
Measles Vaccination And Deaths: Analysis Of Lay Press Reports

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Abstract

Background:

Measles vaccination has been included in the National immunization program in India and in countries where measles is endemic. Lay press not only provides information but also sensitizes the readers.

Objective:

To find out the pattern of information provided in the lay press following deaths after measles vaccination, to elicit the influence of press on various machineries involved in health care, and find out the awareness of medical residents on these deaths and adverse drug reaction (ADR) reporting system in India.

Materials and Methods:

Lay press reports on deaths following measles vaccination on 23rd April 2008 published in five Tamil [regional] and two English [national] news papers coming from Chennai [Tamilnadu, India] on 24/25, and the related matters published in the "The Hindu" [English daily from Chennai] from 24th April to 3rd May 2008 formed the materials. These reports were collected and classified into epidemiological details, clinical issues, pharmacological aspects, implications on healthcare machinery and public response. Knowledge of the present tragedy and ADR reporting system were elicited among 300 medical residents by using an anonymous questionnaire of two different medical colleges which are located 250 miles away from the episode. The data were analyzed by simple descriptive statistics.

Results:

The lay press reports (and pictures) noted in Tamil and English daily were 20(14) and 12(8) respectively. The Hindu has brought out a total of 14 items, one picture and an editorial. Among the 238 (79.3 %) residents responded, only 70 (29.4%), were aware of the episode and none on ADR reporting system in India. Root cause analysis revealed human error at the local level.

Comments:

Lay press has brought out the lapses, gaps and deficiencies, attracted the attention of stake holders of health [Professionals, Policy makers, Planners and Politicians, Public, Pharmaceutical manufacturer and Judicial authority]. The implications were multiple- viz., called for a discussion in the legislative assembly, initiated compensation for vaccine injury, alerted the Government of India, helped to revise the vaccination strategies in the state of Tamilnadu, influenced the State human rights commission (SHRC) to call for a report, and geared up the health administration towards strengthening of services and training. The present observations indicate that press freedom and their health news can contribute to health care. The relation ship between Lay press and health care is made out through a lay press – health care cycle.

INTRODUCTION

Measles contributes to morbidity and mortality among children less than five years in developing countries. Since 1976, World Health Organization (WHO) has recommended the developing countries to include measles vaccination into routine immunization schedule. In India, measles vaccination has been incorporated in the National Immunization Program since 1985-86¹ and administered free of cost by health care workers in their respective villages and also in government health centers regularly.

In this country, with a population of about 1250 million, the daily news papers reach over 203.6 million² people. Daily news papers are available in the tea shops, way side restaurants, etc., even in small villages and urban areas. So, most of the customers read the news paper daily. Sometimes, one of them reads and others listen and interact with each other. Thus the customers come to know the current news of their region and other areas. Lay press reports on information related to healthy life styles, diseases, outbreaks of illness(s), environmental aspects, diagnostics and devises,

vaccine related issues, drug reactions, preventive matters, medical errors, quality of health care, hospital issues, ethical aspects of profession and professionals, medical education, etc., and attracts the attention of responsible authorities and international organizations. In fact, WHO get alert much earlier on health issues and illnesses from the publications in the lay press before the information reaches them through official machinery.

The present study was undertaken to find out the pattern of information provided in the lay press following deaths after vaccination, to elicit the influence of lay press reports on various machineries involved directly and indirectly in the health care delivery, and analyze the awareness of medical residents on these deaths and adverse drug reaction (ADR) reporting system in India.

MATERIALS AND METHODS

Lay press reported the deaths following measles vaccination on 23rd April 2008 in two different villages of State of Tamil Nadu, India. Tamil and English news papers published from this state have displayed this astounding news and related matters on 24/25th April 2008. The Tamil news papers included were “Malai Malar, Thinamani, Daily Thanthi, Thinamalar and Thinakaran”, and the English dailies were “The Times of India(TOI) and The New Indian Express(NIE)”. Also, similar matters published “The Hindu”, the oldest English daily from Chennai since 1878 with a vast readership of 4.05 millions², and circulated in various states of India through different publication centers, were collected for 10 consecutive days from 24th April 2008. These lay press reports with and without pictures formed the materials of the study and were read by the authors independently and classified into epidemiological details, clinical issues, pharmacological aspects, implications on machineries involved in health care and public response. The vaccine related deaths which were published in many hundreds of websites were not included. Further, 300 residents from Coimbatore and Madurai medical colleges, located almost 250 miles far from the site of tragedy were asked 2 questions independently and anonymously: a) Were you aware of deaths following measles vaccination? and b) Were you aware of adverse drug reporting system (ADR) in India? The data were analyzed by simple descriptive statistics.

RESULTS

The total news reports (and pictures) related to the episode of vaccination were published in five Tamil and two English dailies other than The Hindu were 20 (14) and 12 (8)

respectively. During the study period of 10 days, the Hindu news paper brought out 14 news items including a picture and one each under editorial, corrections and clarifications, and letters to the editor. The overall matters were consistent in these news papers except with the presentation and captions. The pictures shown on papers were emotions of victim's parents and families, primary health center (PHC) with non functioning ambulance and others; these were more in Tamil regional than English papers.

