The response in Twitter to an assisted suicide in a television soap opera

Abstract

Background

Concern has been expressed about the potentially contagious effect of television soap opera suicides and suicidal language in social media.

Aims

Twitter content was analysed during the week in which a fictional assisted suicide was broadcast on a British television soap opera, Coronation Street.

Methods

Tweets were collected if they contained language indicating possible suicidal intent or used the word 'suicide'. The modified Thompson tau method was used to test for any differences in the volume of tweets in both categories on the day of screening. Content analysis broke down the use of the word 'suicide' into six thematic categories.

Results

There was no evidence on the day of screening of an increase in tweets expressing possible suicidal intent but there was an increase in tweets containing the word 'suicide'. Content analysis found the most common thematic category to be information or support, followed by the raising of moral issues in relation to suicide.

Conclusions

It is possible that for certain high-profile media events Twitter may be used more as a civic reactive forum than as a medium for introspection or disclosure of distress.

Introduction and background

There is some evidence that portrayal of suicidal behaviour in television soap operas is associated with an increased rate of serious self-harm (Phillips, 1982; Hawton *et al*., 1999) although other studies have found no significant effect (Platt, 1987; Simkin, Hawton, Whitehead, Fagg & Eagle, 1995). Evidence is beginning to emerge about the relationship between online social media and suicide. A correlation has been found between suicide-related language and suicide rates by American state (Jashinsky *et al*., 2014) and between the suicide rate in South Korea and both suicide-related and dysphoria-related weblog entries (Won *et al*., 2013). In the light of concerns about how both kinds of media – soap operas and social networking – may potentially have a 'contagious' impact on suicidal behaviour, the current study set out to describe the characteristics of suicide-related communication in Twitter at the time of a soap opera suicide.

Twitter is a micro-blogging site with 255 million active users worldwide (https://about.twitter.com/company) and an estimated 15 million users in the UK (Curtis, 2013). The fictional event in question is the assisted suicide of the terminally ill character Hayley Cropper during an episode of the British soap opera Coronation Street, screened at 7.30pm on 20th January 2014. The study addressed the following research questions:

- Was there an increase in use of the term 'suicide' on the day of screening?

- What was the content of the tweets which used the word 'suicide'?

- Was there an increase in the use of terms signalling possible suicidal intent?

Method

Search terms were developed for filtering Twitter content. Term frequency – inverse document frequency (TF-IDF) analysis was applied to a dataset of postings from five websites dedicated to discussion of suicidal feelings. The highest scoring clusters of words (in units of 1, 2, 3, 4 and 5) were inspected by two experienced suicide researchers and a list was identified of 62 key words and phrases which suggested possible suicide intent. Illustrative examples are 'asleep and never wake', 'don't want to exist' and 'kill myself'. These search terms were then used for collection of tweets via the Twitter application programming interface. Tweets were collected for a one-week period starting at 00.00 on 19th January, one day before the screening of the soap opera suicide. Given the global character of Twitter and the television programme being broadcast primarily in the UK, a geographical filter was applied to restrict the tweets analysed to those likely to originate in the UK, on the basis of user-stated time zone and information provided in the user's profile. The frequency of tweets was inspected for three-hour and 24-hour intervals during the week 19th-26th January. The modified Thompson tau method (Thompson, 1935; Dieck, 2006) was then used to compare two categories of tweet – those containing the word 'suicide' and those containing one of the other 61 search terms. The method is used to detect whether there were any outlier values in the number of daily tweets during that week. The modified Thompson tau method is a parametric test and assumes that the distribution of daily tweets is normally distributed with an unknown mean and variance.

Inductive thematic coding led to six categories of suicide-related content being identified: evidence of possible suicidal intent; flippant reference to suicide; reporting news of someone's suicide (excluding mentions of suicide bombing); memorial or condolence; raising

moral issues in relation to suicide; and information or support. Four researchers manually coded 798 tweets that included the word 'suicide' and were posted between 6pm and midnight on the night of the screening, the period of time at which a peak was observed. There was at least 75% agreement (i.e. 3/4) between the coders for 86% of the tweets (686/798) (Krippendorf's Alpha 0.596). The remaining 112 tweets were discussed and consensus was reached on their categorisation.

