

The Influence of Media Coverage of a Celebrity Suicide on Subsequent Suicide Attempts

Andrew T. A. Cheng, M.D., D.Sc.; Keith Hawton, D.M., D.Sc.;
Tony H. H. Chen, M.D., Ph.D.; Amy M. F. Yen, Ph.D.;
Chung-Ying Chen, M.D.; Lin-Chen Chen, M.S.; and Po-Ren Teng, M.D.

Objective: To investigate the impact of media reporting of a celebrity suicide on subsequent suicide attempts.

Method: A Poisson time series autoregression analysis was conducted to examine whether there was a significant increase in suicide attempts during the 3-week period after the start of extensive media reporting of a celebrity suicide. The reporting began on May 2, 2005, and lasted about 17 days. To investigate the influence of media reporting on suicide attempts, a structured interview was conducted with 124 suicide attempters identified from 2 counties in Mid Taiwan who had exposure to the media reporting.

Results: After controlling for seasonal variation, calendar year, temperature, and humidity, there was a marked increase in the number of suicide attempts during the 3-week period after media reporting began (adjusted relative risk = 1.55, 95% CI = 1.26 to 1.91). Among 124 suicide attempters exposed to the media reports, 23.4% reported an influence from them. There was no relationship between the attempters' ages and the age of the celebrity or the method, but male attempters had a significantly higher risk for such influence. A considerably higher risk for such influence was found among subjects with a history of suicide attempt(s) in the previous year (odds ratio = 52.3, 95% CI = 5.96 to 459.1).

Conclusions: The extensive media reporting of the suicide of a celebrity was followed by an increase in suicide attempts. The effect was particularly marked in individuals with a recent history of a suicide attempt. The results provide further support for the need for more restrained reporting of suicides as part of suicide prevention strategies and for special vigilance for contagious effects of such reporting on people who have carried out recent suicidal acts.

(*J Clin Psychiatry* 2007;68:862–866)

Received Aug. 30, 2006; accepted Oct. 20, 2006. From the Institute of Biomedical Sciences, Academia Sinica, Taipei (Dr. Cheng and Ms. L. Chen); the Institute of Preventive Medicine, College of Public Health, National Taiwan University, Taipei (Drs. T. Chen and Yen); the Tsaotun Psychiatric Center, Nantou (Dr. C. Chen); the Department of Psychiatry, Show Chwan Memorial Hospital, Changhua (Dr. Teng), Taiwan; and the Centre for Suicide Research, University of Oxford, Warneford Hospital, Oxford, U.K. (Dr. Hawton).

We thank all the staff at the community mental health centers in Nantou and Taichung Counties, Taiwan, for their assistance in interviewing respondents. We also thank the Broadcasting Development Fund, Taiwan, which kindly provided videotapes of news programs from all television news channels in Taiwan during the 3 weeks beginning May 2, 2005.

The authors report no financial affiliations or other relationships relevant to the subject of this article.

Corresponding author and reprints: Andrew T. A. Cheng, M.D., Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan 11529 (e-mail: bmandrew@gate.sinica.edu.tw).

Suicide prevention has become a global mental health concern,^{1–2} and improving the reporting of suicidal behavior in the media has been included in the national suicide prevention strategies of most countries.^{3–6} The evidence to support this has been derived from studies reporting an increase of suicide and attempted suicide following certain media stimuli.^{7–9} These studies have sometimes controlled for seasonal and secular factors. Furthermore, the more media networks that carry a suicide story, the greater the subsequent increase in suicidal behavior, and glamorous reporting or portrayal of suicide in the media can maximize the risk of “copycat” suicide.^{9–14} However, a major shortcoming of most studies is that exposure to the media reports by those who subsequently engaged in suicidal behavior has not been adequately investigated.¹⁵

In this article, we report findings from a study in which a representative sample of suicide attempters were directly interviewed to assess their exposure to media reporting of the suicide of a celebrity and its impact on any subsequent suicide attempts. The study was conducted immediately after the initiation of media reporting about a famous male television actor in Taiwan, M. J. Nee, who committed suicide by hanging from a tree in a countryside fruit yard at the age of 59 years sometime in April 2005. Extensive media coverage of Mr. Nee's suicide started from May 2, 2005, the day his body was found, and lasted for about 17 days.

