

Full Length Research Paper

A comparative analysis of nutrition science coverage by popular Indian daily newspapers

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This study assesses the coverage of nutrition related topics by leading English and Telugu language newspapers in India for six months and comparatively analyzes number of articles, visuals and priority in space allocation. Nutrition reports were classified into 16 sub-topics based on the commonness of their content including natural foods, obesity, fruits and vegetables, animal food and beverages. English dailies gave more coverage on obesity, beverages, chocolates, whereas Telugu dailies confined mostly to the traditional foods, promoting consumption of natural foods. Comparatively English dailies published more reports in editorial pages, front pages and as box items to grab readers' attention significantly ($P<0.01$) than Telugu dailies. Descriptive analysis method was used as parameters for grading the articles. Reliability of agreement between multiple-raters was analyzed by applying *Cohen's kappa test*. Few reports on nutrition found to be relied on unauthentic source of information. Two English dailies were observed as over-emphasized few research findings. To avoid publishing of under or over-emphasis of nutrition related topics in print media, there is a need for synergetic efforts between journalists and scientists in the field of diet and nutrition sciences.

Key words: Nutrition, journalists, scientists, Indian daily newspapers.

INTRODUCTION

Newspapers play a vital role in health communication by disseminating knowledge on various aspects of information relevant to the community (Fineberg and Rowe, 1998). Despite the advent of round-the-clock television news channels and internet news; print media have not lost its significance. In India, the circulation of newspapers has increased by about 33% within 2001 to 2005 and India is the biggest newspaper market in the world with 107 million daily sales (WAN, 2006). Newspapers are an important source of health and nutrition science for many readers (Borra et al., 1998; Houn et al., 1995; Begley and Cardwell, 1996; Smith, 1996; Frost and Frank, 1997; Voelker, 1998). Mass media should be considered as a tool that may influence behaviour of the community (Grill et al., 2005). Therefore, the reporting of news about medicine, public health and nutrition science is an area of concern to many health and social scientists (Evette and Gaile, 1999).

Science and media

Media coverage, including views and content expressed by the journalists and subject specialists in editorial pages can affect health aspects both positively and negatively (Felicity Goodyear-Smith et al, 2007). But, it is not uncommon to find some of the reports on nutrition topics published in print media lack scientific basis or acceptable information. News media over or under emphasize certain aspects of science topics for a variety of reasons, such as competition to attract readers and also to protect commercial interests (Meyer, 1990). News reporting on health aspects including nutrition is also driven by rarity, novelty and commercial viability than the concern about the relative health risk (Adams, 1992). Often, this contributes to confusion among the readers in addition to misinformation. Perusal of literature on the content analysis of health-related news in print media has not adequately revealed the quantity and quality of coverage of nutrition specific topics. Hence, a study was carried out to investigate types of images and representations of nutrition science in popular Indian print media. The aim is to describe and analyze how nutrition related

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Table 1. Parameters for grading reports / articles on nutrition science.

Grade A: Score 4/ per article	Grade B: Score 3/ per article	Grade C: Score 2/ per article	Grade D: Score 1/ per article
NUTRE topics appeared in	NUTRE articles	NUTRE article	NUTRE article
Front page of the <i>newspaper's</i> main page/ city tabloid	Description with more than one visual/graph/ table put together	Description with only one visual occupied less than 1/5 th space of the page	Description of only a single column without any visual
Sunday magazine or other special supplements cover story	Covered 1/5 th space of the page including visual	Only a visual with caption, no description	Consist only a visual without proper caption/ description
Inside Sunday magazine with at least one visual	Highlighted to prevent/fight or caution against diseases/ obesity/fatigue/ageing	A mention in an article on health or other subjects	Though content have scientific basis, it is not applicable / practicable to Indian context
Editorial page letters to the editor column	Highlighted only a single nutritive rich food or caution about harmful foods	Covered as an event / research or survey reports / informative	Tips to enhance nutritive values of food items

If an article qualified under more than one grade, the higher grade was assigned to that article.

topics are presented quantitatively and qualitatively in the print media. Telugu is the largest spoken language among all the regional languages in India (Population Census of India, 1992) and also predominant language of the Andhra Pradesh State, one of the South Indian provinces with a population of about 80 millions. Therefore, in the present study, a comparative analysis of nutrition related topics published in English and Telugu dailies was investigated.

METHODS

In this study, nutrition related (NUTRE) topics are defined as any information (excluding advertisements) appeared in *newspapers* which enable its readers to derive benefits in terms of nutrition by following the suggestions or summary of the information. The word "article" used throughout this paper, includes news items, feature articles, tips, interviews, research/ survey findings, recipes (with special reference to nutrition), opinion columns and editorials appeared in *newspapers*. Headlines or text of the article mentioned the words related to nutrition science like protein, vitamins, minerals, food and diet are considered as NUTRE articles.

