

Epidemiological data of suicidal behaviour – how to inform and not to disinform?

Dane epidemiologiczne dotyczące zachowań samobójczych – jak informować, a nie dezinformować?

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Abstract

Introduction and objective: Suicide is a significant global public health concern. Media reporting greatly influences suicide prevention efforts, with the Internet and social media playing a major role. Inappropriate reporting can undermine prevention, while responsible reporting can have a preventive effect. The World Health Organization and the International Association for Suicide Prevention have issued a set of guidelines for journalists, which are also available in the Polish language. This article is a preliminary report on suicide behaviour epidemiology reporting in the Polish media. **Materials and methods:** The study used data from the National Police Headquarters to analyse suicide attempts and deaths in Poland between 2017 and 2022. Population size data was obtained from the Statistics Poland website. News analysis was conducted using the BuzzSumo Enterprise Application to assess social media shares and engagements for the top 100 popular web pages with the keyword “suicide” in the Polish language news between 2017 and 2022. **Results:** The study found that media articles often omitted standardised indicators when reporting suicide statistics. The media focus on growing suicide mortality among children and adolescents was evident, while a similar trend among older adults received only limited attention. Additionally, some articles failed to distinguish between suicide attempts and deaths, used sensational language in the headlines, and did not consider changes in reporting methodologies, leading to potential misinterpretations of suicide-related data. **Conclusions:** Responsible reporting is crucial to prevent negative effects on public health. Understanding the association between suicide and misinformation can lead to targeted interventions and strategies to safeguard well-being.

Keywords: epidemiology, social media, suicide prevention, media reporting, disinformation

Streszczenie

Wprowadzenie i cel: Samobójstwo jest istotnym problemem zdrowia publicznego na świecie. Doniesienia medialne w znacznym stopniu wpływają na wysiłki na rzecz zapobiegania samobójstwom, przy czym internet i media społecznościowe odgrywają główną rolę. Nieodpowiednie raportowanie może osłabić zapobieganie, podczas gdy odpowiedzialne raportowanie może mieć efekt zapobiegawczy. Światowa Organizacja Zdrowia i Międzynarodowe Stowarzyszenie Zapobiegania Samobójstwom wydały wytyczne dla dziennikarzy, które są również dostępne w języku polskim. Niniejszy artykuł jest wstępnym raportem na temat raportowania epidemiologii zachowań samobójczych w polskich mediach. **Materiał i metody:** W badaniu wykorzystano dane Komendy Głównej Policji do analizy prób i zgonów samobójczych w Polsce w latach 2017–2022. Dane dotyczące wielkości populacji uzyskano ze strony internetowej Głównego Urzędu Statystycznego. Analizę wiadomości przeprowadzono za pomocą aplikacji BuzzSumo Enterprise w celu oceny udostępnień i zaangażowania w mediach społecznościowych dla 100 najpopularniejszych stron internetowych ze słowem kluczowym „samobójstwo” w wiadomościach w języku polskim w latach 2017–2022. **Wyniki:** Badanie wykazało, że w artykułach medialnych często nie stosowano standardowych wskaźników przy zgłaszaniu statystyk dotyczących samobójstw. Media koncentrowały się na wzroście liczby zgonów samobójczych wśród dzieci i młodzieży, podczas gdy podobny trend wśród osób starszych spotkał się z ograniczonym zainteresowaniem. Ponadto niektóre artykuły nie rozróżniały prób samobójczych od zgonów, używały sensacyjnego języka w nagłówkach i nie uwzględniały zmian w metodologii raportowania, co prowadziło do potencjalnie błędnej interpretacji danych dotyczących samobójstw. **Wnioski:** Odpowiedzialne raportowanie ma kluczowe znaczenie dla zapobiegania negatywnym skutkom dla zdrowia publicznego. Zrozumienie związku między samobójstwem a fałszywymi wiadomościami może prowadzić do ukierunkowanych interwencji i strategii z zakresu zdrowia publicznego.

Słowa kluczowe: epidemiologia, media społecznościowe, zapobieganie samobójstwom, statystyki samobójstw, dezinformacja

INTRODUCTION

Suicide is a significant public health concern worldwide, and its prevention requires a comprehensive understanding of the factors affecting suicidal behaviours (Stone and Crosby, 2014). There is growing evidence that media reporting greatly influences suicide prevention efforts, either enhancing or inadvertently undermining them (World Health Organization and International Association for Suicide Prevention, 2017). The Internet and social media platforms have emerged as powerful channels for disseminating information, including reliable up-to-date news. On the other hand, these sources may serve as instruments for fast-spreading false or misleading information, known as infodemics. Infodemic, a term that rose to prominence during the COVID-19 pandemic, may have an adverse effect on the health and well-being of individuals and delay care provision (Borges do Nascimento et al., 2022). To combat the consequences of inappropriate reporting on suicides, the World Health Organization (WHO) and the International Association for Suicide Prevention (IASP) have issued official guidelines for journalists covering the topic of suicidal behaviour. In a general sense, these guidelines aim to reduce the sensationalism surrounding suicide and moderate the exposure to vulnerable individuals (World Health Organization and International Association for Suicide Prevention, 2017). The recommendations have also been translated and adapted to the Polish realities and are freely available on the Internet (Baran et al., 2018a, 2018b, 2019). Research findings have endorsed the possibility of a preventive effect of suicide-related media reports (Niederkröthenthaler

et al., 2010; Sisask and Värnik, 2012). This may be accomplished by the inclusion of protective information, such as suicide helpline numbers and resource details, or by the modification of negative reporting styles (Domaradzki, 2021). Overall, collaboration between media professionals and mental health experts should be fostered to promote the implementation and modification of responsible media reporting recommendations. This article is a preliminary report examining the reporting of epidemiological data on suicidal behaviour in the Polish media.

METHODS

Data on suicide attempts and suicide deaths were obtained from the National Police Headquarters. Monthly statistics for the period between 2017 and 2022, coming from 17 police regions covering the entirety of Poland, were analysed (available at: <https://statystyka.policja.pl/st/wybrane-statystyki/zamachy-samobojcze>).

Data on the size of the Polish population was downloaded from the Statistics Poland website (<https://stat.gov.pl/>). An analysis of news was performed employing the BuzzSumo Enterprise Application (BuzzSumo Limited, Brighton, United Kingdom) available via its website. The “Most Shared” tool was used to obtain data regarding the numbers of social media shares of the top 100 most popular web pages in the Polish language news in the period 2017–2022 containing the keyword “suicide”. For each link, BuzzSumo returned data on the volume of social media engagements defined as the total number of likes, comments, and shares.

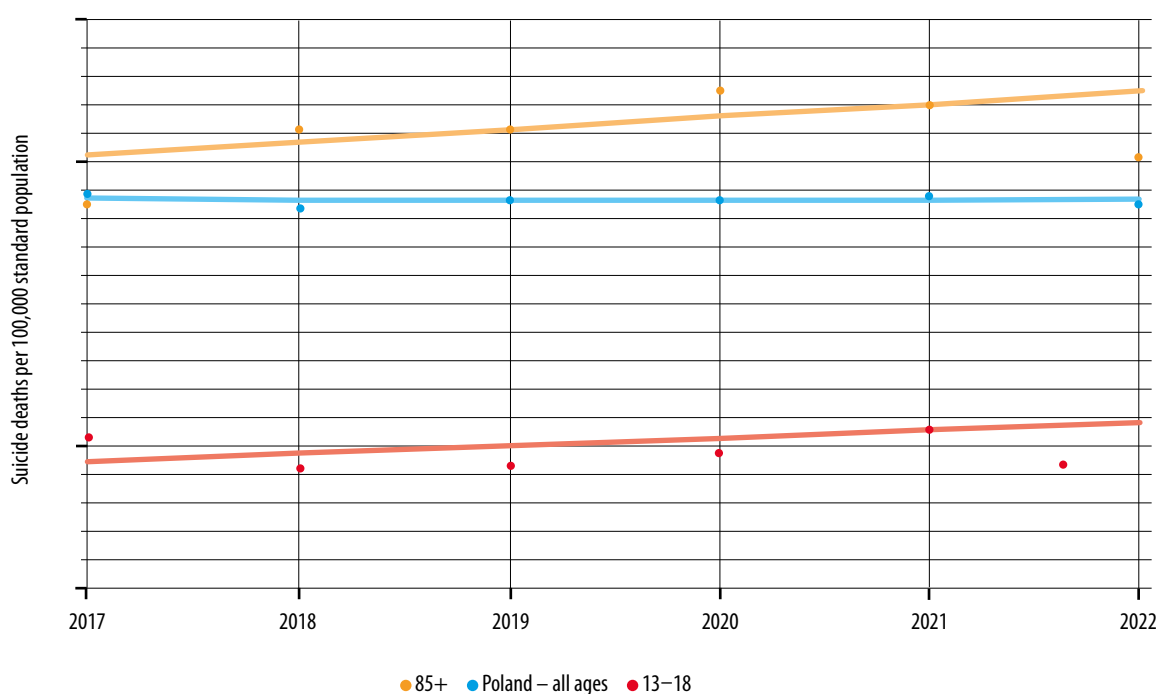


Fig. 1. Suicide deaths in Poland (per 100,000 standard population)

A similar approach was used in a previous paper, where this methodology is described in more detail (Waszak et al., 2018).

FIRST GLANCE – HOW NOT TO REPORT SUICIDE STATISTICS?

Media articles analysed in our sample usually provide only total suicide numbers, without standardised coefficients. This has very little informative value. Let us assume an example: we want to compare two regions or two age groups with each other, and we know that in both groups 200 people died by suicide last year. At first glance, it may seem that the situation of these two populations is identical. But what if one of these populations is twice as large as the other? This is where standardisation of results comes to the rescue. According to the WHO recommendations, suicides should be reported per 100,000 people (World Health Organization, 2023). This makes it easier to compare populations with different numbers, such as countries, genders, or age groups. A comparison of standardised suicide death rates in Poland by age group is shown in Fig. 1.

It is clear that, in the period from 2017 to 2022, the standardised statistics of suicide deaths increased in children and adolescents, but also in the oldest group of adults. The average rates for the entire Polish population were quite stable throughout this period. However, in the media, the attention is focused primarily on the problems of children and adolescents. Only one article in the top 100 addresses the problem of suicide in older adults (Tab. 1).

Some of the articles in the sample did not distinguish between suicide attempts and suicide deaths at all, referring to them generally as “suicides”. This is a serious misuse, as many times news authors used the phrase “increase in suicides” meaning an increase in suicide attempts, not an increase in suicide deaths. In Polish, suicide is clearly defined as the intentional taking of one’s own life (Słownik SJP, 2023); therefore, it refers to suicide death. Using the word to describe the phenomenon of suicide attempts is thus a misuse, and articles using it in this way should be seen as disinformation.

Many articles use strongly emotional words in their headlines, such as “Child Suicides. Frightening Statistics” or “Child and Adolescent Suicides: Dramatic Police Data” or

Place in top 100	Category	Original title (Polish)	Facebook engagement	Twitter shares	Total engagement
2	Children and adolescents	Samobójstwa i depresja wśród nastolatków? Oto film, który musisz zobaczyć https://mamadu.pl/145903,samobojstwa-i-depresja-wsrod-nastolatkow-oto-film-ktory-musisz-zobaczyc Feb 24, 2020 mamadu.pl	48.8K	5	48.8K
11	Children and adolescents	Dzień Dobry Elk – „Polska młodzież na drugim miejscu w Europie w statystyce samobójstw” – Prof. Heitzman https://www.dziendobryelk.pl/rozrywka/item/1007-polska-mlodziez-na-drugim-miejscu-w-europie-w-statystyce-samobojstw By Super User Feb 11, 2020 dziendobryelk.pl	18.9K	32	18.9K
16	Children and adolescents	Prof. Heitzman: Polska młodzież jest na drugim miejscu w Europie w statystyce samobójstw https://www.rmfm.pl/tylko-w-rmf24/populadniowa-rozmowa/news-prof-heitzman-polska-mlodziez-jest-na-drugim-miejscu-w-europie,nld,2907714#crp_state=1 By Rmf Fm Journalist Mar 28, 2019 rmf24.pl	18.1K	52	18.2K
33	Older adults	Samobójstwa osób starszych. Odchodzą po cichu https://www.newsweek.pl/polska/spoleczenstwo/samobojstwa-osob-starszych-odchodza-po-cichu/wwbct1b By Renata Kim Journalist Oct 16, 2022	10K	22	10K
51	Children and adolescents	Niemy krzyk – Samobójstwa wśród dzieci https://www.rodzicedzieci.pl/2019/02/16/niemy-krzyk-samobojstwa-wsrod-dzieci/ [link currently inactive] By Aleksandra Broda Feb 21, 2019 rodzicedzieci.pl	6.9K	0	6.9K
70	Children and adolescents	Problem samobójstw wśród dzieci. Płonka: To właśnie LGBT jest przyczyną https://natemat.pl/360697,problem-samobojstw-wsrod-dzieci-plonka-to-wlasnie-lgbt-jest-przyczyna Jun 25, 2021 natemat.pl	5.6K	4	5.6K

Tab. 1. Most shared social media articles in Polish between 2017 and 2022 containing the keyword “suicide” relating to the subgroup of children and adolescents or older adults

“Tragic Statistics”. WHO and IASP guidelines clearly warn against using sensational words, especially as headlines (World Health Organization and International Association for Suicide Prevention, 2017).

The majority of media articles failed to discuss the change in the methodology of reporting suicide attempts by the Polish police in 2017, which may have contributed significantly to more accurate reporting of these incidents and thus caused (to some extent) an artificial increase in suicide attempts (Gawliński et al., 2020; Waszak et al., 2022). In other words, perhaps in Poland, suicide attempt rates have always been high, but it is only recently that they can be reflected better in official statistics.

SUICIDE AND FAKE NEWS – COMPLEX ISSUE

The negative effects of misinformation on the social media, particularly during health emergencies and pandemics, have been extensively studied. Health-related misinformation available on the social media channels was found to range from 0.2% to 28.8% (Borges do Nascimento et al., 2022). This is a serious issue, as misinformation leads to an increase in erroneous interpretation of scientific knowledge, opinion polarisation, fear, panic, and decreased access to healthcare (Borges do Nascimento et al., 2022).

There is little research studying direct links in the context of suicide-related issues. However, one study, which recruited a total of 300 firearm-owning adults in the US, found that firearms stored in non-secure locations without locking devices were associated with lower beliefs in the link between firearm storage and suicide risk (Anestis et al., 2018). This was a direct consequence of disinformation; in fact, the link between firearms and suicide deaths is clear and very strong. Firearms accounted for around 50% of all suicide deaths in the US and are the most lethal means of suicide, with suicide being more prevalent in firearm-owning households (Anestis, 2016; Simon, 2007).

Reporting on suicides, including suicide statistics in the media, requires extreme caution. Media coverage of suicide incidents, especially involving public figures, has been linked to an increase in suicide rates, a phenomenon known as suicide contagion (Gould et al., 2014; Niederkrotenthaler et al., 2010). Fahey et al. (2018) explored the emotional content of tweets related to the suicides of prominent individuals in Japan. The study highlighted how different demographic characteristics of the deceased could lead to varying emotional responses on the social media, with potential correlations to subsequent rises in national suicide counts. This insight into the variables of peoples' reactions calls for new reporting guidelines or other interventions to reduce the so-called “Werther effect” (Fahey et al., 2018; Gould et al., 2014).

In Poland, the Blue Whale Challenge received widespread media attention in 2017 (Waszak et al., 2022). This social media phenomenon involved the encouragement to complete a series of self-harming tasks, with suicide as the

culmination (Baran and Gmitrowicz, 2017; Upadhyaya and Kozman, 2022). Extensive media coverage of this trend served as a double-edged sword, raising public awareness about the risks on the one hand, and on the other possibly contributing to the short-term increase in suicidal behaviour in the 19–24 age group that was reported at the time (Waszak et al., 2022). There were also many other reports of examples of suicide games on the social media (Bada and Clayton, 2020). For the most part, these were classified as fake news, however, they generated enormous media attention and even resulted in official warnings issued by the police (Bada and Clayton, 2020).

CONCLUSIONS

The associations between suicide and fake news warrant careful consideration due to their potential impact on vulnerable populations. This preliminary report consolidates evidence from multiple sources to shed light on the role of fake news in shaping attitudes towards suicide, the potential risks of suicide contagion, and the importance of responsible media reporting. By understanding these associations, we can develop targeted interventions and preventive strategies to safeguard public health and well-being.

Conflict of interest

There is no conflict of interest associated with this project.

Funding/Support and role of the sponsor

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Ethics approval

The study was based exclusively on publicly available sources, without using any individual or clinical data. Consequently, approval from an ethics committee was not needed.

Author contributions

Original concept of study: PMW. Collection, recording and/or compilation of data: PMW, NO. Analysis and interpretation of data: PMW, NO. Writing of manuscript: PMW, NO. Critical review of manuscript: PMW, NO. Final approval of manuscript: PMW, NO.

