



Can popular magazines educate people with depression? An investigation of articles' understandability, reliability, and actionability



Lies Sercu

Catholic University of Leuven (KU Leuven), Blijde-Inkomststraat 21, PO BOX 3308, 3000 Leuven, Belgium

ARTICLE INFO

Keywords:

Depression
Media
Popular magazines
Understandability
Reliability
Actionability

ABSTRACT

Objective: to evaluate articles on depression published in popular magazines with respect to understandability, reliability, and actionability. To determine whether these articles can educate patients. To investigate whether the Clear Communication Index (CCI), developed to assess the quality of patient education materials produced by the medical sector, can be used to evaluate articles published in popular magazines.

Methods: The sample consists of 81 articles from 24 different Flemish and Dutch popular magazines. The articles were evaluated using the CCI. Correlational and *t*-test analyses were performed on the data.

Results: No more than one-fifth of all articles were found to be of quality. Significant positive correlations were found between actionability, reliability, and understandability. No significant differences were found between health magazines and other more generally oriented magazines.

Conclusion: Overall, our findings demonstrate the relative lack of power as patient educational materials of articles on depression published in popular magazines for people with low or average mental health literacy levels.

Innovation: Using the Clear Communication Index, the quality of Dutch medium popular magazine articles on depression are analyzed. The study design allowed for the comparison of different types of magazines. Health magazines do no score better than generally-focused magazines.

HIGHLIGHTS

- Only 20% of articles on depression in popular magazines can educate the general public.
- Journal articles that are not reliable also are not easily understandable or actionable.
- The Clear Communication Index tool can assess the quality of journal articles on mental illnesses.
- The author declares not conflict of interest.

1. Introduction

Depression is a common illness worldwide, with an estimated 3.8% of the population affected, including 5% among adults and 5.7% among adults older than 60. According to the World Health Organization [1], more than 300 million people are affected by depression, making it the leading cause of disability worldwide. Depression is defined by a loss of pleasure in things that were once enjoyable and losing interest in other people and usual activities. Its debilitating consequences often lead to impairment in an individual's physical, emotional, social, and occupational functioning [2]. In severe cases, depression may lead to suicide. More than 50% of individuals who experience an episode of major depression have a recurrence.

Globally, it is estimated that fewer than half of the patients experiencing depression receive treatment. Common barriers to seeking and receiving effective treatment include social stigma and patients struggling to accept a diagnosis of depression [3], limited knowledge about mental illness in general and depression in particular, lack of perceived need for treatment, and healthcare system-level barriers, such as availability of healthcare providers [4].

Considering the relatively low use of and lack of access to adequate care, the ability to self-assess one's mental health and self-direct one's recovery process is crucial. Broadly speaking, self-management interventions empower patients with the information and skills necessary for the successful day-to-day management of their chronic conditions [5]. When patients are seeing a doctor, they may be given an oral or written overview of lifestyle

E-mail address: Lies.sercu@kuleuven.be.

modifications to make and treatments to observe. Yet, when patients cannot see a healthcare professional, they may rely on other sources of information, such as popular media and the internet. As regards the internet, Rathol et al. [6] and Sutura et al. [5] found that internet sites reporting on (mental) health issues are written at health literacy and readability levels far above those of the average population, which makes these sites inaccessible to that public.

Apart from the internet, printed written media remain a source of information for the general public. Magazines have provided health advice for many decades and while publication sales in all areas of the media are falling, magazines remain a popular way to seek health information [7]. More people obtain information about new developments through the media than from health professionals. Also, media coverage of health news has been shown to influence how people perceive medical issues and affect health behaviors in both positive and negative ways. According to Wilson et al. [8], it is reasonable to assume that lifestyle magazines, especially those with the word 'health' in their title, have an impact on health literacy and behavior. Magazine proprietors widely promote their publications as having a substantial impact on readers. Evidence shows that media coverage can affect health behavior [9].

Research of media as sources of information on mental illness has focused to a large extent on the way in which mental illnesses are portrayed and framed in the media. Much of this research has found that media coverage is stigmatizing, negative, incomplete, dehumanizing, and unbalanced [9-11]. Yet, some studies also report that a tendency towards less biased or stigmatizing, more reliable information is visible and that media (e.g., movies) now also report more extensively and more truthfully on recovery stories [12].