Based on the circulation figures, six leading *newspapers* (three from each language) were selected for this study. Accordingly, English dailies *Deccan Chronicle* with a daily net paid circulation of 6,00,808 copies, *The Hindu* (3,91,680), *Times of India* (1,66,306) and Telugu dailies *Eenadu* (10,83,167 copies daily), *Andhra Jyothi* (3,72,222) and *Andhra Bhumi* (1,07,133) were selected for analysis. Circulation-wise, these six *newspapers* indicate their popularity in India (ABC, 2006). A longitudinal study was designed for six months between 1st September 2007 and 29th February 2008.

During the study period, 179 copies of each *newspaper* totalling to 1,074 copies were screened for NUTRE articles.

For the purpose of analysis, particular grade with a score was assigned to each NUTRE article based on the priority of their appearance or style of presentation and degree of possibility to grab readers' attention. A text of one or two sentences on nutrition appeared as filler in a corner of the *newspaper* cannot be equalized with a NUTRE article published on front page or in Sunday magazine section prominently. Hence, higher grade 'A' with a score of 4 was attributed to each NUTRE article appeared prominently and lower grade 'D' with only one score was assigned to the items appeared with less importance (Table 1).

Classification of nutrition related articles

For the purpose of comparative analysis, the following 16 topics related to nutrition science appeared in the *newspapers* were broadly identified:

1. Cereals/ pulses/ millets
2. Oils/ fats/ nuts
3. Milk/ egg/ meat/fish
4. Fruits and vegetables
5. Vitamins and minerals
6. Balanced diet
7. Seasonal foods
8. Chocolates/ ice-creams
9. Beverages
10. Child nutrition
11. Overweight /obesity
12. Diet to retain beauty
13. Food additives

Table 2. Number of reports on nutrition science that appeared in different *newspapers*.

	Deccan Chronicle	The Hindu	Times of India	Eenadu	Andhra Jyothi	Andhra Bhumi	Total
Total articles appeared	128	101	93	170	133	42	667
No. of words in the text	33,231	33,767	25,003	31,464	26,886	20,901	1,71,252
No. of visuals	99	89	92	278	179	67	804
Appeared							
Sunday magazine section	3	18	14	9	1	0	45
Health page	64	20	34	39	51	0	208
Women's page	NA	NA	NA	72	50	41	163
First page	5	1	2	1	3	0	12

14. Junk food
15. Diet to fight diseases
16. Others

Statistical analysis

Scoring of the articles was pre-tested independently with four experts in the field of nutrition and communication. All the experts rated randomly selected NUTRE articles based on the aforementioned parameters. Cohen's kappa statistical test was used to measure inter-coder reliability and observed a significant consistence in assigning scores by the subject experts ($P < 0.01$). Grade classification was used to assess reliability of agreement between the multiple raters. The intra-grade correlation was more than 0.9, thus indicating the existence of significant correlation ($P < 0.01$) between all the four experts.

RESULTS

A total of 667 NUTRE articles (Table 2) appeared in the six dailies including *Deccan Chronicle*, *The Hindu*, *Times of India*, *Eenadu*, *Andhra Jyothi* and *Andhra Bhumi* during the study period. Overall, Telugu *newspapers*, *Eenadu*, *Andhra Jyothi* and *Andhra Bhumi* combinedly covered more number of articles (345) than English dailies (322) during the period. Individually, two leading Telugu dailies, *Eenadu* and *Andhra Jyothi* covered more number of NUTRE articles than English *newspapers*. Among Telugu dailies, *Eenadu* covered 170 NUTRE articles followed by *Andhra Jyothi* with 133 articles. Among English dailies, *Deccan Chronicle* published 128 articles followed by *The Hindu* with 101 articles and *Times of India* with 93 articles. *Andhra Bhumi* covered only 42 NUTRE articles. English *newspapers* seem more inclined to publish articles on alcoholic drinks. Particularly, *Deccan Chronicle* and *Times of India* published more number of articles (12 and 6, respectively) on

alcohol in a way that connects with health and nutrition topic. In Telugu dailies, only one article (*Andhra Jyothi*) was seen on alcohol.

Quantitative analysis

Grades

Grades and scores for NUTRE articles were given in Table 3. Based on the grade given to each article, *Eenadu* scored a total of 405 points followed by *Andhra Jyothi* with a score of 352, *Deccan Chronicle* with 313, *The Hindu* with 294, *Times of India* with 262 and *Andhra Bhumi* with only a score of 94. As regard the grading, English dailies combinedly scored are slightly higher (869) than Telugu *newspapers* (851) in coverage of NUTRE articles.

