

Islamic Perspective of Science and Pakistani Newspapers: A Study of News Dissemination Process

Sardar Ahmad Nazish*

Nisar Ahmed Zuberi**

ABSTRACT

Study of science news coverage in three English language newspapers from Karachi was undertaken for the case of gastroenteritis. 8.13%, 7.28%, and 6.90% coverage was found in daily Dawn, daily Nation, and daily the News International respectively due to eruption of gastroenteritis in the city. The news relating to environmental sciences and computer sciences found only 1%; but the news on food safety, botanical sciences, agricultural sciences, research & development, natural sciences/wild life, energy, geology, metrology, marine biology traced below 1%; whereas the news about nanotechnology, space science & technology, advance sciences (laser etc), and engineering were missing. The study concludes English newspapers in Pakistan lack proper coverage of science involving news and their readers possibly remain from better civic sense.

Keywords: Science/health news, Pakistan, Newspapers, Case study, Gastroenteritis.

INTRODUCTION

News media at all times gives science due importance with such an extensive scope that Edwin W. Scripps and William E. Ritter launched a news agency as 'Science Service' during the 1920s. Ritter (1928) valuing the joint efforts by science and journalism wished-for mixing both entities. Newspapers in the 19th century published the lectures by eminent scientists like Thomas Huxley, Louis Agassiz, and Asa Gray (Weigold, 2001) for public interest, but the coverage of science may have reached its peak all through the Second World War. Hence, in the 20th century, the large news organizations covered science by a beat reporter while small ones handled science reporting by a general assignment reporter or by wire service (Friedman 1986). Dennis and McCarteny (1979) found science writers at large newspapers preferred stories on environment, medicine, and technology over physical and behavioral sciences stories. Hence, consumers of large newspapers are more exposed to science news, particularly, health related stories. Newspapers that carry regular science sections as compared to those that do not also give greater coverage to science in the news section (Bader, 1990), particularly for stories about basic research.

Since scientific discoveries can help people to avoid health threats, detect threats, or identify threats; the extent, and the way the press covers the risk, the reasons

* Senior Assistant Professor, Department of Media Studies, Bahria University, Karachi - Pakistan Email: sardarnazish@yahoo.com

** Professor, Department of Media Studies, Jinnah University for Women, Karachi - Pakistan Email: nisarazuberi@yahoo.com

for high public interest in science reporting about risk are obvious (Burnham, 1987; Viscusi, 1992). When risks are identified or labeled as concerns; stakeholders including “experts, policy makers, interest groups, and the general public” (Juanillo and Scherer, 1995) become involved in debates about policies designed to provide an increased safety. Although television captured huge audiences later on, Palen (1994) reports 38% respondents still read science news in a newspaper weekly as compared to 56 % of Americans regular viewers of television programs on science, technology, or nature. Conversely, just 9 % rate the newspaper as a good source of science news since 75% of the paying special attention regularly read the paper show disappointment with the science coverage (Weigold, 2001). Likewise, Robert et al (2000) carried out content analyses of Los Angeles Times and The Washington Post, in respect of science, medical, and environmental news reporting. Emma Weitkamp (2003) confirms in her study that medicine and health topics are privileged over science in newspaper reporting and are drawn from a wide range of sources.

[AbdesslamBoutayeb](#) (2006) found most eventful studies relate to the epidemics that usually erupt in populace cities of third world countries. People, civil society, media, and healthcare professionals keep on trying to make people safe from epidemics but small-scale-grip of various epidemics continues; that include bird flu, dengue fever, and gastroenteritis etc. However, the year 2005 in Karachi – Pakistan is marked as horrible one. An epidemic broke out in the thickly populated locality of ‘Landhi’ town in September 2005 that was identified as *gastroenteritis*. The epidemic prevailed very fast throughout the locality. Some 25000 persons mostly children infected by *gastroenteritis* and 14 persons, despite the efforts of health providers, expired.

