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Relationship Between F Codes and Crises

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Abstract

There is a deficit in literature on the relationship between mental health diagnoses and crises, but it has been speculated that having more than one diagnosis might increase the risk of crises. Given this, it might be beneficial to track clients with multiple diagnoses closer than other clients so that care providers can provide extra support. This study investigates if there is a relationship between the number of F codes a client has and the number of crises they experience. This study involves a secondary analysis of 2019 data from an agency in the Southeastern United States on client mental health diagnoses (F codes) and crises. The sample includes 104 clients. The independent variable is the number of F codes a client is diagnosed with. The dependent variable is the number of crises the clients experience. The data was analyzed with a negative binomial regression. The results showed a statistically significant relationship between the number of mental health diagnoses that clients have and the number of crises that they experience.

Keywords: mental health, F codes, diagnosis, crisis, ICD 10

<div align="center">**Relationship Between F Codes and Crises**</div>

This study sought to discern whether or not a relationship exists between the number of F codes that clients have and the number of crises that they experience. F codes are defined as primary mental health diagnoses found in the ICD-10. For the purposes of this study, the definition of crisis includes abduction, elopement, abuse, neglect, DCS report, arrest, serious injury, death, or mental health incident that requires an emergency response. The definition for crisis was adapted from the list of scenarios that would warrant an incident report from the agency that the data was collected from.

The topic of diagnoses and crises was chosen because crisis situations need to be handled with extreme care. With more knowledge about client triggers and other causes of crises, they could be averted or handled more effectively. Crises can result in physical and/or mental harm to the client and others around them, so any sound research that increases the knowledge base surrounding crises could prove to be beneficial.

Literature Review

When preparing for this project, I found literature surrounding the relationship between mental health diagnoses and various types of crises. There were no studies that asked the same research question as this study, but some studied similar topics. One study found that most participants, who had been convicted of homicide, had at least one Axis I diagnosis, and approximately half of them more than one Axis I diagnosis (Culhane et al., 2016). Axis I diagnoses include all mental health diagnoses except for personality disorders and intellectual disabilities. This classification was abandoned in the latest DSM – V, but the diagnoses that

make up Axis I largely overlap with the diagnoses that are considered F codes in the ICD – 10, which makes Culhane et al.'s study relevant to this study.

Another study concluded that "there is a relationship between the number of Axis I diagnoses and the number of self-harm behaviors" (Sansone et al., 2009). Some of these self-harm behaviors could constitute crises. This study used whether or not individuals were diagnosed with borderline personality disorder (BPD) as a control variable. The authors concluded that when the BPD and nonBPD groups were analyzed separately, a correlation between self-harm and the number of Axis I diagnoses only existed in the nonBPD group and not the BPD group (Sansone et al., 2009). These results imply not only that there is a correlation between self-harm and crisis but also that the correlation differs between diagnoses.

Both of these studies seem to imply a connection between mental health diagnoses and crisis. However, there is an apparent deficit in the literature on this topic. There were few studies done involving both diagnoses and crises, and in the few studies that do involve those topics, the authors consider specific crises as opposed to using a more holistic definition. This study seeks to remedy this concern because considering crises as a whole could paint a clearer picture of which individuals are at risk in addition to making the findings more generalizable.

Methodology

Data was gathered from a mental health agency in a southeastern state. The sample included all clients who had an incident report on file that depicted a crisis that met the specified criteria. Only incident reports from 2019 were analyzed. The F codes were collected from client electronic health records and the number of crises was collected from the incident reports. The data was analyzed using a negative binomial regression analysis given the count nature of the

dependent variable. A 90% confidence interval was used as opposed to 95% confidence interval

in order to increase statistical power given the exploratory nature of the research.

Results

The sample size was 104 individuals. The Pearson Chi-Square goodness-of-fit value was

0.245, which suggests that a negative binomial regression analysis was in fact a reasonably good

fit for the data. The p-value was 0.055. These data can be found in Table 1.

Table 1

Parameter Estimates

Parameter	B	Std. Error	90% Wald Confidence Interval		Hypothesis Test			Exp(B)	90% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
(Intercept)	.069	.1201	-.129	.266	.329	1	.566	1.071	.879	1.305
Diagnoses	.119	.0619	.017	.220	3.667	1	.055	1.126	1.017	1.247
(Scale)	1 ª									
(Negative binomial)	1 ª									

Dependent Variable: Crises
Model: (Intercept), Diagnoses
  a. Fixed at the displayed value.

The number of diagnoses ranged from 0 – 6 with a mean of 2.31 and a standard deviation of 1.2.

The number of crises ranged from 1 – 8 with a mean of 1.42 and a standard deviation of 1.02.

I considered using a Poisson regression analysis, but a binomial regression analysis was a

better fit because of the underdispersion in the data and the mean was not equal to the variance.

In addition to the binomial regression analysis, I also analyzed the data using a simple

correlation. This revealed that the relationship was significant with a correlation of 0.21.

Although the simple correlation revealed a small correlation, it supports the assertion that there is

a small but significant relationship between crises and diagnoses. It also supports the decision to

use a 90% confidence interval to demonstrate this assertion. Although a binomial regression analysis is the best fit for the data, other methods of analysis would yield similar results.

Discussion

Based on a critical alpha of 0.1, the relationship between the number of F codes clients are diagnosed with and the number of crises they experience is statistically significant. For each additional diagnosis, I found that the incidence rate ratio increases by 1.13 that the client will have more crises, with a confidence interval of 1.02 to 1.25. In other words, for each increase by 1 diagnosis, the likelihood of crisis increases by approximately 1.1%. Although this increase is small, it is statistically significant.

There are potential limitations to this study. The most prominent is the small sample size, which could result in low power. Additionally, client diagnoses and crises could be underreported. Stigma, fear, underdeveloped rapport with the assessor, legal involvement, and other factors could cause clients to be reluctant to report crises, diagnoses, or symptoms. There could be confounding variables such as poverty, interpersonal relationships, age, etc. The findings are likely not highly generalizable due to the aforementioned small sample size and that it was collected from a singular agency in only one small geographical area.

Implications

I suggest that further research be done that will address the limitations of this study. A study with a larger sample size and that covers a greater geographical area would be useful. I predict that addressing these factors will reveal a stronger relationship between diagnoses and crises. Before the restrictions due to COVID-19, I had planned to control for poverty by including it as a second dependent variable, but I was unable to collect the data as it was only

kept in physical files at the agency. Future research could control for poverty as well as other potential confounding variables such as interpersonal support, age, access to resources, etc. Additionally, future research could study which diagnoses are more strongly correlated with high numbers of crises. This could follow up on this research study as well as the findings of Sansone et al. (2005). If research of this nature is conducted, however, great care would need to be taken to reduce potential stigmatization of individuals with diagnoses with a higher risk of crisis, if any.

Based on these findings, it might be helpful to consider the number of mental health diagnoses when determining client levels of risk. Professionals could take this into consideration when treating individuals with multiple diagnoses and offer these clients additional supports such as safety planning, more frequent contact, crisis resource information, etc. In conclusion, heightened awareness of this risk factor for crisis could lead to increased support for individuals that could benefit from it and, by extension, the prevention of crises.

Conclusion

The results of this study support the hypothesis that there is a relationship between the number of F codes that individuals are diagnosed with and the number of crises that they experience. The relationship is small but still statistically significant. These results have implications for the treatment of those with multiple diagnoses. This research has highlighted the need for further investigation into the nature of this relationship. The hope for this study is that it contributed to the social work knowledge base and inspires future research.

References

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