It was observed that English dailies though published a slightly less number of NUTRE articles, scored higher grade as compared to Telugu, thus indicating English dailies covered NUTRE articles more prominently than Telugu *newspapers*. In addition, English *newspapers* even maintained a balance in presentation of NUTRE articles under different grades. *The Hindu* and *Times of India* covered around 50% of the NUTRE articles under grade B and remaining 50% of the articles in grades A and C almost equally (Table 3). The Hindu and Times of India published significant number of NUTRE articles in grade A which indicates highest preference, whereas Telugu dailies lack this prominence. Moreover, a significant number of NUTRE articles in Telugu dailies appeared in grade D which denotes less importance.

Eenadu and *Andhra Jyothi* published majority of the articles in grade B and C. NUTRE articles under grade D are insignificant in *The Hindu* and *Times of India*. At the same time, text of NUTRE articles in English *newspapers* spread over more columns than the Telugu dailies. As it is reflected from the word count, English dailies though published less number of NUTRE articles, consist more text.

Table 3. Scores assigned to reports on Nutrition Science based on their grades

Grades and rate of score	Deccan chronicle		The Hindu		Times of India		Eenadu		Andhra Jyothi		Andhra Bhoomi	
	Number of articles	Total score	Number of articles	Total score	Number of articles	Total score	Number. of articles	Total score	Number of articles	Total score	Number of articles	Total score
Grade A (Score at 4 per article)	9	36	21	84	20	80	8	32	4	16	1	4
Grade B (Score at 3 per article)	62	186	53	159	42	126	77	231	90	270	14	42
Grade C (Score at 2 per article)	34	68	24	48	25	50	57	114	27	54	21	42
Grade D (Score at 1 per article)	23	23	3	3	6	6	28	28	12	12	6	6
Total	128	313	101	294	93	262	170	405	133	352	42	94

Visuals

Among all *newspapers*, Telugu dailies published more visuals along with NUTRE articles as compared to English (Table 2). All the three Telugu dailies published more number of visuals along with the text of the articles. A total number of 278 visuals were published in Eenadu as against 170 articles on NUTRE topics, followed by Andhra Jyothi with 179 visuals as against 133 articles. Andhra Bhumi, though figured less NUTRE articles (42), published 67 visuals which is 60% more. It was significantly observed that, Telugu *newspapers* on an average presented about two visuals per each article and rarely found any NUTRE article without a visual. Particularly in Eenadu and Andhra Jyothi, even single column message on nutrition consisted suitable photo. In English dailies, most of the articles on NUTRE topics appeared without visuals.

Page of appearance

Telugu *newspapers* adopted distinctive mode of presentation in publication of NUTRE topics. In all the three Telugu dailies, articles on nutrition mostly appeared in health page or in women's page indicating that these articles were meant for

target readers (Table 2). More than 75% of NUTRE articles in Andhra Jyothi and about 66% in Eenadu appeared either in health page or in women's page. In Andhra Bhumi, except one, all NUTRE articles appeared only in women's page, as if it is a subject of feminine. All the three English *newspapers* do not have exclusive women's page but, publish a column or a separate page exclusively for health related articles. Except Deccan Chronicle (in which exactly half of the NUTRE articles appeared under health column), other two dailies, the Hindu and Times of India published these articles mostly in other pages. But, one notable feature of The Hindu and Times of India were, both *newspapers* presented significant number of NUTRE articles in their Sunday magazine section. Usually, any article that appears in a daily's Sunday magazine section enjoys privilege of largest readership than normal days, as circulation figures of these *newspapers* are more on Sundays. In Telugu *newspapers*, NUTRE reports appeared frequently irrespective of the day of the week.

Form of appearance

Majority of the NUTRE information appeared in all the *newspapers* under the study were in the form

of feature articles (210) and tips (124). Research/survey findings (155 articles) were reported significantly in the field of nutrition (Table 4). Particularly, in Deccan Chronicle, out of a total of 128 NUTRE articles which appeared, 56 were about the results of research or survey in the field of nutrition. During the study period, though a total of 225 articles on recipe appeared, only 55 of such articles were identified with emphasize on importance of nutrition.

Qualitative analysis

Overall, fruits and vegetables topic was widely covered and most frequently appeared in all the daily papers in the study. Topic-wise, fruits and vegetables gained first rank (176 articles) and 'overweight / obesity' occupied distant second place with 75 articles (Table 5). This phenomenon was observed in all the *newspapers* uniformly irrespective of their circulation figures and language of the media. On an average, out of every four NUTRE articles that appeared in *newspapers*, one belongs to the topic of fruits and vegetables. Andhra Bhumi, though gave less coverage for NUTRE articles but, focused fruits and vegetables topic most frequently than other dailies.



Figure 1. Deccan chronicle- 3rd November 2007.

Out of a total 42 NUTRE articles that appeared in Andhra Bhumi, 38% of them addressed only on fruits and vegetables.

Of all types of NUTRE articles, coverage of overweight/obesity topic was more in English dailies compared to Telugu newspapers. The percentage of articles on overweight/obesity appeared in the three English dailies

combine was 14% against mere 8% in the Telugu dailies trio. Editorial page reflects views of the newspaper, which normally addresses even policy makers. In such an apex space, Times of India carried four articles on nutrition in a span of just six months! Except one article each in the Hindu and Andhra Bhumi, no other newspaper discussed nutrition topic in their editorial pages.