This study, too, will focus on popular media and the way in which depression is addressed in these media. Yet, the study does not report on the portrayal of depression in popular magazines. Rather, the central question is whether the articles published in these magazines are understandable, actionable, and reliable. Understandability refers to when consumers of different backgrounds and varying levels of health literacy can process and explain key information offered to them. Actionability refers to the ability of these news consumers to identify what they can do based on the information presented. Reliability refers to resources being created using good evidence and aligning with current treatment guidelines and evidence-based practices.

In other words, we want to answer the question of whether articles on depression published in recent installments of popular magazines have the potential of serving as patient education materials, and materials that can incite readers to make appropriate lifestyle accommodation changes to manage their depression. Even if framing issues will be in the background of the study, at the forefront are the readers who may perceive themselves as potential patients and, in order to educate themselves about depression, its symptoms, and treatments, may read and study these articles. The question then is whether the articles can be understood by this readership, given their mental health literacy and overall reading abilities, whether the information originates from reliable resources, and whether the texts encourage the readership to take appropriate action to prevent a minor depression from escalating into a major one or to prevent attracting a depression altogether.

2. Methods

2.1. Sample

This research focuses on articles from popular, non-academic journals that are widely read in Flanders and the Netherlands, two neighboring Dutch-speaking European countries, of which the depression rate centers around the European average as a 2013–2015 census has shown, and is above the worldwide average, with about 7% of the population attracting a depression every year [13]. The corpus consists of 81 articles, published between November 2017 and December 2020, which is a timeframe falling right after the results of the European census on mental health took place, in

24 different magazines. Of these, 9 magazines belong to the 20 best-selling magazines in Flanders and 6 to the best-selling magazines in the Netherlands. The remaining 9 magazines were readily available in major supermarkets, namely Delhaize and Carrefour. All 24 magazines were available in the two large public libraries that were excerpted for this study. Thus, availability to the larger public was a major reason for including the selected journals in our corpus. The two public libraries were purposefully chosen because of their large collections of educational popular magazines. Unfortunately, the approached publishing houses were unwilling to provide us with a copy of each magazine published within the set period, which also implies that not all best-selling magazines could be studied. 45.7% of the articles were published in Flemish magazines, 54.3% in Dutch magazines. The corpus includes magazines with a focus on health topics, but also publications that emphasize science, fashion, lifestyle, parenthood, current events, and philosophy. Of the researched articles, 34 articles (42%) originated from magazines with a focus on health, and 47 articles (58%) were from magazines with a more general focus. All articles focus on the spectrum of light versus major depression.

2.2. Data collection

2.2.1. Unit of analysis and interrater reliability

Texts on depression were the unit of analysis. These texts could be short (about half a page) or longer (up to several pages long). The researcher and the student researcher coded a random sample of eight texts (= 10% of the full sample) using the coding instrument (cf. *infra*). Interrater reliability was high for many items (see Table 1) already when applying the tool the first time, also because the CCI comes with a clear user's guide. Any disagreement was easily resolved by further clarifying the evaluation criteria. An example of a statement where some disagreement existed at first was 'Is the nature of the risk explained?', where one reviewer would assess the extent to which this had been done somewhat differently from the second reviewer. Once it was clear how each criterion was to be scored, all further scoring was done by the research assistant only.

2.2.2. Instrument

Given that we regard the articles included in the corpus as materials that can potentially educate patients about depression, we opted to use an

Table 1
Kappa values for each item of CCI Index Scoring sheet on first scoring the articles.

| Item CCI | Kappa |
|---|--------|
| Does the material contain one message statement? | 0.7960 |
| Is the main message at the top, beginning, or front of the material? | 1.0000 |
| Is the main message emphasized with visual cues? | 1.0000 |
| Does the material contain at least one visual that conveys or supports the main message? | 0.7820 |
| Does the material include one or more calls to action for the primary audience? | 1.0000 |
| Do both the main message and the call to action use the active voice? | 1.0000 |
| Does the material always use words the primary audience uses? | 0.6740 |
| Does the material use bulleted or numbered lists? | 1.0000 |
| Is the material organized in chunks with headings? | 1.0000 |
| Is the most important information the primary audience needs summarized in the first paragraph or section? | 0.7400 |
| Does the material explain what authoritative sources, such as subject matter experts and agency spokespersons, know and don't know about the topic? | 1.0000 |
| Does the material include one or more behavioral recommendations for the primary audience? | 0.6160 |
| Does the behavioral recommendation(s) include specific directions about how to perform the behavior? | 0.6120 |
| Does the material always present numbers the audience uses? | 0.6240 |
| Does the material always explain what the numbers mean? | 1.0000 |
| Does the audience have to conduct mathematical calculations? | 1.0000 |
| Does the material explain the nature of the risk? | 0.6520 |
| Does the material address both the risks and benefits of recommended behaviors? | 1.0000 |
| If the material uses numeric probability to describe risk, is the probability also explained with words or a visual? | 1.0000 |
| Mean | 0.8248 |