METHOD

Media Reports

Coverage of Mr. Nee's suicide appeared on all 7 Taiwanese television news channels and in all Taiwanese newspapers. The former reported it hourly every day, each report lasting between minutes and an entire hour as the headline news. News of Mr. Nee's death occupied the 4 most popular national newspapers, with a mean (SD) daily coverage of 1.2 (0.7) to 2.2 (0.9) pages during 17 days.

All media reports on Mr. Nee's suicide included sensational words and statements of sympathy for the victim. The method used for suicide was repeatedly described in detail, with pictures/photos featuring the tree from which he hanged himself, the rope used, and his body. The suicide act was depicted as an understandable solution to the victim's dilemma, which included his extramarital relationship and his recent frustrations in show business. Finally, Mr. Nee was glorified as a martyr, and his past career received adulation (the funeral on May 12 was solemn and majestic). Several aspects of the guidelines published by the World Health Organization in 2000 for the media regarding how to report on a specific suicide were contravened (www.who.int/mental_health/media/en/426.pdf).¹⁶

Study Subjects

The subjects were suicide attempters who came from 2 counties located in Mid Taiwan (Nantou and Taichung Counties) with a total population of approximately 1.5 million in 2005. These 2 counties are close to the center of a major earthquake disaster that took place on September 21, 1999. With the support of a special reconstruction fund from the government, a community mental health center was established in each of the 2 counties, along with a new reporting system from the local health authority to identify consecutive suicide attempters who were referred to medical settings for treatment from various resources in the community. Case management has been provided by the mental health workers (psychiatric nurses and clinical psychologists) at the community mental health centers to all identified suicide attempters and other individuals who accepted this service. The initial study sample comprised all suicide attempters identified at both centers between May 2 and June 30, 2005 (N = 270).

Definition of Suicide Attempt

In this study, *suicide attempt* was defined as any episode of deliberate self-harm requiring medical attention. We have followed the definition used in the United Kingdom for years¹⁷: Deliberate self-harm includes self-poisoning and self-injury. Self-poisoning is the intentional self-administration of more than the prescribed dose of any drug, whether or not there is evidence that the act was intended to result in death. This also includes poisoning with noningestible substances or gas, overdoses of "recreational

drugs," and severe alcohol intoxication in which the clinical staff considers these to be cases of deliberate self-harm. Self-injury is any injury that has been deliberately self-inflicted.¹⁷

Procedures

Seventeen mental health workers at the 2 community mental health centers participated in this study. An orientation course was first provided for them on how to conduct the research interview using a structured questionnaire. They then made contact with all consecutive subjects who made suicide attempts during the study period by telephoning them up to 3 times, plus making an additional direct home visit when individuals did not answer the phone. The research interview was conducted with those who agreed to participate in the study after the procedure had been fully explained. The interviewer also recorded each respondent's age and gender, dates of suicide attempts, and methods used.

The institutional review board of Academia Sinica, Taiwan, approved the study, and written informed consent was obtained from the study subjects.

Study Instrument

A structured questionnaire was developed for use in the study by the research team. It was pretested in 10 depressive patients who had made suicide attempts and was found to be acceptable with minor linguistic modifications.

The questionnaire first asked about any exposure the participants had had to the media reports of Mr. Nee's suicide. They were then asked about history of suicidal behavior, including if and when they had any suicidal thoughts or made a suicide attempt following the media reporting on Mr. Nee's death. Respondents who had seen any television news or read any newspaper article reporting the death were then asked whether their mood or thoughts had been influenced by such reports and in what way. Those who had no previous history of suicidal behavior or who had a history of only suicidal thoughts (pre-existing their exposure to the reports) were asked whether the reporting had influenced their first suicide attempts. Those with a history of a suicide attempt were asked whether the media reports had influenced their repeat suicide attempts. Respondents' descriptions and explanations about any influence from the media reports were recorded verbatim.

Time Series Data

In order to examine possible confounding effects of seasonal and secular factors on the risk of suicide attempts immediately after the media reporting began, time series data on weekly number of suicide attempts and mean temperature and humidity for weeks 1 through 34 of the years 2003–2005 were obtained. Weekly numbers

of suicide attempts were obtained from the routinely kept records in the 2 community mental health centers. Records of mean temperature and humidity were retrieved from the weather station located in Mid Taiwan.

Statistical Analysis

A Poisson time series autoregression model¹⁸ was used to examine whether there was a significant increase in suicide attempts during the 3-week period after the initiation of media reporting of Mr. Nee's suicide. This model estimated the relative risk of suicide attempts in the 3 weeks after the media reporting began compared with that in the remaining weeks of the first 34 weeks of each year between 2003 and 2005. A series of weekly counts of suicide attempts from 2003 to 2005 was treated as a Poisson distribution. Since frequency of suicide attempts may be affected by seasonal variation, calendar year, temperature, and humidity,^{19,20} these variables were simultaneously controlled for in the model. Autoregression orders of counts of suicide prior to the current week, from the last week (order 1) to the last 4 weeks (order 4), were also included in the model.

Logistic regression analysis was used to investigate factors that might potentially increase vulnerability to media influences on suicide attempts among the 124 subjects exposed to the media reports of a celebrity suicide. The factors included age, gender, and history of suicidal behavior in the preceding year. A univariate model was first generated to estimate a crude odds ratio (OR) and 95% confidence interval (CI) for each factor, followed by multivariate analysis to obtain adjusted ORs.

To further investigate the association between suicidal behavior in the past year before the media reporting and the possible media influences on subsequent suicide attempts (either a first or a repeat attempt), 2 logistic regression analyses were conducted controlling for age and gender. In the first analysis, the OR for a first attempt said to be influenced by the media reports among subjects who had had only suicidal thoughts in the year before the media reports was estimated. In the second analysis, the OR for a further suicide attempt said to be influenced by the media reports among subjects who had made suicide attempts in the year before the media reporting began was estimated. In these analyses, respondents who reported no suicidal behavior in the year before the media reports were treated as the reference group.

RESULTS

Characteristics of Study Subjects

Of the 270 potential subjects, it was not possible to contact 59 (21.9%), and 72 (26.7%) refused to participate in the study. The remaining 139 (51.5%) agreed to be interviewed. The response rate among the subjects we were able to contact was 65.9% (139/211). There was no sig-

nificant difference in the distribution of age, gender, and history of previous suicide attempts (according to the records of the reporting system in the 2 counties from January 2003 to April 2005) between those who were interviewed, those who refused, and those we were unable to contact. Of the 139 individuals who were interviewed, 124 (89.2%) said that they had been exposed to the media reports. There were no major age and gender differences between the exposed and the unexposed group.

Of the 124 respondents with media exposure, 92 (74.2%) were female. The mean age of the females was 34.7 (SD = 12.8) years, and of the males, 34.8 (SD = 12.5) years. Overall, 103 individuals (83.1%) reported a history of suicidality, including 34 (27.4%) with previous suicide attempts and 69 (55.6%) with only previous suicidal thoughts. In particular, 25 (20.2%) had made suicide attempt(s) in the year prior to the media reporting of Mr. Nee's death, and 76 (61.3%) had had only suicidal thoughts before being exposed to the reports. Among subjects who did not have any suicidal behavior in the past year, only 3 (13.0%) reported their first suicide attempt after Mr. Nee's news. In contrast, 18.4% (N = 14) of those reporting suicidal thoughts in the past year had a first suicide attempt, and 44% (N = 11) of those reporting suicide attempt(s) in the past year had a repeat suicide attempt after Mr. Nee's news.

