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## Hidden Harms of Hypnotics: a population based record linkage study of psychotropic medication and suicide risk

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### Background/main aim

Although psychotropic medication is a known risk factor for suicide, studies investigating the relationship between specific types of psychotropic medication and suicide in adults are scarce.

### Methods

A cohort of 1,115,647 individuals (18-75years) was identified from Northern Ireland's 2011 Census records and linked to prescription records and death registrations until 2015. Individual, household and area-based attributes were derived from census records and selected on the basis of known suicide risk. Five categories of psychotropic medication was identified; none, antidepressants, anxiolytics, hypnotics and antipsychotics. Logistic regression was used to model the association between specific types of psychotropic medication (singularly and in combinations) and death by suicide adjusting for sociodemographic and physical health characteristics.

### Results

About 14% of the cohort (n=153,319) had received  $\geq 2$  prescriptions of any psychotropic medication in the five months around Census. Eight hundred and seventy persons (n=870) died by suicide during 2011 to 2015. Suicide was higher in those on psychotropic medication than in those without (0.24% versus 0.05% respectively). In the fully adjusted logistic regression model, association between death by suicide and any psychotropic medication record remained statistically significant (AOR=3.69, 95%CI: 3.13-4.35). However, individuals solely on hypnotics had the highest AOR of those on singular medication (AOR=4.24, 95%CI: 2.96-6.06 compared to AOR=2.22, 95%CI: 1.75-2.82 for those on antidepressant medication only). In terms of medication combinations, hypnotics both with anxiolytics, and in combination with antidepressants and anxiolytics were the strongest predictors of death by suicide (AOR=8.76, 95%CI: 5.93-12.94 and AOR=8.53, 95%CI: 5.62-12.94 respectively).

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### Conclusions

Risk of death by suicide varied by medication type with hypnotic medications making an important contribution to death by suicide. Although previous work has focused on antidepressant therapy and suicide risk, those on hypnotic medication are an at-risk group that warrant further attention.