Telugu dailies seem to be very advanced in dissemination of knowledge on fruits and vegetables. Apart from the routine information on 'nutrition and fruits', occasionally, they have published diversified angles of fruits and vegetables in depth to arouse interest among readers. To name some of the interesting articles:

1. One of the rare information on nutritional values of black colour fruits and vegetables available world-wide was compiled and presented with a title "*Nalupe Nanyam*" (Quality only in Black) in Eenadu Sunday magazine section with 23 colour photos.
2. United Nations Organization (UNO) declared 2008 as 'Year of Potato'. But, except in the regional Telugu daily Eenadu, this theme did not get coverage at all in any newspaper. In the beginning of the year, Eenadu Sunday magazine section cover page titled "*Alugadda Nama Samvathsare*" (Potato named year) article with more than a dozen colour photos comprehensively covered numerous unknown facts about potatoes right from its invention on the earth, nutrition values, types of uses world over to its role in present agriculture economics which certainly creates interest among the readers.
3. A photo feature with attractive lay-out design appeared again in Eenadu with 21 colour photos titled "*Thaja Phalam*" (Fresh fruits) introduced 26 types of fruits and vegetables normally available in the local market to its readers. Highlight of this special feature was that, nutritional values of each fruit/ vegetable were explained in just one or two simple sentences in a separate box with each visual by an impressive layout and design. This type of paper clippings are useful to readers to preserve for ready reference in future.
4. An exclusive banner news story appeared on the first page of Andhra Jyothi titled "Thiyyani Visham" (Sweet Poison) based on a scientific report warned against consuming of imported fruits, as this could harm consumers health because of the preservative chemicals used for them. One more comprehensive article titled "*Preservatives tho paara hushaar*" (Be alert with preservative foods) authored by a dietician appeared in Andhra Jyothi was educative and presented impressively to the readers.
5. Findings of a land mark study conducted by the World Cancer Research Fund on 7,000 cancer cases of the last 40 years were published in Times of India with a title 'Cancer linked to poor diet, obesity'. In this article, to avoid risk of cancer, crucial recommendations were given as tit-bits in a crispy and catchy manner, enabling readers to remember easily.

Table 4. Types of different nutrition related articles.

News paper	Feature articles	Tip	Question and answer	Research/ survey	Recipe	*I/S/E	Editorial	Letters	Ref. in health articles	Criticism	Others	Total number of articles
Deccan chronicle	31	17	1	56	8	3	0	0	6	0	6	128
The Hindu	41	0	1	18	17	14	1	0	8	0	1	101
Times of India	27	12	0	26	8	7	4	0	5	1	3	93
Eenadu	41	52	9	29	10	18	0	0	8	0	3	170
Andhra Jyothi	44	36	2	25	8	12	0	0	5	0	1	133
Andhra Bhumi	26	7	0	1	4	2	1	0	1	0	0	42
Total	210	124	13	155	55	56	6	0	33	1	14	667

*I/S/E: Informative/ spot/ event.

Table 5. Number and percentage of reports focused on topics of Nutrition Science

S/No.	Topic	Deccan chronicle	The Hindu	Times of India	Eenadu	Andhra Jyothi	Andhra Bhumi	Total
		Number (percentage)						
1	Cereals, Pulses, Millets	3 (2.34)	7(6.93)	4 (4.30)	12(7.06)	8 (6.01)	2(4.76)	36(5.40)
2	Oils, fats, nuts	9 (7.03)	8 (7.92)	2(2.15)	16(9.41)	7(5.26)	6 (14.30)	48 (7.20)
3	Milk, egg, meat, fish	12 (9.38)	1 (0.99)	5(5.37)	10(5.90)	4 (3.01)	3(7.14)	35(5.25)
4	Fruits and vegetables	29 (22.65)	28 (27.73)	16 (17.20)	45 (26.47)	42(31.58)	16 (38.10)	176 (26.38)
5	Vitamins and minerals	6 (4.69)	5 (4.95)	7 (7.53)	8(4.70)	10(7.52)	1(2.38)	37(5.55)
6	Balanced diet	4 (3.12)	6 (5.94)	12 (12.90)	19 (11.18)	12 (9.02)	3(7.14)	56(8.39)
7	Seasonal foods	1 (0.78)	1 (0.99)	2 (2.15)	5 (2.94)	3 (2.26)	0	12(1.80)
8	Chocolates, Ice-creams	9 (7.03)	4 (3.96)	8 (8.60)	11 (6.47)	5(3.76)	0	37(5.55)
9	Beverages	12 (9.38)	2 (1.98)	6 (6.45)	3 (1.76)	4 (3.01)	1 (2.38)	28 (4.20)
10	Child nutrition	2 (1.56)	3 (2.97)	5 (5.38)	5(2.94)	4(3.01)	2 (4.76)	21(3.15)
11	Overweight/ obesity	15 (11.72)	17 (16.83)	13 (13.98)	14 (8.23)	13 (9.77)	3 (7.14)	75 (11.24)
12	Diet to retain beauty	8 (6.25)	3 (2.97)	5 (5.38)	11(6.47)	7(5.26)	1 (2.38)	35(5.25)
13	Food additives	6 (4.69)	3 (2.97)	1 (1.08)	3 (1.76)	3(2.26)	2 (4.76)	18(2.70)
14	Junk food	2 (1.56)	3 (2.97)	2 (2.15)	1(0.59)	4 (3.01)	0	12 (1.80)
15	Diet to fight diseases	5 (3.91)	3 (2.97)	3 (3.23)	2 (1.18)	5 (3.76)	1 (2.38)	19(2.85)
16	Others	5 (3.91)	7 (6.93)	2 (2.15)	5 (2.94)	2 (1.50)	1 (2.38)	22(3.29)
	Total	128 (100)	101 (100)	93 (100)	170 (100)	133(100)	42 (100)	667 (100)