Extent of Media Influence

Of the 124 respondents exposed to the media reporting of Mr. Nee's death, 29 (23.4%) reported that this had influenced their subsequent suicide attempts, with 17 (13.7%) reporting a first attempt and 12 (9.7%) reporting a repeat attempt. Significantly more men (12/32) than women (17/92) reported negative effects ($\chi^2 = 4.79$, $p < .05$).

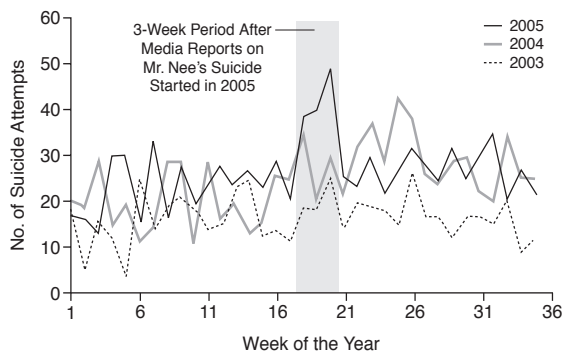
Content of Media Influence

Several types of explanations were given by respondents for whom the news of Mr. Nee's death appeared to have had an influence. The most common explanations were (1) imitation: "All my sorrows will be over just like him, a man with loss of love and career," "Suicide can be a glorious act like his became," (2) rationalization: "Life is like on the stage, a big star has gone, why not me?" "People care about you more after you kill yourself than when staying alive," (3) hopelessness: "The end of depression is suicide, treatment is useless," "Sooner or later I'll be in the same situation like him," and (4) learning the method of suicide: "I have been watching how he tied the rope on the tree in order to hang himself."

Was There a Real Increase in Suicide Attempts?

Figure 1 shows that there was a marked increase in the number of suicide attempts in the 3 weeks after the initiation of Mr. Nee's news compared with the con-

Figure 1. Weekly Number of Suicide Attempts in 2 Counties in Taiwan for 2003–2005



temporaneous periods in the 2 preceding years, 2003 and 2004.

A Poisson autoregression analysis, focused on the risk of suicide attempts during the 3 weeks after the reporting of Mr. Nee's death began, was conducted, with adjustment for seasonal variation, calendar year, temperature, humidity, and autoregression orders. Since there was no significant association between the risk for suicide attempts and the autoregression orders from order 1 to order 4, only the first order was retained in the model. Although humidity and seasonal variation were not found to be significantly associated with the risk of suicide attempts, they were retained in the model as both have been reported as factors associated with suicide risk.¹⁸ After controlling for these variables, the risk of suicide attempts during the 3 weeks after media reporting began was considerably greater than during the other periods (adjusted relative risk [RR] = 1.55, 95% CI = 1.26 to 1.91). Both calendar year and temperature were also significantly associated with the risk of suicide attempts. Thus, the number of suicide attempts increased significantly between 2003 and 2005 (for 2004, adjusted RR = 1.49, 95% CI = 1.34 to 1.66; for 2005, adjusted RR = 1.58, 95% CI = 1.39 to 1.80) and was significantly higher in periods of higher temperature (adjusted RR = 1.04, 95% CI = 1.02 to 1.06).

Factors Influencing the Effects of Media Reporting

We examined potential factors predicting the influence of the media reports of Mr. Nee's suicide on suicide attempts (details of the data analysis can be obtained from our Web site at http://www.ibms.sinica.edu.tw/tables_for_nees_suicide.htm). There was no age difference in vulnerability to media influences. Men were significantly more likely to report media influence than women after we controlled for both history of suicidal behavior in the past year and age (adjusted OR = 2.63, 95% CI = 1.04 to 6.64). Compared to subjects without any his-

tory of suicidal behavior, those with a history of a previous suicide attempt in the past year had a considerably greater risk for reporting that the media reports had influenced a subsequent attempt (adjusted OR = 4.94, 95% CI = 1.13 to 21.65, controlling for age and gender). Subjects with only suicidal thoughts in the past year did not have a significantly higher risk for such influence (adjusted OR = 1.45, 95% CI = 0.37 to 5.69).