References

- Anestis MD: Prior suicide attempts are less common in suicide decedents who died by firearms relative to those who died by other means. *J Affect Disord* 2016; 189: 106–109.
- Anestis MD, Butterworth SE, Houtsma C: Perceptions of firearms and suicide: the role of misinformation in storage practices and openness to means safety measures. *J Affect Disord* 2018; 227: 530–535.
- Bada M, Clayton R: Online suicide games: a form of digital self-harm or a myth? Conference Proceedings CYPsy24: 24th Annual CyberPsychology, CyberTherapy & Social Networking Conference, 2019. Epub ahead of print 2020. DOI: 10.48550/arXiv.2012.00530.
- Baran A, Gmitrowicz A: „Niebieski wieloryb” jako nowa forma cyberprzemocy – jak chronić nastolatki przed autoagresją? *Psychiatria po Dyplomie* 2017; 14 (02).
- Baran A, Gmitrowicz A, Pawelec R: Rola mediów w promocji zdrowia psychicznego i w zapobieganiu samobójstwom. Poradnik dla osób wypowiadających się w mediach. Ministerstwo Zdrowia, Warszawa 2018a.
- Baran A, Gmitrowicz A, Koszewska I et al.: Rola mediów w promocji zdrowia psychicznego i w zapobieganiu samobójstwom. Poradnik dla pracowników mediów. Grupa ds. mediów Zespołu roboczego ds. prewencji samobójstw i depresji przy Radzie ds. Zdrowia Publicznego Ministerstwa Zdrowia. Ministerstwo Zdrowia, Warszawa 2018b.
- Baran A, Palma J, Soczewka M et al.: Poradnik dla moderatorów i administratorów serwisów internetowych. Wspieranie działań z zakresu prewencji samobójstw. Naukowa Akademicka Sieć Komputerowa Państwowy Instytut Badawczy, Warszawa 2019.
- Borges do Nascimento JJ, Pizarro AB, Almeida JM et al.: Infodemics and health misinformation: a systematic review of reviews. *Bull World Health Organ* 2022; 100: 544–561.
- Domaradzki J: The Werther effect, the Papageno effect or no effect? A literature review. *Int J Environ Res Public Health* 2021; 18: 2396.
- Fahey RA, Matsubayashi T, Ueda M: Tracking the Werther effect on social media: emotional responses to prominent suicide deaths on twitter and subsequent increases in suicide. *Soc Sci Med* 2018; 219: 19–29.
- Gawliński A, Sołtyszewski I, Wiergowski M: Epidemiology of suicides in Poland in 1990–2018 – changes and new trends. *Arch Med Sądowej Kryminol* 2020; 70: 222–234.
- Gould MS, Kleinman MH, Lake AM et al.: Newspaper coverage of suicide and initiation of suicide clusters in teenagers in the USA, 1988–96: a retrospective, population-based, case-control study. *Lancet Psychiatry* 2014; 1: 34–43.
- Niederkrötenhaler T, Voracek M, Herberth A et al.: Role of media reports in completed and prevented suicide: Werther v. Papageno effects. *Br J Psychiatry* 2010; 197: 234–243.
- Simon RI: Gun safety management with patients at risk for suicide. *Suicide Life Threat Behav* 2007; 37: 518–526.
- Sisask M, Värnik A: Media roles in suicide prevention: a systematic review. *Int J Environ Res Public Health* 2012; 9: 123–138.
- Słownik SJP: Samobójstwo. Available from: <https://sjp.pl/samob%C3%B3jstwo> [cited: 25 July 2023].
- Stone DM, Crosby AE: Suicide prevention. *Am J Lifestyle Med* 2014; 8: 404–420.
- Upadhyaya M, Kozman M: The blue whale challenge, social media, self-harm, and suicide contagion. *Prim Care Companion CNS Disord* 2022; 24: 22cr03314.
- Waszak P, Otręba M, Zagożdżon P et al.: The #BlueWhaleChallenge and presence of suicidal ideations on Polish-language Twitter. Available from: <https://preprints.jmir.org/preprint/44994>. 2022 [cited: 20 July 2023].
- Waszak PM, Kasprzycka-Waszak W, Kubanek A: The spread of medical fake news in social media – the pilot quantitative study. *Health Policy and Technology* 2018; 7: 115–118.
- World Health Organization: Age-standardized suicide rates (per 100 000 population). Available from: [https://www.who.int/data/gho/data/indicators/indicator-details/GHO/age-standardized-suicide-rates-\(per-100-000-population\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/age-standardized-suicide-rates-(per-100-000-population)) [cited: 25 July 2023].
- World Health Organization, International Association for Suicide Prevention: Preventing suicide: a resource for media professionals, update 2017. World Health Organization, Geneva 2017.