One disappointed finding of the study was not a single letter from readers on nutrition aspect

appeared in any of the *newspapers* in the entire six months study period. Times of India carried an

editorial expressing its view as it is very difficult to follow comprehensive and lengthy nutritious diet



Figure 2. Deccan Chronicle- 6th November 2007.

habits and ridiculed diet prescriptions usually given for complete health. Also, various articles on the topics of alcohol, chocolates and pizzas appeared in English and Telugu newspapers were found to be typical and could confuse readers. To quote some:

a) A research finding appeared in Deccan Chronicle titled "Beer after workout is better" (Figure 1) is one such news item, which could lead to confusion among the readers. It was quoted that a research carried on a group of 25 students by Granada University in Spain was proved that beer after workout was "slightly better". After three days, another article appeared in the same newspaper titled "Water wins over beer any day" (Figure 2) in which a dietician, a senior consultant of sports medicine and a fitness consultant in Hyderabad, India (from where the newspaper gets published) expressed strong disagreement with the results of research by the Spain University.

b) A research finding appeared in Deccan Chronicle titled "Dark chocolate good for health" (Figure 3) another item published after few days in the same Deccan Chronicle reads the caption "Chocolates bad for bones" (Figure 4). Though, it was mentioned that both the articles were

based on the results of two different studies, but only the latter story (chocolates bad for bones) consists details about place and persons that carried out the research including the name of journal in which the study was published. But, article which advocates goodness of the chocolates does not contain proper source of information. c) Times of India in its exclusive health page listed "Health benefits of chocolate" (Figure 5) based on unquoted study under tips column. The same newspaper carried another article titled "Going weak in your knees? It must be because of the amount of chocolates you eat" (Figure 6) in which name of the researcher and place was mentioned. It was observed that, articles claiming goodness or health benefits of chocolates have not mentioned authentic source of information, whereas articles warning against consumption of chocolates are strengthened with right source of information.

d) Another four column article with a colour photo published in Deccan Chronicle goes against the wishes of nutritionists and physicians right from the caption to conclusion. This article begins with an introduction that London-based chocolate maker claims that just two small pieces of its brand product contain more antioxidants than a pound of Brussels sprouts or five pounds of

