Awareness about covid-19 among disabled population through government web portals- a critical analysis

Lakshmi Krishnan[1*], P. D. Madan kumar[2]

[1]PG student, Public Health Dentistry, Ragas Dental College and Hospital, Chennai-119, Tamil Nadu, India
[2]Professor and Head, Public Health Dentistry, Ragas Dental College and Hospital, Chennai-119, Tamil Nadu, India
E-mail: lakshmi.krish24@gmail.com, madankumar21@yahoo.co.in
* Corresponding Author

Abstract
Background
There are more than one billion people living with disabilities (PLWD) worldwide. The corona virus disease 2019 (COVID-19) pandemic is likely to disproportionately affect these individuals, putting them at risk of increased morbidity and mortality. Across the globe various strategies has been adopted to communicate to these special population to ensure they maintain respect for "dignity, human rights and fundamental freedoms.
Objective
The current paper has critically analyzed the web portals of various countries for creating awareness on COVID-19 among disabled people.
Methodology
Six countries (Brazil, US, India, Italy, Iran and China) representing the six regions of WORLD HEALTH ORGANISATION with highest COVID 19 toll were chosen. The Ministries of Disability website of each country was thoroughly analyzed for the content on COVID 19 awareness for disabled population using a 5 point Likert scale developed by Tarafdar & Zhang.
Results
All the countries had emphasized on symptoms of COVID-19 and hand washing method in either plain textual form or through info graphics, with three countries additionally using Videos for the same. Two countries had attempted to provide information in more than one language.
Conclusion
All the countries included in the study have used different modalities to deliver their thoughts on COVID-19 to disabled population emphasizing the need to preserve our commitment to universal health care, and ensure people living with disabilities are not forgotten.

1. Introduction

Currently the entire world is facing a pandemic threat in the name of COVID-19 or CORONO virus disease. In early 2020, after a December 2019 outbreak in China, the World Health Organization identified SARS-CoV-2 as a new type of corona virus which is similar to MERS and SARS that can trigger an intense respiratory tract infection. The outbreak quickly spread around the world. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment [1].

While the COVID-19 pandemic threatens all members of society, persons with disabilities are disproportionately impacted due to attitudinal, environmental and institutional barriers that are reproduced in the COVID-19 response. Many persons with disabilities have pre-existing health conditions that make them more susceptible to contracting the virus, experiencing more severe symptoms upon infection, leading to elevated levels of death. During the COVID-19 crisis, persons with disabilities who are dependent on support for their daily living may find themselves isolated and unable to survive during lockdown measures [2]. In some preliminary studies, the number of deaths in among disabled population represented from 42% to 57% of all COVID-19 deaths in certain countries. Persons with disabilities face heightened risk of contracting COVID-19 due to underlying health conditions, difficulty in enforcing social distancing amongst residents and caregivers [3].

Barriers for persons with disabilities in accessing health services and information are intensified due to the lockdown measures. Awareness of these risks leads to better responses that can allay the disproportionate impact experienced by persons with disabilities.

Across the globe various strategies has been adopted to communicate to these special population to ensure they maintain respect for "dignity, human rights and fundamental freedoms. One such methodology which is considered to be an accessible communication platform among the disabled is the social media and web portals than TV and radio [4].Majority of the disabled find verbal, hearing and writing as difficult mode of communication owing to their unfavorable pre-existing medical conditions. Thus social media / web portals seem to be a refreshing arena for the disabled population as they find this mode of communication as an opportunity to interact with outside world. Usage of internet has seen a paramount increase among the disabled population over the last decade from 3% to 62%, they use internet for socializing without going outside, use it to develop business, education purpose, obtain information about the affairs of the outside world [5].

At this point of time, where the whole world is facing the crisis of pandemic situation, it becomes important that the COVID-19 mitigation strategies must be inclusive of the disable population and avoid widening existing disparities.

With this background, the current paper was formulated with an aim to critically analyze the contents of web portals in term of quality of the modalities used by countries experiencing raise in Covid-19 cases for creating awareness on COVID-19 among disabled people.

2. Materials and method

Six countries (Brazil, US, India, Italy, Iran and China) representing the six regions of WORLD HEALTH ORGANISATION with highest COVID 19 toll and increase in disabled population were chosen [6]. The Ministries of Disability website of each country was thoroughly analyzed for the content on COVID 19 awareness for disabled population using a 5 point Likert scale developed by Tarafdar & Zhang [7]. This specially designed scale was developed that consisted of following categories: information content, usability, customization, authenticity, target population, modalities used to represent the information. (Table 1). To evaluate the accuracy and correctness of each item within the respective category a score (0-5) was given to each information unit, score 5 being accurate and complete, score 3 partially accurate and score 0 inaccurate/ inadequate. The analysis was performed by two calibrated persons (LK and MK) who yielded an inter-rater reliability of 0.8(good agreement). To evaluate the overall qualitative analysis of all information in the website, a level score index (LSI) was obtained using scale proposed Amran et al[8].(Table 2)

Table 1 indicating the details of the scale developed by Tarafdar and Zhang [7]

Table 2 represents the overall rating scale proposed by Amran et al[8]

Table-1: Indicating the details of the scale developed by Tarafdar and Zhang

Domain	Explanation
Information content	Subject Knowledge
Usability	Ease of access / navigation
Customization	Language usage
Authenticity	Credibility of the information
Target Population	Coverage of Different disabilities
Modalities present	Various health education aids

Table- 2: Represents the overall rating scale proposed by Bahry et al

Star rating	Definition of web portals
1	Static working website with minimum information
2	Working website with array of information
3	Dynamic website with combination of information and limited services
4	Interactive portal between government and user
5	Engaging portal with various options offered from interaction to online services.

3. Results

All of the countries analyzed had made efforts to address the disabled population on Covid-19 awareness. Among them two countries (Africa and America) had used social media platform such as Facebook and Twitter to share their facts and

figures. Majority of the countries have focused on a single disability (intellectual) where as India had covered Visual, Hearing Impairment, Autism and ADHD in addition to Intellectual Disability. With regard to usability of information except China rest had ease of access in terms of navigation of information. Details about Covid-19 was highlighted and appeared with "new" tag in all the websites. Preventive measures of Covid-19 were the core content in all the displays. In addition India had indicated methods to engage disabled population during the lockdown times. Various health communication modalities were utilized by the countries, among them Africa and India had used info graphics and video for presenting the information on Covid-19. Apart from these, India had other notable techniques such as VAKT, Braille script to highlight the effects of Covid-19. Rest of them had used plain text message with few pictures. Africa and China had used predominantly English language in exhibiting their information whereas India and Iran had their content in regional languages as well. Italy was the only country to deploy sign language to display its information. Overall the quality of information in each website had a 2 star rating. (Table 3).

Table- 3: Representing the characteristics of study variables in each country

Domain	Brazil	America	India	Italy	Iran	China
% of disabled population Most common disability type seen	22% Visual Impairment	26% Movement disability	2.4% Movement disability, Hearing Impairment	12.7% Hearing Impairment	15% Intellectual disability	19.7% Movement Disability
Information Content	3	4	5	4	4	3
Usability	3	3	4	4	3	2
Customization	2	3	3	3	1	1
Authenticity	4	4	4	4	4	4
Population addressed	Intellectual Disability	Intellectual Disability	Autism Intellectual Disability Hearing Impaired Visually Impaired ADHD	Hearing Impaired Intellectual Disability	Intellectual Disability	Not specific
Modality used	Twitter- Infographics Video- Single language	Facebook -Plain information in different languages	Website- Infographics, Video, VAKT technique. Braille script- Hindi and English language	Website- video- plain text information and sign language on hand washing	Website- Plain text in regional language	Website- Plain text with less pictures
Overall rating	2	2	2	2	2	2

4. Discussion

Health communication has been recognized to be a foremost influential tool for improving and promoting health. In a substantial body of the health communication literature, people make a common assumption that the major reason of health disparities is the lack of information due to communication inequalities [9].This assumption is more explicit among the differently abled population [10]. Mass media play significant roles in changing health related beliefs, attitudes, and behaviors and in promoting knowledge among targets audience. Griffiths et al. stated that people seek health information

from different types of resources, which are intrapersonal, interpersonal, and mass media [10]. Evidences show that majority of differently abled people rely on the internet for their health related information due to its quick, ease and wide coverage [5]. Bryant and Thompson have suggested that social media coverage of health matters has the potential to shape the impression of average citizens and powerful policy makers alike [12].

