



Research Article

An Innovative Tool to Assess the Literary Parameters of a Health Story-Literary Devices Assessment Scoring' (LDAS) Tool

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Abstract | Health story development is an emerging technique that seeks behavioral changes in the patients to achieve health targets. There are many challenges one may face while developing a story for health communication. A big challenge usually faced by a health story writer or developer while compiling the story maybe being evidence-based vs. staying true to the story. While understanding literary elements are essential for a health story and while there are numerous tools available to evaluate the scientific evidence presented in health story, no tool is available that can assess the literary parameters of a health story. Therefore, the present study aimed to develop and validate an innovative tool that may be used for the assessment of a health story for its literary attributes. Following a comprehensive literature search, an initial twenty-one-item scale was developed and was subjected for content validation to a panel of experts (n=30). The pre-validation version of the scale contained 21 items. However, the final version of the scale was reduced to 15 items as six items were removed and/or merged together. Content validity index showed that the “item content validity-index” (I-CVI) and the “scale content-validity index” (S-CVI) were $\geq 80\%$ each. In addition, the Cronbach’s alpha value was 0.8. These results suggest a satisfactory reliability co-efficient of the scale. Based on I-CVI, S-CVI and Cronbach’s alpha values, the scale that was developed and validated in the present study for the assessment of literary quality of the health story is a reliable scale.

Received | August 06, 2023; **Accepted** | November 07, 2023; **Published** | December 28, 2023

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Citation | Alam, I., S. Ali, A.A. Shad, A. Tahmeed, H. Nawaz, S. Bakht and M. Farooq. 2023. An innovative tool to assess the literary parameters of a health story-literary devices assessment scoring' (LDAS) tool. *Journal of Innovative Sciences*, 9(2): 236-241.

DOI | <https://dx.doi.org/10.17582/journal.jis/2023/9.2.236.241>

Keywords | Health storytelling, Literary devices, Scale, Tool, Pakistan



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1. Introduction

In health education and communication, health narratives and stories emerge as useful tools. It has been demonstrated that an effective method of disease management is to learn about and manage the disease by exchanging knowledge and sharing experiences with other patients who have been through the same illness (Wieland *et al.*, 2017). It requires interaction between the relater and the listener, making it easier for the listener to conceptualize and generate more useful ideas (Wieland *et al.*, 2017; Njeru *et al.*, 2015; Yi-Frazier *et al.*, 2015; Bertera, 2014). Along these lines, patients would profit from sharing their wellbeing related encounters. This may result in the acquisition of brand-new skills, techniques, or knowledge. The utilization of narrating might have the option to dispose of the shame related with having an infection by encouraging an organization of trust and uniformity among members and giving a method for articulation. Storytelling also has the potential to break resistance to health-promoting messages (Goddu *et al.*, 2015).

Storytelling is an old practice known in all civic establishments from the beginning of time. Customarily, Pakistanis love telling and paying attention to stories (Besio, 2005; Narayan and George, 2003; Saeed, 2015). As a result, we hypothesized that T2D disease management would benefit from a health-related narrative. The desire of healthcare education to access stories that offer insights into healthcare experiences is distinct from the desire of generic or managerial education storytelling to communicate organizational norms and values. Subsequently, it is fitting to consider how narrating can be utilized to pass on wellbeing messages and draw in assistance clients as of now. The use of stories and storytelling as a communication tool in healthcare or health promotion is the subject of a growing body of literature; nonetheless, there are not many records that portray how the intercessions were created, including how the end-client bunch gave input (Hartling *et al.*, 2010). Although one review emphasized the need for developmental testing, the authors noted that this is frequently impractical due to limited resources and time (Hartling *et al.*, 2010; Slater *et al.*, 2003). Developing the narrative without understanding how it is received often requires a disproportionate amount of effort has been mentioned by other individuals (Petraglia, 2007).

Patients can be educated in a unique way through healthy storytelling. Policymakers and healthcare administrators should think about using storytelling materials with catchy titles to meet the needs of diabetic patients and the public to reduce the amount of misinformation and gaps in the facts. It is essential for healthcare providers to comprehend the characteristics of these stories and be aware of potential sources of misinformation due to the frequency with which patients utilize story traditions for healthcare information. Interventions that encourage people with diabetes to tell their own stories and allow them to speak in their own words are called storytelling. Culturally tailored stories have been used to change health behaviors among ethnic minority populations as an intervention (Hinyard and Kreuter, 2007; Greenhalgh *et al.*, 2011; Wilson *et al.*, 2005; Houtson *et al.*, 2011).

Health story writing is a challenging job, particularly, when it comes to the literary value of a story that makes the story attractive and catches the attention of its readers. We anticipate that the information will be useful not only for future storytelling research but also for identifying and developing strategies for communicating with healthcare consumers as a whole (Scot *et al.*, 2009).