analysis tool destined to assess the quality of patient education materials. Of the different tools available (e.g., PEMAT [14,15], DISCERN [16]), we gave preference to the Clear Communication Index (CCI¹). The main strength of the CCI is that the criteria of this analysis tool evaluate the different quality dimensions we were interested in, namely understandability, actionability, and reliability. Also, the way in which the CCI checks the quality of health information is flexible. Indeed, the four open-ended questions make the instrument suitable for the analysis of materials for different target groups while the use of Yes/No questions ensures that the material is assessed in an objective manner [17]. In their study, Baur and Prue [17] described how the validity of the CCI was substantiated with an online survey administered to 870 American adults aged eighteen years and older. Subjects were shown one of three original texts or a variant of these texts that were modified using the CCI. The three original texts scored an average of 30% on the CCI while the three modified versions scored at least 90%. Thus, the survey showed that the instrument can be used to assess and improve the quality of health-related texts.

The CCI, developed by the Center for Disease Control and Prevention (CDC) [17-19], comes with clear guidelines on how to assess the level of applicability of each quality criterion and interpret the scores. It contains 4 introductory questions and 20 items, divided into three optional categories, that may or may not be applicable to the materials under study, and one category (Part A) that applies to any kind of written patient materials.

According to the CCI, the first task to be completed when assessing the quality of patient materials is "Identify your primary audience, their health literacy skills, your primary communication objective, and main message. You must know these 4 pieces of information to score the material accurately."

This testifies to the importance the tool attaches to 'audience awareness' and 'audience adaptation', in particular, taking account of the readership's health literacy skills. Yet, when no information is available on the audience's health literacy skills, the CCI scoring sheet indicates that you can "assume average to low health literacy skills" [20]. Unfortunately, in Belgium, no data on 15-year-olds (health) literacy skills are available, apart perhaps from the recent PISA results that indicate that Belgian students' reading skills have deteriorated between 2015 and 2018. Additionally, it should be possible to summarize the materials' main objective (e.g., describe, warn, incite to action) and the main message. Next, the questions in Part A (1–11) inquire into the presence of the main message and a call for action, the level of difficulty of the language used, the clarity of the information design, and whether the current scientific evidence-base regarding the illness is reflected in the materials. The questions in part B (12–14) ask about the presence of behavioral recommendations, the explanation of their purpose, and the presence of specific directions given. The questions in part C (15–17) specifically look at numbers, their presence, clarity, and explanation, and also at whether the reader is expected to make calculations. Finally, the questions in part D (18–20) address the way in which the materials approach the communication of risks: are risks explained? Do the materials address risks and benefits involved in particular behaviors? When the probability of risks is mentioned, are the probability data explained with the help of language or visuals? Applying CCI yields a percentage that is calculated on the basis of the scores obtained for the questions that were considered applicable to the analyzed materials.

3. Results

In total, 18 of the 81 articles scored 90% percent or higher on the CCI. That is, 22.22% or one out of five articles examined according to the CCI standards can be considered 'of sufficient quality given their aim to educate patients.

As can be seen from Table 2, 66.66% of these articles were published in Flemish magazines and 33.33% in magazines from the Netherlands. Half of the quality articles on depression were from journals for a predominantly

Table 2

Division of high-quality articles over subgroups, means, standard deviations, and results of *t*-tests.

| | | | | |
|---------------|-----|-----------------------|----------------|------------------|
| Flemish | 66% | M = 81.86; SD = 10.36 | t(79) = 22.295 | <i>p</i> < 0.050 |
| Dutch | 34% | M = 76.92; SD = 8.75 | | |
| Women | 50% | M = 77.86; SD = 9.77 | t(46) = 0.732 | <i>p</i> > 0.05 |
| Mixed | 44% | | | |
| Men | 6% | M = 79.33; SD = 10.19 | | |
| General focus | 56% | M:79.85; SD = 10.017 | t(79) = 0.795 | <i>p</i> > 0.05 |
| Health focus | 44% | M = 79.26; SD = 9.910 | | |

female target audience, 44.44% from journals for a mixed target audience, and 5.55% from journals for a predominantly male target audience. The majority of quality articles (55.55%) were from magazines with a general focus and 44.44% of quality articles were from publications with a health focus.