Mass media played its due role to inform people about the cycle of epidemic and its causes. Media reporters contacted health experts and asked them to advice people how they could keep themselves safe from *gastroenteritis*. Hence, all such information widely publicized through the media reached people for their realization and subsequently taking preventive measures out of *gastroenteritis*.

Since, taking into account all kinds of media simultaneously might be unmanageable; hence only one form of print media *i.e.* newspaper has been selected for the study. Seeming this fear a typical case, study of science reporting about this risk of high public concern has been carried out to find the role of newspaper coverage.

METHODOLOGY

Selection of Newspapers

Most of the scientists select newspapers for studying their topics of interest (Toby A. Ten Eyck and Melissa Williment, 2003; Hijmans, *et al.*, 2003). Their research focussed on scientific news appeared specifically in the newspapers. Therefore, in view of popularity, reasonability, impartiality, coverage, circulation and

interest in the society, three English language newspapers; daily Dawn, daily Nation, and the News International publishing from Karachi selected for this study. To have a control over population of these newspapers, sample for this study has been taken for 14 days starting from 17th September 2005 to 30th September 2005 as the main source of information. The reason for selecting this specific period is that on 17th September 2005 the first news about gastroenteritis epidemic hit the headlines of newspapers. The 14 issues of a newspaper are considered as authentic to find out something required (Hijmans, *et al.*, 2003). Moreover, news about gastroenteritis was not seen in newspapers well before 30th September 2005. The validity of this study even after over 10 years seems to be integral as no incident of gastroenteritis outbreak took place during the years 2006-2015 again in the same or any other locality of Karachi city.

Collection of Newspapers

Two newspapers (daily Dawn and The News International) obtained in Dr. Mahmud Hussain Library, University of Karachi, and daily the Nation in the Liaquat Memorial Library Karachi. All newspapers examined carefully. Science news, particularly, the news relating to the epidemic of gastroenteritis were searched, located and measured with the help of a graduated scale in column centimeters. Photocopies of all such news were prepared, pasted on separate sheets of papers, and maintained properly for record. The data has been summarized and is given in table 1.

RESULTS AND DISCUSSION

News media plays an influential role in shaping the understanding of public so much so that it also reveals the dangers of genetics and medical research (Benjamin, 2005). In Pakistan, “where 70 per cent of the population has no access to primary and emergency care, 1.2 million people die of water-borne diseases annually, a child dies of some disease every minute, and 70 women die of pregnancy-related complications every day, the government has no justification to spend money on lavish projects” (Daily Nation, 2013). Hence, the media is expected to provide information on all issues and events.

Table 1 shows that news relating to medical sciences finds the highest percentage (13.8 %; $13.8/3=4.6$) in aggregate with a large share by the News International (5.2 %), followed by daily Nation (4.6 %) and daily Dawn (4.0 %). The same type of study for four Urdu language newspapers shows the coverage of medical sciences as 23.1 % ($23.1/4=5.8$) (Nazish and Zuberi, 2015). Medical infrastructure in Karachi is in pathetic form. Paucity of basic facilities, non-availability of medicines, failure of emergency cares, poor hygienic conditions all are regular features of Urdu as well as English language newspapers. Data shows that daily *Express* made only 3.8 percent coverage to medical sciences related news; daily, *Jang* provides an ample coverage to medical news (4.1%) a little higher than daily Dawn preceded daily Nation (4.6%), daily *Nawa-i-Waqt* (5.9%) coverage to the medical news while daily *Ummat* took lead in this regard that

provided 9.3% coverage (Nazish and Zuberi, 2015), almost double than other newspapers and also much higher than daily the News International; but exclusion of news relating to gastroenteritis epidemic and its causes (16.9 %) may reduce to insignificant number of medical sciences news coverage (5.41%). The cumulative percentage of all science news covered by English language newspapers is 22.31 % only.

This figure may even reduce to 5.41% since each environmental sciences and computer science related news have been found at 1%. Other medical news includes the news about polio, free medical camps, and eye disease etc. However, the coverage of such news is near to zero %.