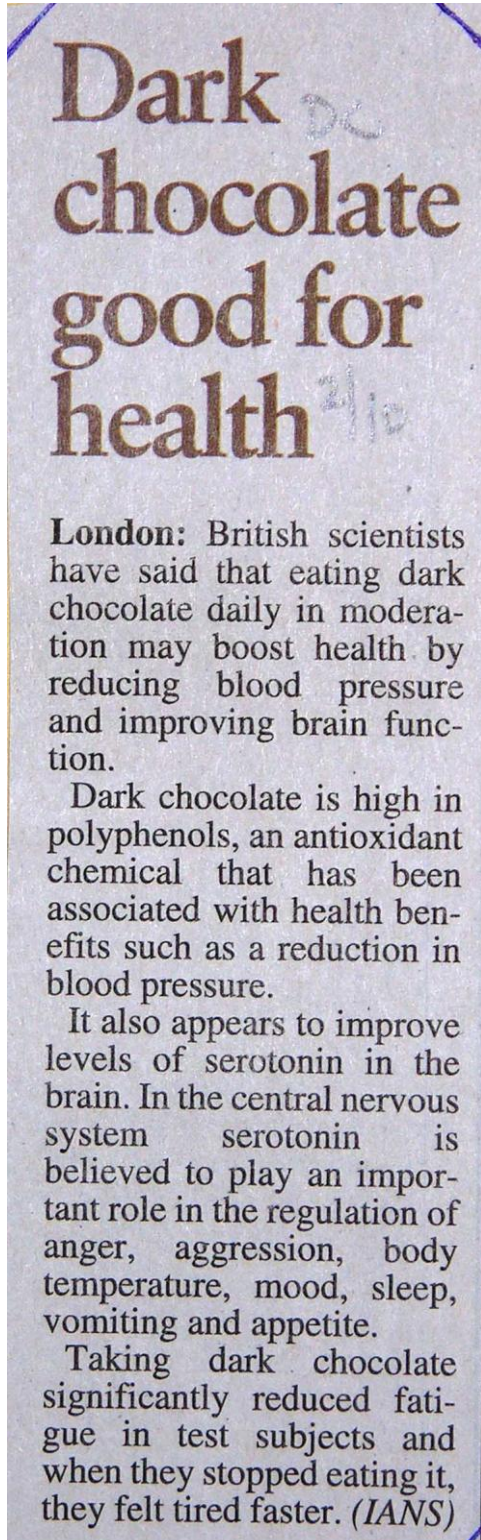


Figure 3. Deccan Chronicle- 2nd October 2007.

apples. This introduction was followed by opinions of two nutritionists and two general physicians, who were

sceptical about the claims of the chocolate maker and expressed apprehension of its health benefits. It is also mentioned in the article that a physician even warned that chocolate is known to trigger migraine attacks in people who are prone to migraines. With this sort of content, this article was captioned as “Healthy chocolate still not accepted” (Figure 7) and concluded with a sentence which reads ... “But surely, a small piece of delicious dark chocolate would not hurt”. This article itself stands as self-contradictory.

e) An article titled “*Soundarya Pizzalu*” (Pizzas for beauty) appeared in Andhra Jyothi (Figure 8) reads ‘physical exercise and make-up are not require to look beautiful, if one consumes pizzas regularly, he/she can prevent wrinkles on the face’. Research done by a University student and a proprietor of a Hotel (without quoting names and places) was mentioned as source of the information to this article. It has not even described how and with what stuff pizzas are made which could prevent wrinkles on the face as they claimed. This piece of article obviously based on unauthentic information.

DISCUSSION

Science communication in the developing world like India plays a crucial role in overall progress of the country. India is a multi-lingual country, in which English and regional language *newspapers* too dominate in readership market (ABC, 2006). Regional language *newspapers* are more popular among the readers of less educated with an economic background mostly consisting of lower and middle-income groups in rural and urban areas as well. At the same time, prevalence of overall under nutrition was also observed as higher among the lower (NNMB Survey, 2006; Basiotis et al., 2002) and middle-income (James et al., 1997; Davey and Brunner, 1997) groups. On the other hand, English *newspaper* readers are mostly urban-centric with better socio-economic status than regional language *newspaper* readers. It was observed that prevalence of overweight and obesity is higher in urban than in rural areas (Kaur et al., 2005). Keeping this in view, we selected Telugu language *newspapers* for this study along with English language *newspapers* in order to represent two different readership profiles with possibility of facing either of two extreme nutritional problems including, under-nutrition and overweight/ obesity.

Results of the study evidence a clear variation between English and Telugu dailies in terms of percentage of each nutrition topic they covered. Telugu dailies published more percentage of articles on natural foods promoting consumption of fruits, vegetables and also cereals, pulses, millets and balanced diet than others among all NUTRE topics. English *newspapers*, in addition to fruits and vegetables, covered more percentage of articles on obesity, processed foods like chocolates, ice-creams and

Chocolates bad for bones

New York, Jan. 25: Chocolate, the most widely and frequently craved food, may be good for your heart. But, if a study is to be believed, its regular consumption could weaken your bones and raise the risk of suffering a fracture.

A study conducted by a team of researchers found that people who eat chocolates daily are likely to have less dense, weak bones, which in turn could increase the risk of health problems such as osteoporosis and fractures.

"Cocoa and chocolate have been promoted as having a range

BOTTOMLINE



of beneficial cardiovascular properties. But the effect of chocolate intake on other organ systems has not been studied," according to lead researcher Jonathan Hodgson of the University of Western Australia. In fact, according to him, though chocolate contains flavonols and calcium, both linked to having a positive effect on bone density, it also contains oxalate, an inhibitor of calcium absorption, and sugar, linked to calcium excretion.

The results of the study have been published in the *American Journal of Clinical Nutrition*.

Figure 4. Deccan Chronicle- 26th January 2008.

The Tip

Health benefits of chocolate

- A study found that a substance in cocoa helps the body process nitric oxide (NO), a compound critical for healthy blood flow and blood pressure. Another study showed that flavonols in cocoa prevent fat-like substances in the bloodstream from oxidising and clogging the arteries, and make blood
- platelets less likely to stick together and cause clots. Cocoa beans contain large quantities of flavonoids, and so do red wine, tea, cranberries, peanuts, strawberries, apples and many other fruits and vegetables. The flavonoids in chocolate are called flavonols.
- Chocolate keeps high blood pressure down and keeps the blood flowing.