The epidemiological details provided in the news paper were the places of occurrence, demographic details of the deceased (three girls and one boy; age ranging from 10 to 13 months), low socioeconomic status and poor transport facilities of the villages. The clinical issues highlighted were health status before vaccination, development of symptoms and signs after vaccination and referral to higher centers. Totally six children were referred; among them, four died and two survived. The post mortem studies revealed severe brain hemorrhage resulting from an anaphylactic shock.

Pharmacological aspects described in relation to vaccine were batch number of vial, use of same batch in these health centers and other centers across the country, quantity of vaccine manufactured and supplied, nature of the contents (multi dose lyophilized), diluent status, cold chain system, quality of production and control by drug authorities of India, and WHO standards maintained by the manufacturing units and collection of samples for analysis.

This tragedy created panic among public and parents of unaffected children who have received the same vaccine. Lack of referral support and emergency service as well as non functioning states of ambulance provoked the public for road block^{3,4} which was solved by the higher officials. In addition, some of the hardships met by the parents of expired victims were in aptitude of officials and issues related to burial which were depicted with a picture too. Following this, two different parents living in different areas of this state attributed death of their child due to non-vaccinated illness, to triple vaccine and hepatitis B vaccine respectively, who later got convinced by professionals⁵.

The lay press news attracted the legislative members of different political parties to have discussion in the Legislative assembly in this state of Tamil Nadu. Immediately, the Honorable Chief Minister has announced a solatium of 7500 US dollars to each victim's family. The State Health Minister along with health administrators, planners and other policy makers visited the spot, consoled

the victim's parents, paid compensation, directed for action against responsible persons, suspended health workers directly involved in the vaccination procedures, ordered for spot enquiry, withheld measles vaccination program, checked the materials used for vaccination, looked into the probable cause for the death, instructed to supply the required emergency medicines and directed for revival of the ambulance services.

The lay press also drew the attention of authorities at the capital of India who have ordered withdrawal of vaccine and formed a committee to ensure and find out facts ⁶. Analysis revealed that the vaccine was completely safe for use and the human error at the local level could have possibly resulted in the death of four children ⁶.

Among the 300 questionnaires circulated, 238 returned and the response rate was 79.3%. Among the responders, only 70(29.4%) were aware of the tragedy and none on ADR reporting system in India.

DISCUSSION

Measles is transmitted by droplet infection and endemic in all parts of the world. Also, it is the major killer disease among vaccine preventable diseases. Increased immunization coverage has brought down the occurrence of measles in India. As people have noticed the reduction in vaccine preventable diseases in their family and neighbors, they come forward voluntarily for immunization of their off springs.

LAY PRESS IN INDIA

In view of the freedom provided to lay press, it brings out various issues and analyzes them in a logical manner and asks for remedial measures apart from providing suggestions. Largest house to house survey of its kind in the world interviewed 284,373 residents across the Nation (India) covering 535 publications (230 dailies and 305 magazines) belonging to different languages, identified that daily newspapers are circulated all over the country and read by vast majority of the population in contrast to the developed Nations where internet is a main source for information ².

Lay press in general displays news reports with catchy, effective headlines and in simple sentences The Hindu has brought out an editorial under the caption "Towards safe vaccination" ⁷. In that, it has highlighted the lapses and gaps in the primary health care network and district level health care delivery as well as deficiencies in emergency service

systems; asked for good quality vaccine to restore faith in the vaccination activities and demanded the root cause for complication.

The editorial suggested for a review of immunization program by all states of India, insisted on strengthening of regulatory system on vaccines by respective authorities, provision of good infrastructure, and to train health force, rather than blaming health workers alone responsible for such events.

RESPONSE OF THE GOVERNMENT INDIA

Health and Family Welfare [HFW] ministry, Government of India [GOI] gave directions to stop using the measles vaccine under question till further orders, asked the manufacturer not to make any further supply, and formed an expert committee to visit and ensure the quality of the vaccine, quality of diluents, status of cold chain, distribution and administration of the vaccine including the possibility of human error.

RESPONSE OF THE STATE HEALTH ADMINISTRATION

In the state of Tamilnadu, nearly 100,000 children are immunized every month in the 1400 primary health centers, 270 hospitals, 163 urban health centers and thousands of interior health centers. The state has drawn up newer strategies to make vaccination safer i.e., vaccination by health workers under the supervision of doctors in the respective health centers, with care and support for emergencies and ADR ⁸.

RESPONSE OF THE PUBLIC

Response of the public were formulation of safe vaccination, pro active measures to prevent complications, restoration of faith in health care delivery at time of need and emergencies, and objection to suspension of health workers involved in the vaccination. Some of the parents brought illness and death unrelated to vaccination among their children, which were sorted out ⁹.

RESPONSE OF THE MANUFACTURER

The manufacturer disclosed the pharmacological details related to measles vaccine and supply to different states of India. They have excluded the possibility of any error from their side ⁸. