RESEARCH ARTICLE

A CONTENT ANALYSIS OF ORAL HEALTH RELATED MESSAGES DELIVERED THROUGH REGIONAL NEWSPAPERS: HUBLI-DHARWAD

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ARTICLE INFO	ABSTRACT
	Background: The contribution of print media in providing information and transfer of knowledge is remarkable with the advantage of making a longer impact on the minds of the reader and also has wide coverage in both urban and rural areas targeting a range of age groups. **Objectives**: To assess the quantity and quality of oral health related information in 4 leading Kannada daily newspapers in the region of Hubli-Dharwad. **Materials and Methods**: Oral health related content was recovered from these newspapers from April 2017 to September 2017 using 4 leading Kannada newspapers namely Vijaya Karnataka, Samyukta Karnataka, Prajavani and Udayavani. Level score index was used for the overall qualitative analysis of all information. Data were entered into a standard Microsoft Excel 2007 sheet for descriptive analysis. **Results:** Among 720 newspapers which were studied during the period of study Oral health related information was published 23times (3.1%).Out of which 30.4% was general oral health awareness,21.7% articles were on dental caries, 17.3% on periodontal diseases, 8.6%on malocclusion, 4.3% related to oral cancer. The remaining 17.3% was purely advertisements. In this sample overall qualitative assessment of the collected information using the level score index was 82.5%. **Conclusion:** Oral health related messages conveyed in regional print media are inadequate, but the quality of information published is accurate. As Mass media being an important source of health information to the general public; it can be better utilized by publishing articles frequently to create awareness on oral health.

INTRODUCTION

One of the paramount ways to connect to huge number of population from all classes is through the use of mass media. Mass media is a chief source of information in the present society for the general public to obtain health information. There are various types of mass media (magazines, television, internet, newspapers, etc.). Print media is one of the oldest and basic forms of mass communication. It is an effective way to alert the public as it reaches a broad audience of readers on a daily basis. It includes newspapers, weeklies, magazines, monthlies and other forms of printed Journals. Previous studies have identified that news media like newspapers and TV/radio were the most frequently indicated sources of health information for the general public (Leelavathi *et al.,* 2015). Newspapers especially have the advantage of providing a variety and depth of information to a broad range of age groups, with wide regional coverage to both urban and rural areas (Bandiwadekar *et al.,* 2014). Considering the social context of oral health may provide insights into current differentials between reported oral care behaviours and oral health outcomes. It has been reported that education has been accepted as a proper tool to promote change in public perceptions and time to time health personnel have attempted

to use it repeatedly for this purpose (Brenda, 1966). The style, location and context of oral health messages and images in popular culture mass media may influence audience's interpretations of oral health yet we lack an understanding of the relevance and content of oral health messages, obscuring efforts towards oral health promotion. Defining this gap is potentially an important first step towards improving oral health attitudes and behaviors, and ultimately oral health outcomes (Jones *et al.,* 2016). For qualitative and quantitative analysis of health related topics covered in quite a few communication media, the content analysis is an approach that is being used. Content analysis has been defined as "a research method or a measurement technique that involves the systematic study of the content of communication messages" (Gupta AND Sinha, 2014). Apparently, there is a growing trend of health awareness and information which is acquired from the media in recent past. If good oral health has to be developed without exception, proper communication of the information and reinforcement is necessary (Brenda, 1966). Majority of the literate population can be reached through newspapers. Local media like established newspapers can be used effectively and efficiently to publish the health related messages to major communities, as they are readily accessible by the recipients.

Various studies have been done to identify the coverage of the information with regard to general as well as oral health which revealed the inaccuracy. The present study was conducted to analyze the contents in terms of quality and quantity of the oral health related information published in the established Kannada newspapers of Hubli- Dharwad.

MATERIALS AND METHODS

A Prospective study was conducted to analyze the contents on a sample of four leading Kannada daily newspapers namely Udayavani, Prajavani, Vijaya Karnataka and Samyuktha Karnataka circulated in the city of Hubli-Dharwad. These newspapers were chosen on the basis of highest readership in the area and all were available in the dental college on a daily basis. A specially designed scale was developed in which general health was considered as a separate entity and oral health was divided into various categories to be evaluated (Table 1). Oral health related content was recovered from April to September, 2017 from all four newspapers using the key words like dental caries, periodontal diseases, malocclusion, oral cancer and fluorosis, all of which were searched in Kannada (local language). The quality of the content was graded using the Level Score index which measures the accuracy and exactitude of each article giving a score between 0-2 for each unit, score 0- inaccurate, score 1-partially accurate and score 2- accurate. For example: If only an advertisement about an oral health care product is given, it's given a score of '0'; whereas when an advertisement also gives some information on how to maintain oral health, it is scored as '1'; but when the article is completely related to any one of the oral health diseases evaluated and appropriate explanation and/or symptoms are explained or the treatment available for the same: what is dental caries, why and how it is caused, what can be done to prevent it and when to seek help; it is given a score of '2'. Overall qualitative analysis for all the information obtained was then assessed using the formula

LSI = (Score 0 x Percentage of information unit) + (Score 1 x Percentage of information unit) + (Score 2 x Percentage of information unit).

Data was collected by a single author from all the newspapers for the entire study period and randomly few of the papers were re-evaluated to ensure the reproducibility of the criteria and respective scoring. All the data was subjected to statistical analysis using SPSS software version 20 for descriptive statistics.

RESULTS

During the study period, the information published regarding general health was 19%, oral health was 3% published and non health related is 78% (Graph 1). Twenty-three (3.19%) oral health articles were reported during the study period in a total of 720 newspapers. The majority of them i.e., 30.4% published general oral health information, 21.7% published on dental caries, 17.3% on periodontal diseases, 8.6% on malocclusion, 4.3% on oral cancer whereas the rest 17.3% were purely advertisements (Table 2). Out of 23 issues, 69.5% published accurate quality of information, whereas 13% published partially accurate quality of information (Table 3). Overall qualitative assessment of the collected information using the LSI was 82.6% in this sample (3 × 1 +16 × 2 = 37; the

maximum possible score is 46). However, information regarding general health was published relatively more number of times i.e. 19.3% (193 issues) and the advertisements pertaining general health were 15.5% (112 issues).

**Table 1. Special designed scale used for content analysis (modifications done)**

Name of the news paper	
Date of issue	
Title of the article	
General health	
Oral health	
General health information including oral health	
Oral health information subcategories	
Dental caries	
Periodontal disease	
Malocclusion	
Oral cancer	
Fluorosis	
Quality of information	
Purely advertisements(0)	
Advertisements + health information(1)	
Purely health information(2)	

Table 2. Frequency distribution of oral health information published in newspapers with regard to various oral diseases

Parameters	Frequency
Oral health information	23 (3.19%)
General oral health instructions	7(30.4%)
Dental caries	5(21.7%)
Periodontal diseases	4(17.5%)
Malocclusion	2(8.6%)
Oral Cancer	1(4.5%)
Advertisements	4(17.5%)

Table 3. Quality of the content of each information item

Codes	N (%)
0(inaccurate)	0
1(Partially accurate)	3(13%)
2(Accurate)	16(69.5%)
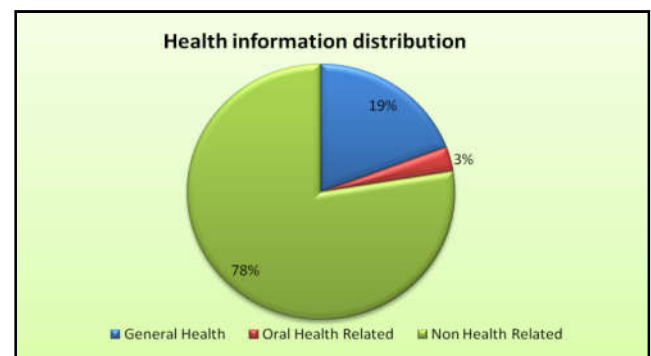
Graph 1. Distribution of health information published during the study period
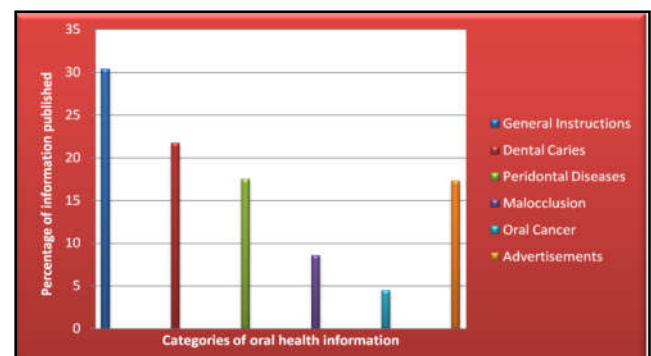
Graph 2. Frequency distribution of oral health information