Results

Frequency of suicide-related language

On the day of screening, there were 1759 tweets containing the word 'suicide', with a peak between 6pm and midnight (see Figure 1). This compares with a mean for the other six days of the week of 821. On the day of screening there were 1073 tweets containing one of the other phrases and the mean for the other six days was 1026 (see Figure 2). The modified Thompson tau method shows that the number of tweets with the word 'suicide' on the day of the broadcast was a statistically significant ($\delta=2.14$, $p<0.01$) outlier value but the number of tweets with search terms suggesting possible suicidal intent was not.

Insert Figure 1 and 2 about here

Content of tweets containing the word 'suicide' on the night of screening

Of the six categories of tweet using the word 'suicide', the most common was information or support (n=196, 25%), followed by raising moral issues in relation to suicide (n=146, 18%),

reporting news of someone's suicide (excluding mentions of suicide bombing) (n=128, 16%), flippant reference to suicide (n=112, 14%), evidence of suicidal intent (n=22, 3%) and memorial or condolence (n=10, 1%). There were 184 (23%) which did not fit into any of the six main categories.

Of the 798 tweets posted between 18.00 and 23.59, 497 (62%) were re-tweets, that is, Twitter users were re-broadcasting a posting made by another user. Of the 128 tweets reporting someone's suicide, 104 were referring to the allegation that participants in a high-profile television chef's programme have killed themselves, most being straightforward re-tweets. The popularity of this story may be unrelated to the screening of the soap opera suicide. More relevant were the 128 tweets containing the term 'BBC' and 163 containing 'Professor Green'. BBC Radio One broadcast a documentary which included the musician Professor Green talking about his father's suicide. This was presumably broadcast on that particular evening because of the soap opera story. Samaritans, the primary third sector suicide prevention organization in the UK, provided advice to the makers of both programmes. The category of raising moral issues included further reference to the Professor Green story, with opinions being expressed about the need to reduce the stigma of talking about suicidal feelings. This category also included discussion of the morality of assisted suicide.

Discussion

There was no evidence of increased communication of possible suicidal intent in Twitter around the time that a fictional assisted suicide was broadcast on the British soap opera Coronation Street. However, mentions of the word 'suicide' did increase. Reasons for this include Twitter users discussing moral issues, including the acceptability of assisted suicide,

and the broadcast of a BBC radio programme, presumably timed to coincide with the television suicide. On the basis of this small case study it seems possible that for certain media events Twitter is used more as a civic reactive forum than as a site for personal disclosure and the overall tone of suicide-related communication in Twitter has the potential to be protective. This possibility needs to be further investigated.

Other studies have found a correlation between suicide-related keywords in social media and offline suicidal behaviour (Jashinsky *et al*., 2014; Won *et al*., 2013). It may be that this particular television event, being an assisted suicide in the context of terminal illness, did not result in the expression of increased suicidal thoughts. It may also be that other platforms, such as Tumblr, are more often used anonymously by private individuals (as opposed to organisations and people in the public eye) and therefore lend themselves to more personal introspection. It may also be that other forms of suicide-related discussion were happening in the social media platforms studied in these previous research projects, in addition to the expression of suicidal thoughts, but the method did not capture them.

If Twitter is a civic reactive forum for discussion and commentary on suicide triggered by news events or fictional story lines, this can potentially be measured and scoped in order to assist relevant agencies interested in communicating well-targeted public health, family support and anti-stigma social media campaigns at the appropriate moment in real time information flows.

There are limitations to the study. It covered a period of only one week around a specific television event. The tweets collected using keywords were not manually filtered and could have contained false positives, although it is likely that the rate of true positives within the

sample of retrieved tweets remained consistent over the study period. The identifying of tweets by geography is imperfect and UK Twitter accounts that neither note time zone nor mention location in Twitter profile would not have been included.