Compared to subjects without any history of suicidal behavior, those with a history of only suicidal thoughts in the past year did not manifest any significantly higher risk for media influence on their first suicide attempts (OR = 1.37, 95% CI = 0.34 to 5.41), whereas those with a history of suicide attempts in the past year had a statistically significant increased risk (OR = 52.30, 95% CI = 5.96 to 459.14) of media reports having influenced their subsequent repeat suicide attempts.

DISCUSSION

Increase in Suicide Attempts After Media Reporting

Previous studies investigating media influences on suicidal behavior have largely used a "before-and-after" comparative strategy, often controlling for seasonal and secular changes for identical periods in earlier years.²¹ In the present study, we have employed the Poisson autoregression model to verify the effect of media reporting of the suicide of a celebrity on suicide attempts after controlling for temperature, humidity, calendar year, seasonal variation, and autoregressive order. Simultaneous controlling for major potential confounding variables considerably increases the credibility of our findings. Results from this model have strongly suggested that the short-term but continued extensive media reporting of the suicide of a celebrity contributed to a significant increase in suicide attempts. Of the variables that were controlled for, temperature was the most salient because the period of media reporting of Mr. Nee's death was very close to the transition from spring to summer.^{19,20}

Exposure to the Media and Influences

Although the findings from other studies have indicated an increase in suicide attempts following media reporting of celebrity suicides, it has usually not been known whether individuals who engaged in suicidal behavior following the media event had actually been exposed to it.^{8,15,21} The present study has addressed this issue through a direct interview with suicide attempters identified after the initiation of the media reporting.

A very high proportion (89.2%) of suicide attempters in this study had been exposed to the media reports, and nearly one quarter of the exposed respondents reported an influencing effect of those reports in terms of a subsequent suicide attempt. The extremely high rate of exposure was probably due to the very extensive and lengthy

media coverage. The high proportion of exposed respondents who indicated media influences in terms of their subsequent suicidal behavior might be attributed to both the huge amount of media reporting and the characteristics of the reports on Mr. Nee's suicide. These reports were sensational, repeatedly featuring details of the suicide method and glorifying the celebrity suicide victim as a martyr, with adulation over his past career performance. These features have been shown to contribute to media influence on suicidal behavior.^{9–15}

High Risk Groups for Media Influences

Media influences on suicidal behavior are thought to be greater when there is close similarity between the media stimulus, or model, and the observer, in terms of age, gender, nationality, and method of suicide.¹⁵ Some previous studies have reported a higher vulnerability to media influence among younger people.¹¹ However, in other studies, the suicidal individuals appear to have had little in common with the media model, yet apparently identified with him or her sufficiently to trigger suicidal behavior.¹⁵ Our study found a significantly higher risk for media influences in suicide attempters of the same sex, but not the same age, as the celebrity suicide being reported. We found only 1 suicide attempter who used the same method (hanging) as the model did, probably because the high lethality of this method would have mainly resulted in completed suicide.

This study has identified 1 particularly important risk factor regarding influence of exposure to suicide in the media. The impact of the media reporting on subsequent suicide attempts was most marked in subjects who had made a previous suicide attempt within the year prior to the media reports.

Limitations

Some limitations of this study need to be addressed. Our response rate of direct interview among all identified suicide attempters, though comparable to other studies, was not very satisfactory. However, there was no major difference in the distribution of age, gender, and history of previous suicide attempts between those who were interviewed, those who refused, and those unable to be reached. Although major confounding factors (season, calendar year, temperature, and humidity) were controlled for in the analysis, the possible influence of other unknown factors on the increase in suicide attempts after the onset of the media reporting cannot be ruled out.

