



The Intersection of Overdose and Suicidality: Insights from the Fentanyl Study

Arman Minhas, BSc Hons., Dianah Hayati, BSc., and Mohammadali Nikoo MD, PhD, FRCPC.

Department of Psychiatry, University of British Columbia, Canada

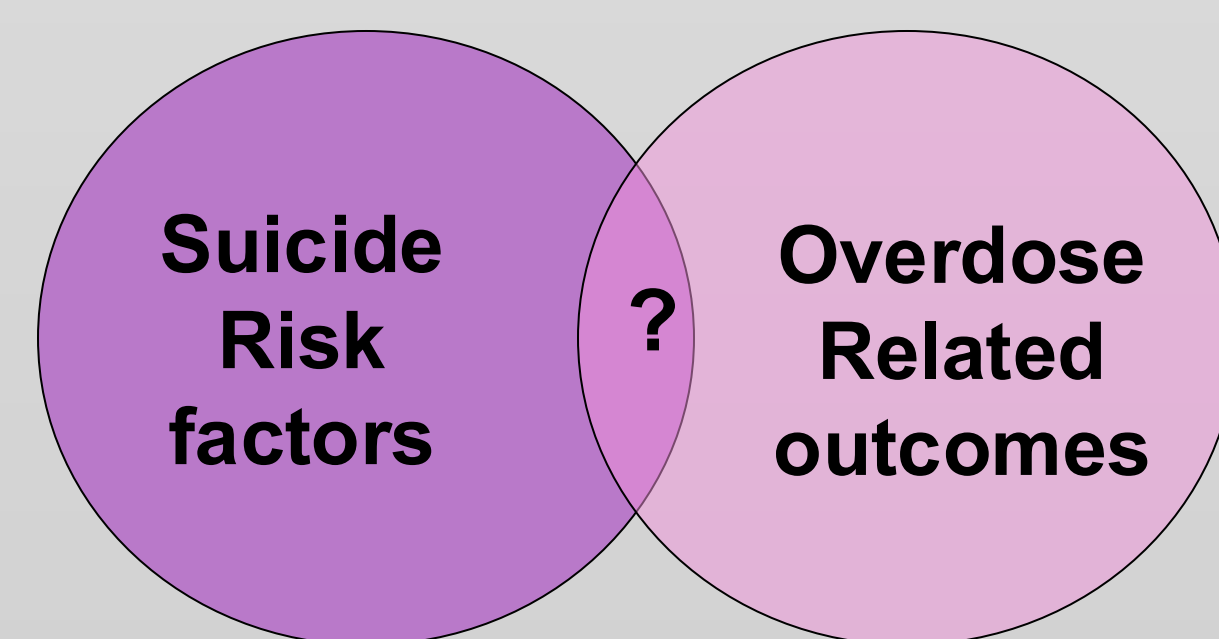


Background

- North America faces a public health crisis of overdoses from unregulated substances, requiring urgent lifesaving interventions.
- In 2023, U.S.A reported an estimated 107,543 deaths (CDC, 2024) from drug overdose, with synthetic opioids accounting for a majority of deaths
- In Canada, 8,049 opioid overdose deaths were reported (P.H.A Canada, 2024)
- Few studies focus on the role of **suicidality** in overdose deaths, leading to a crucial knowledge gap

Objective

- Investigate the patterns of **suicidal thoughts and behaviors** in a cross-sectional study involving individuals who have survived an overdose
- Explore any possible **associations between suicidality** (which includes suicide attempts and thoughts of suicide) and **overdose-related outcomes**



Methods

- Secondary analysis of the Fentanyl Study
- Participants were individuals using Fentanyl as primary drug of use at Vancouver General Hospital (BC, Canada) participating in Fentanyl Cohort Study (n=215)
- Statistical analysis conducted using SPSS software
- The sample's gender distribution was **64.7% male, 34.4% female, and 0.9% non-binary** with a mean age of **44.4 +/- 11.6**

Results

Figure 1: Proportion of Participants With Suicidal Thoughts In Last 6 Months (n = 215)

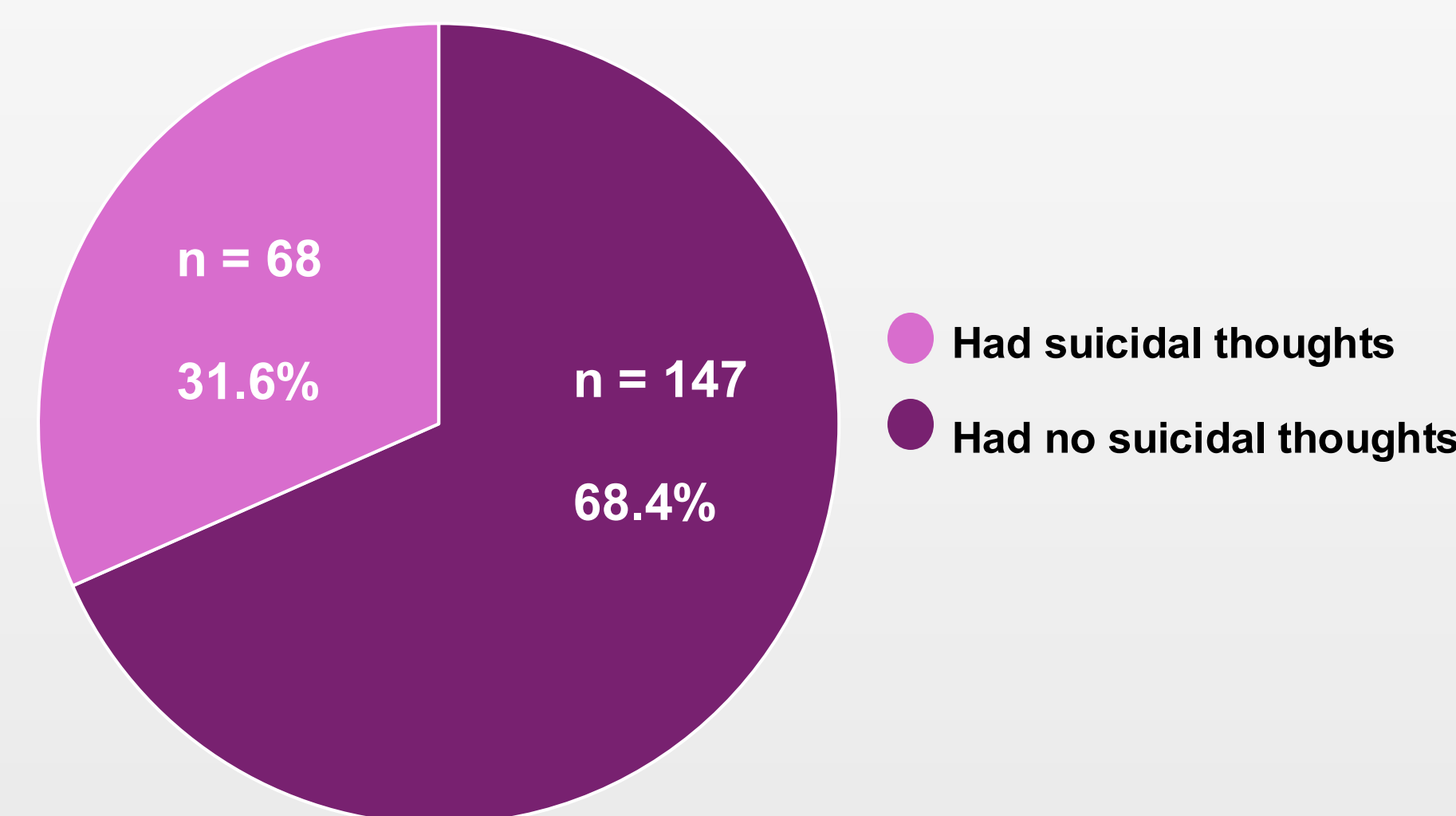
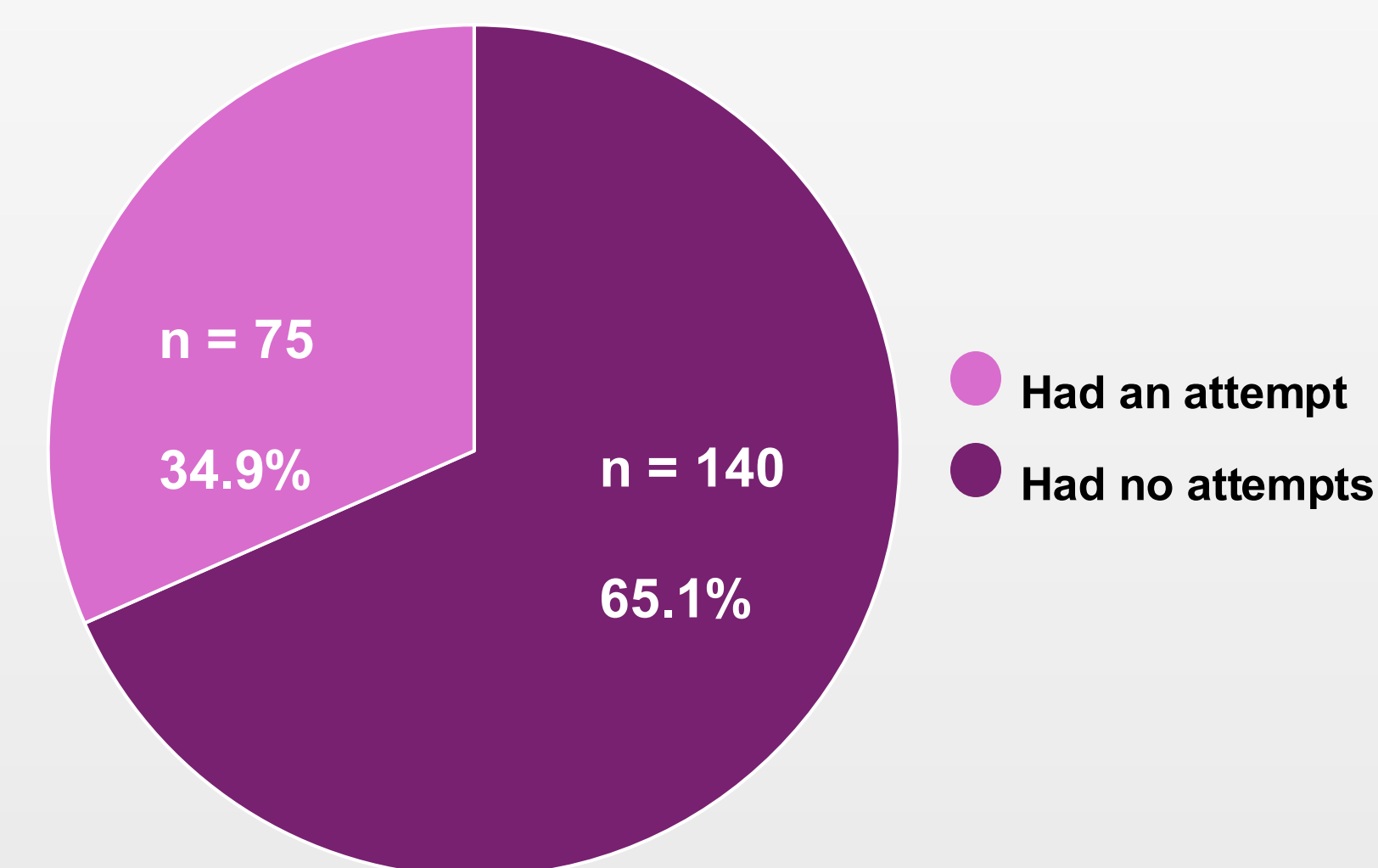


Figure 2: Proportion of Participants With a Suicide Attempt In Their Lifetime (n = 215)



Binary Logistic Regression: Suicide Attempts

Variable	p-value	95% CI
Diagnosis of a mental illness	<.001 (***)	2.11-10.01
Combining Opioids with other drugs	0.031 (*)	1.09-7.21
Possession of Naloxone when using opioids	0.026 (*)	1.09-4.33
Engagement in Substance Use Disorder Treatment	0.035 (*)	1.00-3.29

Figure 3: Binary Logistic Regression analysis of suicide attempt throughout life time and associated outcomes in participants (n = 215). p-value significance levels: p < 0.05 (*), p < 0.01 (**), p < 0.001 (***). Statistically significant results are denoted accordingly

Binary Logistic Regression: Suicidal Thoughts

Variable	p-value	95% CI
Diagnosis of a mental illness	<.001 (***)	2.21-11.75
Combining Opioids with other drugs	0.005 (**)	1.67-19.64
Possession of Naloxone when using opioids	0.073	0.93-3.85
Engagement in Substance Use Disorder Treatment	0.111	0.86-2.84

Figure 4: Binary Logistic Regression analysis of suicide thoughts in last 6 months and associated outcomes in participants (n = 215). p-value significance levels: p < 0.05 (*), p < 0.01 (**), p < 0.001 (***). Statistically significant results are denoted accordingly

Discussion

- Our study found about one-third of participants had thoughts of suicide within the last 6 months, with the prevalence being roughly equal in males and females (30.2% and 34.2%, respectively). Although about one third of participants also had at least one suicide attempt in their lifetime, a clear **gender disparity** emerges, as 46.5% of females had a suicide attempt whereas 30.6% of males had an attempt
- Being **diagnosed mental illness** is significantly associated with suicide risks. **Combining opioids with other drugs, being in possession of naloxone, and engaging in substance use treatment** are also notable factors, each associated with attempts and thoughts to varying degrees.

Conclusion

Although further research needs to be done, this study shows an alarmingly **high prevalence of suicidal thoughts and attempts among individuals using opioids**. Therefore, we suggest the need for early suicide screening and targeted, integrated interventions.

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References

- Canada, P. H. A. of. (2024, June 28). *Statement from the minister of mental health and addictions and associate minister of health on the overdose crisis*. Canada.ca.
- U.S. Overdose Deaths Decrease in 2023, First Time Since 2018. (2024, May 14). CDC.