A *T*-test was used to check whether the average CCI scores (%) of the group of Flemish and the group of Dutch journals differ significantly. The difference between the two groups is 4.945% in favor of the Flemish journals. The *T*-Test showed that the difference between the CCI scores of the Flemish journals (M = 81.86; SD = 10.36) and the Dutch journals (M = 76.92; SD = 8.75) is significant (t(79) = 0.024; *p* < 0.050), even if it is small. This means that the Flemish articles included in the sample are of somewhat higher quality than those published in Dutch magazines.

Similarly, a *T*-Test was used to determine if the average CCI score obtained for articles from magazines with a health focus was significantly different from that obtained for articles from magazines with a general focus. The *T*-test revealed that the difference between journals with a general focus on the one hand (M = 79.85; SD = 10.017) and journals with a health focus on the other hand (M = 79.26; SD = 9.910) was not significant (t(79) = 0.795; *p* > 0.05). This means that articles published in health magazines are not of higher quality than articles published in magazines with a general focus.

Furthermore, a *T*-Test was used to investigate whether the mean CCI scores arrived at for articles from magazines for a primarily female and a primarily male target audience were significantly different. The *T*-test revealed that the difference between magazines for a primarily male target audience (M = 79.33; SD = 10.19) and a primarily female target audience (M = 77.86; SD = 9.77) was not significant (t(46) = 0.732; *p* > 0.05). From this, it follows that male and female readers have equal chances of reading understandable and actionable magazine articles.

To study the relationships between the different pillars of quality patient education materials, namely understandability (readability + comprehensibility in the CCI), action orientation, and reliability, a Pearson Correlation test was conducted in SPSS. The results of the Pearson Correlation reveal seven significant correlations. First, a significant and strong correlation exists between the CCI score and the pillar readability (r (80) = 0.506, *p* = 0.000). The same is true for the 'comprehensibility' pillar (r (80) = 0.531, *p* = 0.000), the action orientation pillar (r (80) = 0.564, *p* = 0.000), and the reliability pillar (r (80) = 0.795; *p* = 0.000).

The results also reveal that a significant, yet moderate correlation exists between 'reliability and 'action orientation' (r (80) = 0.458, *p* = 0.000), a significant but weak positive correlation between 'reliability' and 'readability' (r (80) = 0.280, *p* = 0.011), and a similarly weak and positive correlation between 'action orientation' and 'readability' (r (80) = 0.267, *p* = 0.016).

Together, these results prove that there is a strong positive correlation between the pillars understandability (comprehensibility + readability), action orientation, and reliability of the CCI scoring instrument and the overall CCI score. These results imply that an article on depression published in a popular magazine in Flanders or in the Netherlands that obtains a high total CCI score also scores highly on the different quality dimensions distinguished in the CCI, and especially on the reliability pillar. The reverse is also the case: an article from this corpus that scores lowly on the CCI will also be less readable, understandable, actionable, and less reliable.

¹ Center for Disease Control and Prevention: <https://www.cdc.gov/ccindex/pdf/full-index-score-sheet.pdf>.

4. Discussion

The central question addressed in this paper is whether the articles on depression published in popular Flemish and Dutch magazines are understandable, actionable, and reliable and whether these articles have the potential of serving as patient education materials and materials that can encourage readers to make appropriate lifestyle changes to manage their depression. Our results have shown that no more than one-fifth of all investigated articles, 81 in total, can be considered quality articles that can adequately assist readers in making sense of depressive symptoms and promote the enactment of adequate behaviors to deal with these symptoms and promote recovery.

This finding is unfortunate given that fewer than half of the patients suffering from depression receive treatment and, therefore, have to rely on other sources of information than the information given to them by healthcare providers. Given what we found, more often than not, sufferers of depression will not find accessible information in popular magazines that can assist them in making adequate health choices, such as going to see a healthcare professional or applying normal everyday routines that may help them to overcome feelings of tiredness and unworthiness which are typical depressive symptoms.