DISCUSSION

Non-ambiguous health information is fundamental to effective health behavior and promotion practices. Health messages which are limited, inconsistent or ambiguous impair population health. There is scope for oral health centered health promotion to embrace a common risk factor approach and to promote oral health in a more strategic and informing context, leading to the provision of social support for and improvement of population oral health literacy. Oral health 'illiteracy' is not simply a lack of knowledge, but actually indicative of a lack of power. Those who have knowledge of oral health aetiology, or even merely express individual level behavioral responses to social norms, will absorb some of the media messaging and shape them into their own frames of reference. Those with no or low oral health literacy will find nothing in these messages to add or incorporate into their own knowledge (Jones *et al.,* 2016; Frazier *et al.,* 1974).

The role of mass media on oral health education and health promotion has seldom been studied. The people are aware with mass media campaigns aimed at encouraging individual behavior change.[7] 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 (Brach *et al.,* 2000). Freimuth *et al.* (2004) stated that people seek health information from different types of resources; which are intrapersonal, interpersonal and mass media. Mass media contribute substantially in altering health related beliefs, attitude, behavior and in promoting knowledge among the populations. It is essential that newspapers/ print media provide precise information with a supportive evidence based on which the public can judge what is appropriate and which assists or supports correct and appropriate oral health behaviors. Large circulation, national wide coverage and home delivery were important characteristics of newspapers (Abe *et al.,* 2015). Policy makers also obtain a considerable amount of information from the media (Freimuth and Quinn, 2004). Bryant and Thompson have suggested that news coverage of health matters has the potential to shape the impression of average citizens and powerful policy makers alike (Bryant and Thompson, 2002). According to Brown and Walsh-Childers (Brown *et al.*), news coverage "tends to ascribe the power to control individual's health to medical experts using high-technology".

The results of the present study suggested that oral health information delivered through newspapers was very limited; which was in accordance with a study done by Leelavathi *et al* (Leelavathi *et al.,* 2015) who considered the regional print media of Tamilnadu. Other observations by the authors were that maximum amount of coverage was given to political reports, which has been stated earlier by Osothat the "health beat" is not particularly high yielding as that of politics or economy (Lai and Odunlami, 2008). Even though the column was labeled as health beauty related information and their products were published under it. National oral health policy guidelines suggest that educational oral health programs should be integrated into the existing system apart from preventive and curative care programs, in order to raise their awareness regarding the importance of oral health and improve the utilization of services ultimately leading to better oral health (Gambhir *et al.,* 2016). This study also emphasizes that a great effort should be made to increase the quantity and quality of oral health information delivered by the print media as a valid means to increase health education and promotion. Qualitative data is derived from interviews, written open questions and pictures are expressed in words. Consequently, there searcher cannot use statistical analysis to give meaning to the data and, therefore, needs other methods of analysis. Content analysis is one such method. This description shows how the general principles of the method can be used and how the validity and reliability of the whole process can be increased. Although there are both advantages and disadvantages to performing a content analysis, it is an easily understood analyzing process that canbe emulated even by those new to the area (Bengtsson *et al.,* 2016; Noguerol *et al.,* 1922). The limitation of present study was information taken only from the leading newspapers of this region, thus there is a probability of missing information that existed elsewhere.

Recommendations

1. Development of a specified health column on a particular day of the week that would help tune the readers to read and adapt to the changes that can be made for health promotion.
2. A special reporter could be deputed for covering the health issues with proper specialists.
3. Public health professionals are aware of the impact of mass media importance in health promotion and prevention of diseases, and thus they could encourage and motivate the newspaper health column writers to approach them for accurate information.

Conclusion

This study concludes that oral health articles in the regional newspapers were infrequently published and have not adequately covered all the oral diseases. Thus, the present study emphasizes that a great effort should be made to increase the quantity and quality of oral health information delivered by the print media as a valid means to increase health education and promotion.

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