Figure 5. Times of India- 26th November 2007.

beverages including liquor than other topics. This trend of coverage indirectly represents social, economic and health profile of newspaper readership in India.

Traditionally, print media have also been used by health communicators for nutrition education purposes (Kami et al., 2008). In the present study, it appears that English newspapers went a bit beyond the traditional lines whereas Telugu dailies stick to the customary nutritional advices. To pinpoint, Times of India and Deccan Chronicle often published articles on health benefits of

wine and red wine and even nutrition tips to get over from hangover the 'Day After'. It was observed that except one in Andhra Jyothi (warning against over-consumption of beer on the eve of new-year day), Telugu newspapers had not published any article on alcoholic drink connecting with health and nutrition topic.

Newspapers supply much of the public's health and science information (Wright, 1975), and how the press translates scientific writings (reports) into news has many facets. Selection by the press of a small fraction of the

Going weak in your knees? T
18/2


...it must be because of the amount of chocolates you eat

Chocolate, the most widely and frequently craved food, may be good for your heart. But, if a study is to be believed, its regular consumption could weaken your bones.

A team of researchers has found that people who eat chocolates daily are likely to have less dense and weak bones, which in turn could increase the risk of health problems such as osteoporosis and fracture.

DID YOU KNOW? "Cocoa and chocolate have been promoted as having a range of beneficial cardiovascular properties. But the effect of chocolate intake on other organ systems has not been studied," according to lead researcher Jonathan Hodgson of the University of Western Australia.

In fact, according to him, though chocolate contains flavonols and calcium, both linked to having a positive effect on bone density, it also contains oxalate an inhibitor of calcium absorption



Not that sweet

and sugar, linked to calcium excretion.

The team came to the conclusion after analysing the effect of chocolates on a group of 1,000 women aged between 70 and 85.

Figure 6. Times of India-18th February 2008.

total body of scientific work available and the potential impact of this selective reporting on the public's awareness and understanding of the health factors deserve comment. The readers of Deccan Chronicle and Times of India were told about a research findings in different articles that consumption of chocolates are good for health and the same *newspapers* with a gap of a few days published articles containing findings which warns that chocolates are bad for bones. Contradictory picture of the state of knowledge on these types of issues are not new for print media and is seen as universal trend. Previously, similar studies on linkage between alcohol and cancer indicated these types of inconsistencies. One year it was told that moderate drinking can increase the risk of breast cancer (Foreman, 1978; Nelson, 1987; Johnson, 1987) and the next year that there is no increased risk with moderate alcohol consumption (Edwards, 1988; Kolata, 1988). Under these circumstances, the public not only are confused but may even

feel misguided (Angell and Kassirer, 1994). Ideally, there should be more emphasis on reporting trends in research rather than on the isolated reporting of single studies (Winsten, 1985). The responsibility for progress in this direction lies not only with the press but also with scientists (Meyer, 1990).

IMPLICATIONS FOR RESEARCH AND PRACTICE

The current findings revealed that NUTRE information portrayed by media, often over-emphasized, which could confuse readers. Though, appearance of such kind of information is rare, it cannot be ruled out as insignificant since, media have potential influence on readers. Information appears in a daily *newspaper* is expected to be authentic, particularly in relation to health and nutrition science. Communication scientists should do more research on how public health research is reported by the

Healthy chocolate still not accepted

TENZIN DECHEN | HYDERABAD

Chocolate lovers have a new excuse to indulge their sweet tooth. Choxi+, a new chocolate from London-based chocolate-maker Prestat, apparently has more antioxidants than any other food. Prestat claims that just two small pieces of this chocolate contain more antioxidants than a pound of Brussels sprouts or five pounds of apples. Available in dark and milk varieties and, mint and orange flavours, Choxi+ is said to be not only healthy, but also delicious. So have we finally found food that is yummy and healthy? Predictably the experts don't think so.

Nutritional immunologist Dr Alka Verma is skeptical of the health benefits of Choxi+. "This sounds too good to be true. I wouldn't believe it until I see an FDA approved nutritional label to prove these claims," she says. General physician Dr Somnath of Image Hospital agrees that



Chocolates rich in antioxidants aren't a substitute for natural sources

though chocolate may be rich in antioxidants, it is still not healthy. "Healthy foods should be low in fat, low in carbohydrates and high in protein content," he says. As chocolate has an unacceptably high percentage of fat and sugar, it would be harmful for the teeth and would send your daily calorie count skyrocketing.

But this chocolate is packed with antioxidants, which are known to fight free radicals and prevent diseases. So why can't we include chocolate in our daily diet? Nutritionist Dr Niti Desai agrees that dark chocolate could contain higher levels of antioxidants than berries or other fruits, but still doesn't advocate eating chocolate for

health benefits. She says chocolate cannot replace natural sources of antioxidants. "Fruits and raw vegetables, green tea and red wine are excellent sources of antioxidants but there are different classes of antioxidants and chocolate cannot substitute the classes of antioxidants present in these foods," she says.