Conclusion

More research is needed on suicide-related communication in social media. Other social media sites such as Tumblr may be more introspective and are therefore worthy of further investigation. More studies are also needed of little-researched categories of suicide-related communication, including news reports, memorials and the encouragement of help-seeking. The suggestion from this small case study that Twitter may overall be more of a civic reactive forum in relation to the topic of suicide needs to be further tested over a longer time frame and a larger number of news events. Also needed are studies of the demographics of those who do post social media content suggesting suicidal ideation.

Notes

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Figure 1: Tweets from 19th January to 26th January, 2014 containing the word 'suicide', in six-hour intervals

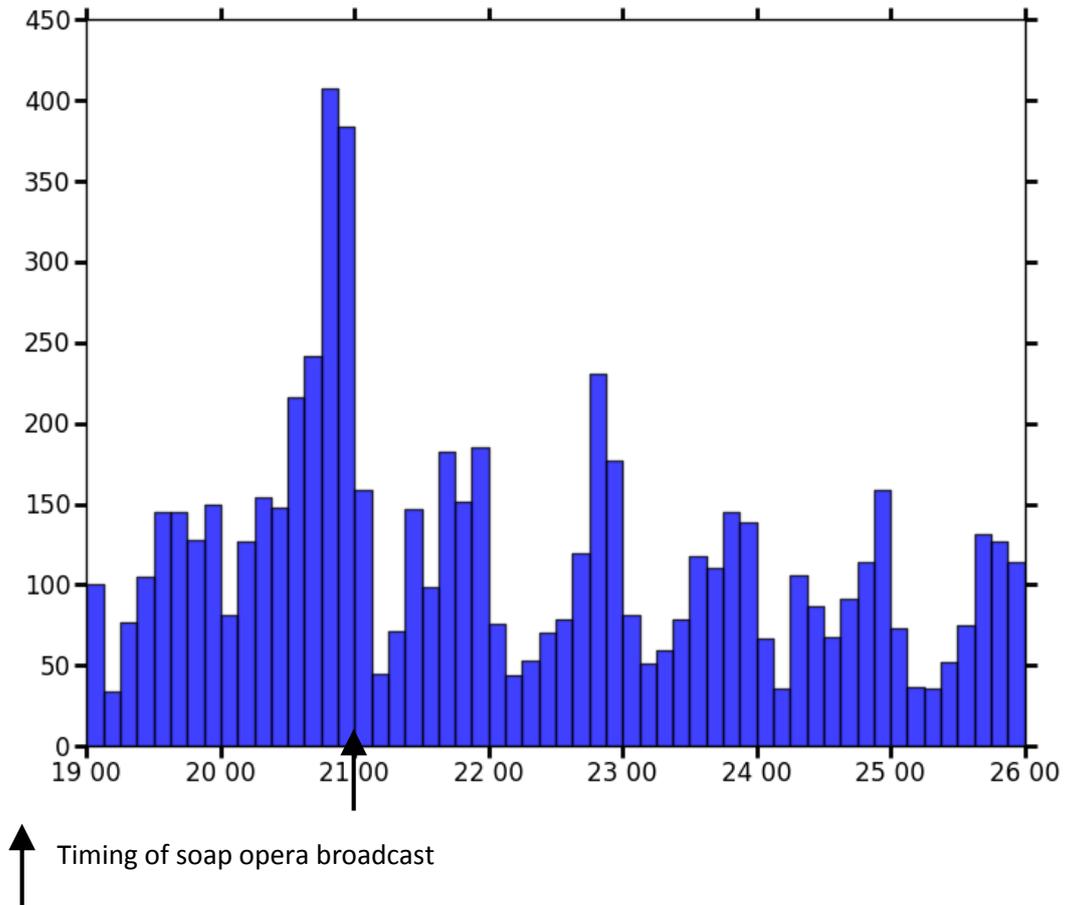Timing of soap opera broadcast

Figure 2: Tweets from 19th January to 26th January, 2014 containing keywords which indicate possible suicidal intent, in six-hour intervals

Timing of soap opera broadcast