Implications for Suicide Prevention

This is one of the few studies that have investigated the impact of media reports of celebrity suicide on suicide attempts using direct interview among suicide attempters.

Findings of this study have provided more convincing evidence of a strong association between dramatic and extensive media reporting of a celebrity suicide and subsequent suicide attempts. They support the need for more restrained reporting of suicides. They also suggest that particular attention, in terms of potential media influences, should be paid by clinicians to people who have a recent history of suicide attempts. These implications are quite likely to be relevant to suicide prevention in all countries, but especially in those without national suicide prevention strategies or effective nongovernmental organizations dealing with inappropriate media reporting.

REFERENCES

1. World Health Organization. The World Health Report 2001: Mental Health: New Understanding, New Hope. Geneva, Switzerland: World Health Organization; 2001
2. Khan MM. Suicide prevention and developing countries. *J R Soc Med* 2005;98:459–463
3. Lönnqvist J. National Suicide Prevention Project in Finland: a research phase of the project. *Psychiatria Fennica* 1988;19:125–132
4. Department of Health. National Suicide Prevention Strategy for England. London, England: Department of Health; 2002
5. Department of Health and Human Services. National Strategy for Suicide Prevention: Goals and Objectives for Action. Rockville, Md: US Department of Health and Human Services; 2001
6. Australian Government Department of Health and Ageing. Life: Living Is for Everyone: A Framework for Prevention of Suicide and Self-Harm in Australia. Canberra, Australia: Commonwealth of Australia; 2000
7. Gould MS, Shaffer D, Kleinman M. The impact of suicide in television movies: replication and commentary. *Suicide Life Threat Behav* 1988;18:90–99
8. Hawton K, Simkin S, Deeks JJ, et al. Effects of a drug overdose in a television drama on presentations to hospital for self-poisoning: time series and questionnaire study. *BMJ* 1999;318:972–977
9. Schmidtke A, Hafner H. The Werther effect after television films: new evidence for an old hypothesis. *Psychol Med* 1988;18:665–676
10. Gould MS. Teenage suicide clusters. *JAMA* 1990;263:2051–2052
11. Gould MS, Petrie K, Kleinman MH, et al. Clustering of attempted suicide: New Zealand national data. *Int J Epidemiol* 1994;23:1185–1189
12. Yip PS, Fu KW, Yang KC, et al. The effects of a celebrity suicide on suicide rates in Hong Kong. *J Affect Disord* 2006;93:245–252
13. Alao AO, Yolles JC, Armenta W. Cybersuicide: the internet and suicide. *Am J Psychiatry* 1999;156:1836–1837
14. Tousignant M, Mishara BL, Caillaud A, et al. The impact of media coverage of the suicide of a well-known Quebec reporter: the case of Gaetan Girouard. *Soc Sci Med* 2005;60:1919–1926
15. Hawton K, Williams K. Media influences on suicidal behaviour: evidence and prevention. In: Hawton K, ed. *Prevention and Treatment of Suicidal Behaviour: From Science to Practice*. Oxford, England: Oxford University Press; 2005:293–306
16. World Health Organization. Preventing Suicide: A Resource for Media Professionals. Geneva, Switzerland: World Health Organization; 2000
17. Hawton K, Harriss L, Hall S, et al. Deliberate self-harm in Oxford, 1990–2000: a time of change in patient characteristics. *Psychol Med* 2003;33:987–995
18. Fahrmeir L, Tutz G. *Multivariate Statistical Modelling Based on Generalized Linear Models*. New York, NY: Springer-Verlag; 1994
19. Barker A, Hawton K, Fagg J, et al. Seasonal and weather factors in parasuicide. *Br J Psychiatry* 1994;165:375–380
20. Lee HC, Lin HC, Tsai SY, et al. Suicide rates and the association with climate: a population-based study. *J Affect Disord* 2006;92:221–226
21. Zahl DL, Hawton K. Media influences on suicidal behavior: an interview study of young people. *Behav Cog Psychother* 2004;32:189–198