This study provides an important look at how the leading popular magazines in Flanders and the Netherlands present their audiences with health information and take account of their audience's health literacy. As demonstrated by Rondia et al. [21: 6-7], the written health literacy of a large part of the Flemish population is low. As Jorm [22] has demonstrated, the public's mental health literacy (MHL) lags behind that of their physical health literacy. People with a low MHL may not be able to recognize specific mental disorders, know of the causes of psychiatric conditions and of risk factors involved, or have knowledge of whom to turn to for professional help [23,24]. As a consequence of this, "the public does not share many of the core beliefs of clinicians with regard to treatment and etiology of mental disorders", and "clinicians may have difficulty in implementing evidence-based mental health care if patients do not believe in the interventions offered." ([25]: 400). Given this, the popular media have an important responsibility to educate the public, familiarize it with symptoms and treatment options, and convince it that help is available and that suffering can be alleviated. When the media keep repeating the same message that help is available, and that it is not shameful to feel depressed, the audience may eventually believe it may be worthwhile to turn to healthcare professionals for help.

Contrary to the abundance of health information resources online, information in popular magazines about depression is quite scarce with 81 articles identified to deal with depression in 24 magazines scrutinized over a period of three years. In other words, on average no more than one article per year per magazine is devoted to depression. The overall low number of articles found appears consistent with the idea that mental illness has long been a cultural taboo in many countries, also in the Dutch-speaking European countries under investigation here.

From this low frequency of occurrence, it follows that readers cannot be expected to learn new information since repetition and the processing of the same contents on several occasions are key to all learning. Neither can it be expected to substantially change their attitudes towards depression or their intention to visit a health professional.

Yet, when the quality of an article is high, an interested reader may thoughtfully and carefully consider the information read and make behavioral and other lifestyle changes in case of an (eminent) depression. This possibility is suggested by the Elaboration Likelihood theory [26], which distinguishes between two routes of information processing, the central and the peripheral route. The central processing route involves a deliberately high level of message elaboration in which a great amount of cognition about the arguments is generated by the individual receiving the message. In this case, the results of attitude change will be relatively enduring, resistant, and predictive of behavior. However, an individual's motivation and ability to evaluate the arguments being presented may also be low and lead to only peripheral processing without an intention to process

information deeply. This in its turn may lead to a lack of change in behavior toward alleviating the symptoms of depression. When articles are of low quality and are written above the current level of understanding of readers, readers may not feel enticed to invest efforts to process the materials along the central route.

The question of whether we can expect journalists to adapt their journalistic style to meet depressed patients' informative needs as far as the diagnosis and alleviation of depression are concerned is a tricky one. Journalists will probably adapt their style to meet the journal's selling proposition, and that is what can be expected of them. The question we can and have asked is to what extent the articles, as they stand, can be regarded as high-quality educational articles, given their understandability, readability, and actionability. It has become clear that 80% of the articles would need to be adapted if they were to take on this role. Such an adaptation could be accomplished by using essential content described with simpler terms and less complex sentences and accompanied by appropriate illustrations. Also, texts can highlight important messages via layout strategies. The understandability of popular magazine articles could be improved with the consistent inclusion of short summaries of key takeaway points. Actionability of these resources could be improved if resources more consistently broke actions down into explicit, manageable tools such as mood charting templates. Reliability could be enhanced by adding high-quality resources and expert opinions to the articles. In-text citations could be used and additional trustworthy sources could be added for readers who want to find additional information, adding to the journalistic rigor of these articles.

The study has several strengths, including a reasonably large sample size of resources ($n = 81$) and the use of a validated tool to analyze our resources. The study has demonstrated that the CCI tool that was originally developed for use within healthcare can also be used to assess the quality of journal articles dealing with mental health issues.

This study also has its limitations. The study focused on Dutch-medium resources only, which limits the generalizability of the results. The findings presented in this study only represent a relatively brief snapshot of a specific and diminishing section of the media landscape. However, magazine readers should be informed that the health advice provided by these magazines is often poorly presented and unreliable. Next, the magazines used in this study were selected purposefully based on their foci and circulation. These magazines might have less rigorous editorial standards than daily newspapers or news magazines. Hence, the findings of this study may not be generalizable to the mental health portrayals within other types of news media. We also want to repeat here that we only excerpted 24 popular magazines and not the full magazine landscape, which again reduces the generalizability of the results. In a follow-up study, it would be interesting to also gauge the target audience's characteristics in terms of literacy level or familiarity with the mental health topic in focus. In this way, an even clearer picture of the quality of articles published in Dutch medium popular magazines might arise.