2. Materials and Methods

We conducted a comprehensive literature search using online search engines. The search was focused to find studies related to the literary characteristics of stories in general and health stories, in particular. We compiled a total of twenty-one items for the draft tool after reviewing the questionnaires, scales, and tools used in the published literature. In the wake of eliminating duplications and immaterial things and developing new things we combined a sum of 15 items. These items were not divided into domains as each item was unique and any two or more items could not be put in the same domain. Hence all the 15 items were treated separately during the further statistical analysis.

2.1 Tool validation

As a result, the prepared tool underwent content validation. The validation team consisted of 30 experts, including community health-care providers, nutritionists, dietitians, doctors who practice community medicine, academics and researchers

from the nutrition practice department, and public figures. The tool was given to team members, and the purpose and validation procedure were explained to them. According to Yaghmaee (2003) four-point scale, team members were asked to validate each tool item for relevance, clarity, simplicity, and ambiguity.

2.2 Statistical analysis

Data were fed in computer using excel spreadsheets. Then data was transferred to SPSS software (version 24.0) for further analysis. Cronbach’s alpha (coefficient of unwavering quality) was used for the evaluation of content validity index (CVI), where a value of 0.8 was considered adequate/satisfactory. Thus, any item/overall scale achieving this value was evaluated as satisfactory.

3. Results and Discussion

The tool was validated by 30 experts, 28 from the health sciences and 22 from non-health sciences. Table 1 shows some characteristics of the study participants.

Table 1: provides the basic characteristics of the experts.

Demographics		Frequency (%)
Mean (std) age of participants in years	42.3 (10.45)	-
Gender (%)	Female	10 (33.3)
	Male	20 (66.7)
Academic qualification	PhD	5 (16.7)
	MPhil	10 (33.3)
	MSc	15 (50.0)
Specialization	Nutrition	10 (33.3)
	Health sciences	12 (40.0)
	Medical doctors	8 (26.7)
Years of experience	5-10 years	2 (6.7)
	10-15 years	18 (30.0)
	>15 years	10 (33.3)

As shown in Table 2 for each item in each of the three domains, an estimate of the item-content validity index (I-CVI) was made. In terms of relevance, clarity, simplicity, and ambiguity, the I-CVI scores for some were initially found to be unsatisfactory. I-CVI was again assessed after we rephrased the full description of these items to make them clearer, simpler, and free of ambiguity. In the second phase of approval, the I-CVI scores were viewed as acceptable ($\geq 80\%$) for all the items of the tool. Additionally, we evaluated the final scale’s Cronbach’s alpha, and the overall score was greater than 0.8.

Health stories are developed by professional writers to engage patients to adhere to health advice, guidelines, prescriptions and recommendations. Health story writing for health communication purposes is not that much simple because a health story is much different from a common fiction story. Beside strictly adhering to the modern scientific facts presented in a story, it is also essential to take care of literary elements while compiling a health story. Without literary elements, there would be no literature and without no literature a health story is likely to be not catchy enough to attract the readers and make them believe in the contents presented in the story. While understanding literary elements are essential for a health story and while there are numerous tools available to evaluate the scientific evidence presented in the story, no tool is available that can assess the literary parameters of a health story.

This scale created and approved in present review reflects four significant parts of any appraisal instrument: Importance of the device to survey or gauge what is expected to be estimated; thing lucidity for the assessor; less complex things that can be figured out by the assessor; what’s more, things that can stay away from ambiguities while assessing the parts (Shariff et al., 2021). With regards to significance, clearness, straightforwardness, and uncertainty, the assumptions and fulfillment things got an I-CVI score of 80% during the primary period of the approval cycle. Content legitimacy is how much the components of an appraisal instrument are illustrative of the designated develop (Shariff et al., 2021). The I-CVI scores for clearness, effortlessness, and uncertainty were very low, notwithstanding the way that the discernment space things got a good pertinence score. Here, the things’ clarity found the middle value of around 2, showing that they require some change. Thusly, the things’ run of the mill scores for vulnerability and ease were under 3.0 which recommended that the instrument things are clear yet needs some/minor update. A subsequent approval stage was completed following the rewording of the insight space things to make them more clear, easier, and without any trace of equivocalness. The individuals from the approval group were given the refreshed or adjusted apparatus and requested to approve it. The I-CVI scores were moreover advanced after the things were changed or patched up. All things in every one of the three spaces got a palatable score of 80% concerning significance, clearness,

Table 2: Details the I-CVI scores for each phase as well as the Cronbach’s alpha score for the final version of the scale. Literary devices assessment scoring’ (LDAS-Tool).

Short description	Full description	Relevance	Clarity	Sim- plicity	Ambi- guity
Allusion	There is substantial material that connect the reader to the story	3.25 (96.5)	3.95 (97.5)	3.46 (86.5)	3.49 (87.2)
Diction	There is a lot of material that explains the writer's choice of words or style in order to convey the message.	3.93 (97.5)	3.25 (82)	3.79 (94.7)	3.89 (97.2)
Alliteration	There is a lot of material that begins words with the same letters or sounds in a sentence or title.	3.91 (97.2)	3.95 (97.5)	3.46 (86.5)	3.49 (87.2)
Allegory	There is significant material that shows that theoretical thoughts are portrayed utilizing characters, occasions, or different components.	3.63 (88.2)	3.30 (82)	3.80 (94.7)	3.89 (97.2)
Colloquialism	There is significant material that shows articulations, words, and expressions that are utilized in casual, regular discourse, including shoptalk.	3.93 (97.5)	3.95 (97.5)	3.46 (86.5)	3.49 (87.2)
Euphemism	“There is a lot of evidence that any terms that mean something rude or unpleasant actually exist.”	3.91 (97.2)	3.28 (82)	3.70 (94.5)	3.89 (97.2)
Flashbacks	In order to provide additional context for the story, substantial material depicts the narrator going back in time for a particular scene or chapter.	3.63 (88.2)	3.21 (80)	3.95 (98.5)	3.98 (99.5)
Foreshadowing	There is significant material that shows the writer places components inside the composing that gives hints about what will occur coming soon for the story	3.91 (97.2)	3.91 (97.2)	3.28 (82)	3.91 (97.2)
Imagery	There is a lot of evidence that you should use figurative or visually descriptive language in your writing.	3.63 (88.2)	3.63 (88.2)	3.21 (80)	3.63 (88.2)
Juxtaposition	There is a lot of evidence that "human-like qualities to non-human elements" exist.	3.93 (97.5)	3.95 (97.5)	3.46 (86.5)	3.49 (87.2)
Metaphor/simile	There is a lot of material that shows juxtaposing opposing elements, such as words, scenes, or themes, to emphasize one or both.	3.91 (97.2)	3.28 (82)	3.79 (94.7)	3.89 (97.2)
Personification	There is significant material that shows correlations used to make better explanation and understanding for peruses.	3.93 (97.5)	3.95 (97.5)	3.46 (86.5)	3.49 (87.2)
Onomatopoeia	There is a lot of information about the word or phrase that tells you how something sounds.	3.91 (97.2)	3.28 (82)	3.79 (94.7)	3.89 (97.2)
Symbolism	There is significant material that shows there is significant material that shows utilization of a circumstance or component to address a bigger message, thought, or idea.	3.63 (88.2)	3.21 (80)	3.95 (98.5)	3.98 (99.5)
Tone	There is a lot of material that shows how the narrator feels or thinks about what is written.	3.95 (98.0)	3.95 (97.5)	3.46 (86.5)	3.49 (87.2)

straight forwardness, and staying away from uncertainty. Moreover, to get a handle on the level of plan among experts regarding the gadget’s endorsement, we surveyed Cronbach’s alpha. For every one of the four measures, Cronbach’s alpha was 0.8 for all things. The 15-thing scale that was created and approved will be a valuable examination instrument for assessing wellbeing stories produced for the consideration of non-transmittable infection patients.

Any story developed should be literary stronger enough to catch the attention of its readers. Because health stories are purely with scientific approach and are based on scientific data, there is always a concern that these stories may lose their literary beauty and

thus may be less effective in health information communication. Therefore, any such story developed must undergo a strict evaluation to check its literary value. A writer uses a technique called a literary device to convey their thoughts and hint at larger themes and meanings in a story. These devices help readers connect with the themes of the characters and enhance the writing, strengthen the narrative, and engage them. Literary devices come in many different styles, and most are used together; Some are used at the sentence level to check flow and pacing, while others are used to serve the story as a whole and are broader. An author’s writing and the experience of the reader can both be significantly enhanced by mastering various literary devices and maximizing their impact. In the present scale, 15 most common

literary devices were chosen by the health story experts for evaluation of any health-story. These items are allusion (Karimova, 2023), Diction (Robinson, 2017), Alliteration (Rendsburg, 2008), Allegory (Gibs, 2020), Colloquialism (Nezami, 2012), Euphemism (Dupries, 1991), Flashbacks (Dallacqua, 2012), Foreshadowing (Karn, 2011), Imagery (Forti, 2020), Juxtaposition, Metaphor/simile, Personification, Onomatopoeia, Symbolism, and Tone (Dupries, 1991).

Conclusions and Recommendations

A comprehensive and methodically developed scale has been rigorously validated to appraise the overarching literary excellence within health stories. This refined tool has showcased exceptional reliability, affirming its prowess in effectively gauging the intrinsic literary attributes that define health narratives.

Acknowledgement

We sincerely thank Nutrition Education Awareness and Training (NEAT: Cooperative Society, Charsadda, KP) for its support in conducting this study and the authors of some previous research work (Alam et al., 2022; Ali et al., 2023) for their technical assistance taken from their work.

Novelty Statement

The present study is the first to develop and validate a tool for evaluation of literary characteristics of a health story.

Author's Contribution

Iftikhar Alam: Conceptualization of study design, methodology and data collection, formal statistical analysis, and writing-original draft of the manuscript. Aneela Tahmeed, Hafsa Nawaz, and Muhammad Farooq: Help in methodology and data collection, review of the manuscript draft and final corrections.

Conflict of interest

The authors have declared no conflict of interest.

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