo, 2013). However, our data also suggests that while Latinx immigrants are more likely to report higher numbers of immigration enforcement exposures, Asian immigrants also report high levels of exposures in their daily lives and this may contribute to their vaccine intentions. Other factors that may explain less acceptance among Asian undocumented may include recent dramatic increases in anti-Asian and xenophobic attacks during the pandemic, encouraged and reinforced through anti-Asian rhetoric and policies by US government officials (Gover et al., 2020). Racism and xenophobia inflicted by individuals and government entities may have negatively impacted the quality of relationships and trust in community members and institutions among undocumented Asians, thereby reducing social capital. Social capital is an important social determinant of health, health behaviors, and healthcare access, and has been shown to significantly correlate positively with fully vaccinated status and negatively with vaccine hesitancy (Kawachi, 1999; Ferwana and Varshney, 2021). Even prior to the pandemic, our past studies indicated undocumented Asians experience social isolation, discrimination, and intra- and inter-ethnic conflict to the detriment of their physical and mental health (Sudhinaraset et al., 1982; Ro et al., 2021). Thus, in addition to immigration enforcement, sharp increases in anti-Asian racism during the pandemic may have played a role in lowering vaccine acceptance among undocumented Asians. Future efforts should pay attention to how legal status and race may intersect to further compound disadvantage and inequities.

Although this is a small, cross-sectional study, COVID-19 data among immigrants, and in particular undocumented communities, is lacking. The online nature of the study may select for more connected or educated immigrants compared to those who do not have internet access. Related, recruitment through community partners may have biased our sample towards more connected immigrants; therefore, these results are likely to underestimate the associations between immigration enforcement and vaccine intentions. Another limitation of the study is that respondents were asked about their acceptance of a hypothetical vaccine. The response options for the hypothetical vaccine included definitely, probably, or definitely not; however, it did not include an “unsure” option, which may have not given participants their preferred option. However, only four participants did not answer this question in the entire sample suggesting participants were able to respond. Related, we decided to include the “probably” into the “non-accepting” group. It is possible that those who responded “probably” would have been “accepting” of the vaccines; however, this decision was made in order to

more accurately estimate acceptance, as was used in other studies (Doherty et al., 2021). Future efforts should examine whether results change with the availability of vaccines.

5. Public health implications

To prevent further transmission of COVID-19, public health efforts are needed to address structural barriers to healthcare for the undocumented community, including increasing public trust in healthcare systems (Kerani and Kwakwa, 2018). This study suggests that trusted health officials should be present at vaccinations sites and undocumented immigrants should be assured that they will not be required to provide documents or proof of residence. Immigration enforcement policies, regardless of timing and proximity to public health intervention sites, may undermine trust in public health programs, including vaccine uptake.

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CRedit authorship contribution statement

May Sudhinaraset: Conceptualization, Methodology, Validation, Investigation, Writing – original draft, Funding acquisition. **Ezinne Nwankwo:** Methodology, Formal analysis. **Hye Young Choi:** Methodology, Investigation.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: The authors declare no conflicts of interest. This manuscript was made possible with the support of the UCLA Asian American Studies Center, California Asian Pacific Islander Legislative Caucus and the State of California, and University of California Office of the President Award Number R00RG2579.

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