This study chose portals of Government with the assumption that the information provided by them are accurate with supportive evidence base so that people can judge what is appropriate and which assists or supports correct and appropriate health behaviors. Access at any point and anywhere were important characteristics of websites and also usage of web portal as source of information has increased among the differently abled population [5] .Thus this article aimed at critically analyzing the information displayed in these portals.

The six countries chosen were representative of WHO regions (African, Region of America, South East Asia region, European region, Eastern Medetarriean region, Western Pacific Region) which had increasing Covid-19 cases as well as increasing disabled population. Countries with Higher disability rates having less Covid-19 cases and vice versa were not considered since the priority of the ministries would vary in such situations and would cause bias to the study findings.

Findings of current study represented web portals have indeed played a significant role in delivering messages across the disabled population. Different measures of delivering information were adopted by each country to reach out to their differently abled population. Italy had used sign language to deliver the message of hand washing techniques as hearing impairment forms the most common type of disability in their country.

Among the countries analyzed India had least representation of disabled population yet had used varied methodologies to deliver information about Covid-19 through different techniques.

The web portals had relatively adequate inclusion of contextual information such prevention methods, facts and figures on Covid mortality, ways to engage the disabled population during the lockdown times. However, with regard to interactive questions or FAQs none of them had such a platform in their portals thereby by reducing the interaction. Overall the method of disseminating the health information to the disabled population was less than average indicating the need to adopt newer advanced information technology by the respective governments.

5. Conclusion

The impact of health promotion can be made very powerful within the community with appropriate dissemination of health information through mass media especially internet and social platforms. The current era being a revolution in the field of Information technology with every aspect of health supported by a mobile application, absence of exclusive application pertaining to disabled health is a growing concern to be looked upon.

Also, this study indicated a need to increase the quantity and quality of health information delivered by incorporating interactive portals or discussion forums to help the disabled population understand the health problems in a better way.

References

i. Ahmad S, Hafeez A, Siddqui SA, Ahmad M, Mishra S.(2020). A Review of COVID-19 (Coronavirus Disease-2019) Diagnosis, Treatments and Prevention. EJMO. 4:116–125.

ii. Turk AM and McDermott S.(2020). The COVID-19 pandemic and people with disability.*Disabil Health J*. 13:100944.

iii. CRPD Committee and Special Envoy of the UN Secretary-General on Disability and Accessibility, Joint Statement: Persons with Disabilities and COVID-19. Accessed from https://www.ohchr.org/Documents/Issues/Disability/COVID-19_and_The_Rights_of_Persons_with_Disabilities.pdf

iv. Fox S. Americans living with disability and their technology profile. Report. Pew Research Center; January 21, 2011. Available from: http://www.pewinternet.org/~/media//Files/Reports/2011/PIP_Disability.pdf.

v. Disability and development report 2018. United Nations Publishers. 2019. NY , USA

vi. WHO CORONA DASHBOARD.Accessed from https://covid19.who.int/

vii. Tarafdar & Zhang.(2007).Determinants of Reach and Loyalty – A Study of Website Performance and Implications for Website Design.*Journal of Computer Information Systems* .48:16-24

viii. Amran, N., Mohamed, H., & Bahry, F. D. S. (2018). Developing Human Resource Training Management (HRTM) Conceptual Model Using Entity Relationship Diagram (ERD). *International Journal of Academic Research in Business and Social Sciences,* 8(12), 1444–1459.

ix. Freimuth, V. S., Quinn, S. C.(2004).The contributions of health communication to eliminating health disparities. *Am J Public Health* .94, 2053-5.

x. Brach, C., Fraser, I.(2000). Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model. *Med Care Res Rev*., 57, 181-217.

xi. Griffiths, W., Knutson, AL.(1960).The role of mass media in public health. *Am J. Public Health Nations Health.*50:515-23

xii. Bryant, J., Thompson, S. (2002).Fundamentals of Media Effects. New York: McGraw-Hill; 2002.