5. Innovation

While prior work has examined the way in which depression is presented in popular magazines [3], this work did not focus on the (stigmatizing) portrayal of the illness, but on whether these magazines can contribute to improving readers' health management given the way in which the magazines present the information on depression. As popular magazines remain an important source of information on health-related matters, they deserve to be analyzed from the point of view of understandability, readability, and reliability since these characteristics can enhance their quality as patient education materials. This work is innovative as it has demonstrated that the Clear Communication Index, which is a tool that is often used within the healthcare system to assess the quality of, for example, hospital brochures [18], can be applied to the analysis of depression-related articles published in popular magazines.

Even if framing issues were in the background of the study [3], at the forefront were the readers who hope they can trust the information

published in popular magazines. Contrary to previous work that mainly focused on the analysis of the quality of English medium patient education texts, in this study the focus was on Dutch-medium texts published in Flanders and the Netherlands, two countries with a substantial proportion of the population who each year suffer from depression and are representative of other European countries [13]. The design of the study allowed us to compare the quality of different types of magazines, demonstrating that magazines with a health focus do not score better than magazines with a general focus. In other words, patients are not better served by a health magazine than by a general magazine when looking for reliable health information.

6. Conclusion

Evaluating the quality of articles on depression published in popular magazines is imperative in the current context in which only about half of the population suffering from depression actually have access to healthcare professionals. Popular magazines deserve our attention since they are a source that is still accessed regularly by large parts of the population.

We have found that only about 20% of articles on depression published in Flemish and Dutch popular magazines between 2017 and 2020 meet the criteria of quality patient educational materials, indicating that the reliability, understandability, and actionability of these materials are low. Overall, our findings point to the need to improve the accessibility of these articles to people with lower literacy levels.

In order to maximize the use of mass media with the goal of promoting actionability among patients suffering from depression, we should enrich our knowledge on the topic. To this end, it is important, initially, to determine how the readership understands their illness, and to define how different genres of mass media can influence the readership, given these representations. The variety of magazines too should be examined with respect to their force to create and reinforce mental illness stigmas as well as their contribution to their reduction.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or non-for-profit sectors.

Declaration of Competing Interest

The author reports no conflicts of interest.

Acknowledgment

The author wished to thank Amelie Cuppens for her help in data collection and analysis for this study.

