

Sex, Socioeconomic Status, and Self-perceived Risk of Opioid Overdose in Patients Prescribed Long Term Opioid Therapy

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Background

- Incidence of opioid overdoses in the United States is rising.
- Known risk factor for overdose is male sex.
- Sex may play a role in perceived risk of overdose, given that in other contexts female participants have demonstrated higher risk perceptions.
- Socioeconomic status (SES) is known to impact risk perception as well, with lower SES correlating with lower risk perception.
- Risk perception is known to influence the utilization of interventions that could potentially prevent fatalities.
- Although limited data on illicit opioid use shows no difference in risk perception between male and female participants, further investigation is warranted, particularly regarding prescription opioid use and in the context of SES.

Methods

- This study is a secondary analysis on survey data collected from patients from Kaiser Permanente Colorado (KPCO) prescribed long-term opioid therapy (LTOT).
- Survey gathered demographic information and asked participants to rank their level of risk of overdose (no risk, low risk, intermediate risk, high risk), which we categorized into “risk” and “no risk”.
- Bivariate followed by multivariable analysis was used to examine the relationship between sex and self-risk perception of opioid overdose, in the context of other demographic information that may affect risk perception independently, such as age, income, education level, race and ethnicity.

Table 1: Characteristics of the sample by sex

Characteristic	Male n = 355	Female n = 630	Total n = 985	P-value
Age, mean (SD)	62.7 (11.1)	58.8 (13.1)	60.2 (12.6)	<.001
Race/Ethnicity, n (%)				.38
White	285 (80.3)	488 (77.5)	773 (78.5)	
Hispanic	27 (7.6)	73 (11.6)	100 (10.2)	
Black	15 (4.2)	24 (3.8)	39 (4.0)	
Other	59 (6.0)	22 (6.2)	37 (5.9)	
Missing	8 (2.3)	13 (2.1)	21 (2.1)	
Education, n (%)				.004
College degree or higher	176 (49.6)	240 (38.1)	416 (42.2)	
Some college	120 (33.8)	249 (39.5)	369 (37.5)	
High school degree or less	51 (14.4)	128 (20.3)	179 (18.2)	
Missing	8 (2.3)	13 (2.1)	21 (2.1)	
Family Income, n (%)				.002
<\$20,000	39 (11)	117 (18.6)	156 (15.8)	
\$20,000-\$39,999	48 (13.5)	116 (18.4)	164 (16.6)	
\$45,000-\$74,999	118 (33.2)	162 (25.7)	280 (28.4)	
≥\$75,000	99 (27.9)	152 (24.1)	251 (25.5)	
Missing	51 (14.4)	83 (13.2)	134 (13.6)	
Prior opioid overdose, n (%)				.90
No	347 (98.3)	619 (98.4)	966 (98.4)	
Yes	6 (1.7)	10 (1.6)	16 (1.6)	

Key Results

- There was no statistically significant difference in risk perception between male and female participants, with most participants rating their risk as “no risk” (62.8%).
- Older participants had lower risk perceptions than their younger counterparts.
- Participants with higher income and education levels were more likely to perceive their risk of overdose as greater compared to those in the lowest income group and lower education levels in bivariate and multivariable analysis.
- However, the magnitude of the OR decreased with rising income compared to the lowest income group.
- Prior opioid overdose was associated with higher risk perception, though the sample size of patients with prior overdoses was very small.

Table 2: Multivariable logistic regression analysis of association between sociodemographic and health characteristics with perceived risk of opioid overdose among a sample of KP Colorado patients with an opioid prescription

Predictor	Odds ratio	(95% CI)	P value
Sex (female vs male [Ref])	0.91	(0.69-1.21)	.54
Age	0.99	(0.97-1.00)	.008
Race/ethnicity			
White	1	[Reference]	NA
Hispanic	0.71	(0.44-1.13)	.15
Black	0.60	(0.27-1.24)	.18
Other	1.15	(0.65-2.01)	.62
Missing	0.67	(0.08-4.98)	.69
Education			
College degree or higher	1	[Reference]	NA
Some college	0.70	(0.52-0.95)	.02
High school degree or less	0.49	(0.32-0.73)	.001
Missing	1.70	(0.33-9.47)	.52
Family Income			
< \$20,000	1	[Reference]	NA
\$20,000 - \$39,999	2.42	(1.49-3.97)	<.001
\$45,000 - \$74,999	1.89	(1.21-2.99)	.006
≥ \$75,000	1.65	(1.04-2.65)	.04
Missing	1.56	(0.91-2.68)	.11
Prior opioid overdose (yes vs no)	4.17	(1.45-13.8)	.01

Conclusion

- Sex does not appear to be associated with self-perceived risk of opioid overdose in patients prescribed LTOT.
- Higher socioeconomic status is positively correlated with risk perception, regardless of sex
- Implications:
 - Patients with lower SES may require more teaching on risk and modes of harm reduction in the clinic than patients of higher SES.
- Limitations:
 - This study examines sex as opposed to gender, as the former was available to us in the electronic medical record. The results of this study cannot be generalized to intersex or transgender people, nor anyone whose gender identity falls outside of the binary.