The third higher number of news (1.9%) after water matters (3.1%) relate to environmental sciences. Release of obnoxious gases into the atmosphere, climate changes, increasing loads of hazardous matters, insanitation, increased vehicular exhausts are some topics of media interest. Therefore, media performs its duty to keep on informing of environmental conditions. However, the coverage is even lower than expected. No newspaper took much care of this important discipline which can be seen as: daily Dawn (0.3%), daily Nation (0.1%) and daily the News International (0.6% each), as compared to daily *Jang* and daily *Nawa-i-Waqt* (0.2% each), daily *Express* (0.4%), and daily *Ummat* (0.1%). This data itself speaks of the grave negligence of media in Karachi on part of providing coverage to the environmental sciences; whereas much of the material is available from concerned agencies and even from NGOs working in this sector for public benefits (Nazish and Zuberi, 2015).

All three newspapers cover food safety (0.3%, daily Dawn only), botanical sciences (0.48%, excluding the News International), agricultural sciences, research & development, natural sciences/wildlife, energy, and computer sciences (respectively 0.7% , 0.2%, 0.01%, 0.4%, and 1.0% daily Dawn only), geology (0.4% Dawn, and 0.8% the News International), metrology and marine biology (respectively 0.04% and 0.08% % Dawn and the News International). Nanotechnology, space science & technology, advance sciences (lasers etc), and engineering found as untouchable fields by these newspapers.

Contrarily, the Urdu language newspapers provided some coverage to agricultural sciences (1%). Other disciplines that received mentionable coverage are: marine biology (0.27%), nanotechnology (0.1%), space science & technology (0.23%), advance sciences (0.3%), and engineering (0.07%).

The combined data of science news disciplines covered by Karachi newspapers in the sample is, however, given in Table 2 (Nazish, 2015).

Science News Coverage in Pakistani Newspapers

As for newspaper science in Pakistan newspapers is considered, the case for this study relates to the city of Karachi. On the basis of status, the science news data extracted from all three English language newspapers shows a different pattern of science topics. However, one must see which topics constitute the science news coverage in a newspaper. The newspapers under study are regarded media opinion leaders not only in Karachi but all over Pakistan having influence on the public opinion along with reflections of national attitudes. Main functions of newspapers under study are found similar to all latest mass media, providing a field for public discussion (Sturloni, 2003). **The Canadian Press (2014) includes health news as top category while listing the news categories among others. In the special interest category, it includes agriculture, automotive, consumer technology, environment, food, health, lifestyle, oil and gas, science, technology, and weather. However, the NEWS (2014) provides a very brief list of sections as U.S., world, politics, investigative, health, entertainment, money, technology, travel, recipes.**

On the basis of local needs and sequence of events, the journalists coin their own sort of news. The events are reported as and when occur with a slight touch of background information and futuristic approach. Scenario of science news coverage is mostly dependent on the health and environmental situations. Water supply, sewerage systems and cleanliness conditions itself speak of poor state of affairs, hence most news relate to the poor water quality, seepage of water supply and sewerage lines. Since, the gastroenteritis epidemic prevails through contaminated food or water (<http://www.mayoclinic.org/diseases-conditions/viral-gastroenteritis/basics/causes/con-20019350>); hence the news relating to prevalence or posing fear for disease only out of contaminated water have been treated as medical news; otherwise all news about the water supply situation, fear for water contamination, general testing of water for any pathogens or routine water checkup have not been regarded as medical news since these types of news fall with the adequate water supply system. Hence, a separate category under “water matters” has been coined for this purpose.

Studies of Science News

Contextual conditions in science news are effectively pertinent to current study but need to be clear in actual living conditions. Science news spread out information about *gastroenteritis* through newspapers but individual consumers of newspapers go through contents, absorb information, realize news trustworthy or not, and act upon the advice of health facility providers in order to keep themselves safe from epidemic or reject the advice.