References

- [1] WHO (World Health Organization). Depression. Retrieved from: <https://www.who.int/news-room/fact-sheets/detail/depression>. [accessed 8 June 2022].
- [2] Lipari M, Berlie H, Saleh Y, Hang P, Moser L. Understandability, actionability, and readability of online patient education materials about diabetes mellitus. *Am J Health Syst Pharm*. 2019;76(3):182–6. <https://doi.org/10.1093/ajhp/zxy021>.
- [3] Yang Y, Tang L, Bie B. Portrayals of Mental Illnesses in Women's and Men's Magazines in the United States. *J Mass Commun Q*. 2017;94(3):793–811. <https://doi.org/10.1177/1077699016644559>.
- [4] Blixen C, Perzynski A, Bukach A, Howland M, Sajatovic M. Patients' perceptions of barriers to self-managing bipolar disorder: a qualitative study. *Int J Soc Psychiatry*. 2016;62(7):635–44.
- [5] Suter ND, Iuppa CA, Nelson LA, Kriz CR, Gramlich NA, Lang SE, et al. Assessing the understandability, actionability, and quality of online resources for the self-management of bipolar disorder. *Mental Health Clin*. 2022;12(1):1–8. <https://doi.org/10.9740/MHC.2022.01.001>.
- [6] Rathod P, Ould Brahim L, Belzile E, Lambert S. An evaluation of the suitability, readability, and quality of online resources for the self-management of depression. *Patient Educ Couns*. 2019;102(5):952–60. <https://doi.org/10.1093/her/cym0281>.
- [7] Wilson A, Smith D, Peel R, Robertson J, Kypri K. A quantitative analysis of the quality and content of the health advice in popular Australian magazines. *Aust N Z J Public Health*. 2017;41(3):256–8. <https://doi.org/10.1111/1753-6405.12617>.
- [8] Stuart H. Media portrayal of mental illness and its treatments: what effect does it have on people with mental illness? *CNS Drugs*. 2006;20(2):99–106. <https://doi.org/10.2165/00023210-200620020-00002>.
- [9] Sieff E. Media frames of mental illnesses: the potential impact of negative frames. *J Mental Health (Abingd, Engl)*. 2003;12(3):259–69. <https://doi.org/10.1080/0963823031000118249>.
- [10] Tobin G, Lyddy F. Media representation of depression in young people: a corpus-based analysis of Irish newspaper coverage. *Ir J Psychol Med*. 2014;31(1):21–30. <https://doi.org/10.1017/ijpm.2013.64>.
- [11] Integrative Life Center (s.d.). Media and the Portrayal of Mental Illness Disorders. <https://integrativelifecenter.com/media-and-the-portrayal-of-mental-illness-disorders/>. (accessed 8 June 2022).
- [12] Schoemaker SJ, Wolf MS, Brach C. The Patient Education Materials Assessment Tool (PEMAT) and User's Guide. https://www.ahrq.gov/sites/default/files/publications2/files/pemat_guide_0.pdf; 2014.
- [13] Statistiek Vlaanderen. <https://www.vlaanderen.be/statistiek-vlaanderen/gezondheids-en-welzijn/psychische-stoornissen>. (accessed 22 September 2022).
- [14] Schoemaker SJ, Wolf MS, Brach C. Development of the patient education materials assessment tool (PEMAT): a new measure of understandability and actionability for print and audiovisual patient information. *Patient Educ Couns*. 2014;96(3):395–403. <https://doi.org/10.1016/j.pec.2014.05.027>.
- [15] Charnock D, Shepperd S, Needham G, Gann R. DISCERN: an instrument for judging the quality of written consumer health information on treatment choices. *J Epidemiol Community Health*. 1999;53(2):105–11. <https://doi.org/10.1136/jech.53.2.105>.
- [16] Baur C, Prue C. The CDC clear communication index is a new evidence-based tool to prepare and review health information. *Health Promot Pract*. 2014;15(5):629–37. <https://doi.org/10.1177/1524839914538969>.
- [17] Centers for Disease Control and Prevention. CDC clear communication index: A tool for developing and assessing CDC public communication products. User Guide. <https://www.cdc.gov/ccindex/pdf/ClearCommUserGuide.pdf>; 2013.
- [18] Doak C, Doak LG, Root JH. Teaching patients with low literacy skills, Lippincott; 1985..
- [19] Outwrite. <https://support.outwrite.com/article/80-what-are-the-grade-level-and-readability-statistics>. (accessed 23 September 2022).
- [20] Centers for Disease Control and Prevention. CDC Clear Communication Index Score Sheet. Retrieved from: <https://www.cdc.gov/ccindex/pdf/full-index-score-sheet.pdf>; 2014. (accessed 8 June 2022).
- [21] Rondia K, Adriaenssens J, Van den Broucke S, Kohn L. Health literacy: what lessons can be learned from the experiences of other countries? [Gezondheidsgeletterdheid: Welke lessen trekken we uit de ervaring van andere landen?]. Federaal Kenniscentrum Gezondheidszorg (KCE). 2020:1–34.
- [22] Jorm AF. Mental health literacy: empowering the community to take action for better mental health. *Am Psychol*. 2012;67(3):231–43. <https://doi.org/10.1037/a0025957>.
- [23] Clausen W, Watanabe-Galloway S, Bill Baerentzen M. DH Britigan, health literacy among people with serious mental illness. *Community Ment Health J*. 2016;52(4):399–405. <https://doi.org/10.1007/s10597-015-9951-8>.
- [24] Jung H, von Sternberg K, Davis K. Expanding a measure of mental health literacy: development and validation of a multicomponent mental health literacy measure. *Psychiatry Res*. 2016;243:278–86. <https://doi.org/10.1016/j.psychres.2016.06.034>.
- [25] Jorm AF. Mental health literacy: public knowledge and beliefs about mental disorders. *Br J Psychiatry*. 2000;177(5):396–401. <https://doi.org/10.1192/bjp.177.5.396>.
- [26] Petty RE, Cacioppo JT. Attitudes and persuasion – Classic and contemporary approaches. Dubuque, Iowa: W.C. Brown Co. Publishers; 1981.