On the other hand, natural sources of antioxidants like fruits and vegetables contain lots of good vitamins and fibre, says Dr Alka Verma. And when they are naturally available, why go for artificial sources, she asks.

And Dr Vijay Mohan, a senior consultant physician and specialist in critical care medicine at Care Hospital says, "Chocolate is known to trigger migraine attacks in people who are prone to migraines."

So the nutritional dilemma over chocolate continues and the final decision lies with the consumer. But surely, a small piece of delicious dark chocolate wouldn't hurt.

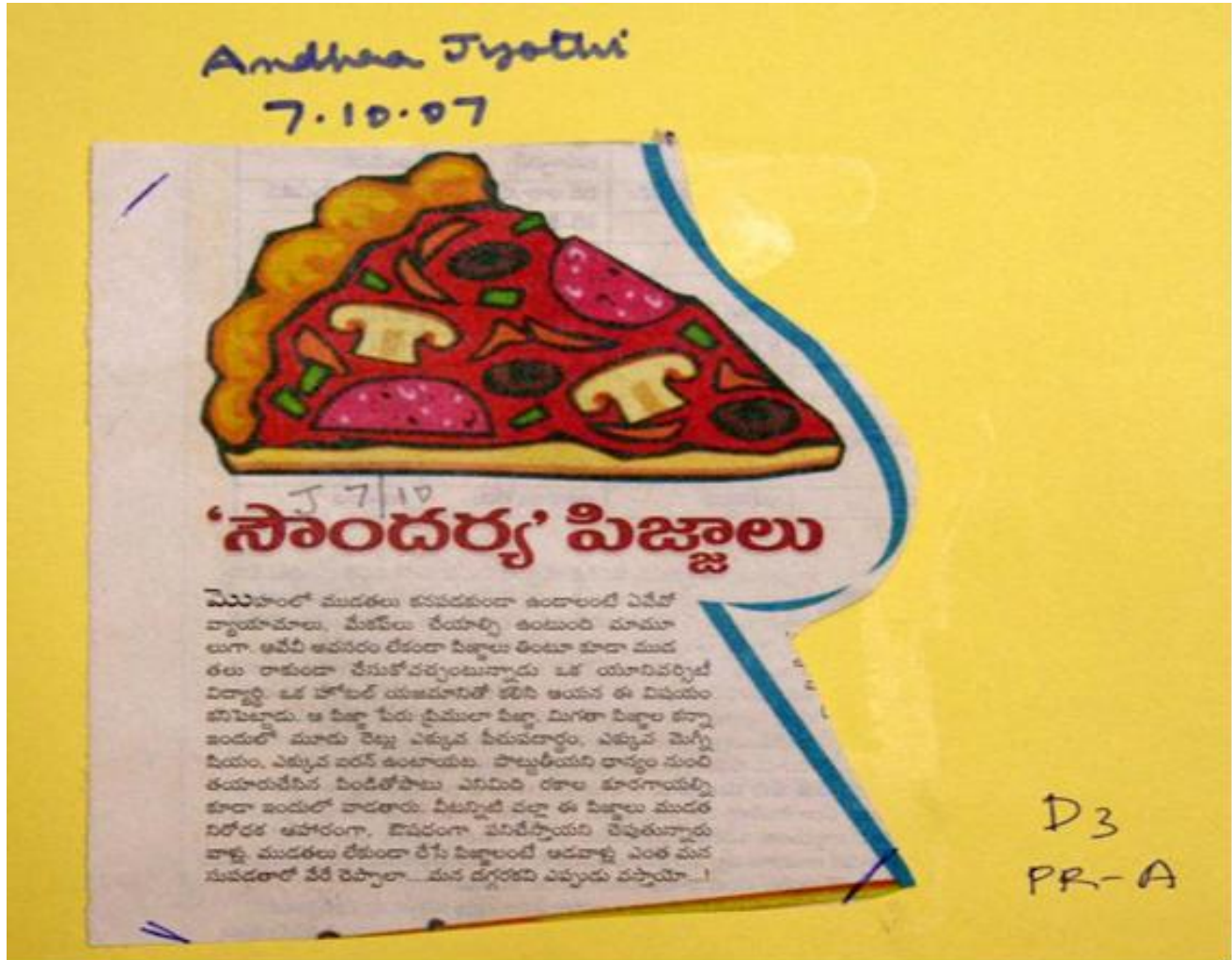


Figure 8. Andhra Jyothi -7th October 2007.

media. They should also take a more active role in ensuring responsible reporting of important scientific findings. The study further stresses the need for synergistic efforts between journalists covering health topics and experts in the field of diet and nutrition, to avoid over-emphasis of nutrition related topics in print media.

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