CONCLUSION

One may ask what value a study has in 2016 that initiated in 2006. The reply is, no event took place other than gastroenteritis like an epidemic; whereas dengue

fever, polio, and bird flu erupted in sparse and faded within days; and these too were occasional and happened as individual cases. Moreover, communal epidemic of gastroenteritis did not occur again since then in that or any other locality in the Karachi city. This shows people may have adopted certain measures to keep themselves safe from water-food-borne disease. However, the value of this study persists even more today and years to come, mainly due to observing changed behaviour of newspaper readers and finding ways how to use newspapers particularly to create understanding for better civic sense among the masses.

A short account of former studies on science communication through newspapers gives an idea about the extent of research in this discipline. However, the data directs towards this side of learning that how science news are treated and covered by the newspapers in a society like Pakistan. Since there are a number of epidemiological issues through the country, the study might be a starting point in initiating such other studies for the welfare of society. Karachi, being the largest metropolitan city, deserves to be focused for this study since a mix population is reachable and the city is inhabitant of the people of different socioeconomic strata.

Moreover, this might be a humble effort from a developing country like Pakistan to share its responsibility in the domain of diffusion studies and the effect paradigm in society with emphasis on health related science news. The initiation of such a different view point might invoke interest among the mass communication researchers towards such other studies for the benefit of society at large. The study concludes since Pakistani newspapers lack proper coverage of science based news; their readers may be far behind the debates about the policies to provide an increased safety to the people.

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Table 1: Discipline-wise comparison of total science news (in percent) in all three newspapers under study

Discipline	DD	DN	DNe	Total
Medical sciences	4.0	4.6	5.2	13.8
Water matters	1.1	1.7	0.3	3.1
Food safety	0.3	-	-	0.3
Botanical sciences	0.08	0.4	-	0.48
Agricultural sciences	0.7	-	-	0.7
Research & development	0.2	-	-	0.2
Environmental sciences	0.3	0.1	0.6	1.0
Natural sciences/wild life	0.01	-	-	0.01
Energy	0.4	-	-	0.4
Computer sciences	1.0	-	-	1.0
Geology	0.04	-	0.8	0.84
Metrology	-	0.4	-	0.40
Marine Biology	-	0.08	-	0.08
Nanotechnology	-	-	-	
Space science & technology	-	-	-	
Advance sciences (laser etc)				
Engineering	-	-	-	
Total	8.13	7.28	6.90	22.31

DD= Daily Dawn, DN= Daily Nation, DNe= Daily the News International.

Table 2. Discipline-wise data of science news (%) covered by all seven newspapers from Karachi.

Discipline	DD	DE	DJ	DN	DNe	DNw	DU	Total
Medical sciences	4.0	3.8	4.1	4.6	5.2	5.9	9.3	36.90
Water matters	1.1	1.8	2.4	1.7	0.3	2.6	2.9	12.90
Food safety	0.3	0.01	-	-	-	-	-	0.31
Botanical sciences	0.08	-	-	0.4	-	-	-	0.48
Agricultural sciences	0.7	-	0.1	-	-	0.2	-	1.00
Research & development	0.2	0.3	-	-	-	0.08	-	0.58
Environmental sciences	0.3	0.4	0.2	0.1	0.6	0.2	0.1	1.90
Natural sciences/wild life	0.01	0.05	-	-	-	-	-	0.06
Energy	0.4	0.04	0.07	-	-	-	-	0.51
Computer sciences	1.0	-	-	-	-	-	-	1.00
Geology	0.04	-	-	-	0.8	-	-	0.84
Metrology	-	-	0.1	0.4	-	0.2	-	0.70
Marine Biology	-	-	0.03	0.08	-	0.16	-	0.27
Nanotechnology	-	-	0.1	-	-	-	-	0.10
Space science & technology	-	0.06	0.07	-	-	0.12	-	0.23
Advance sciences (laser etc)		-	0.03					0.03
Engineering	-	0.04		-	-	0.03	-	0.10
Total	8.13	6.50	7.20	7.28	6.90	9.49	12.30	

DD= Daily Dawn, DE= Daily Express, DJ= Daily Jang, DN= Daily Nation, DNe= daily News International, DNw= Daily Nawa-i-Waqt, DU= Daily Ummat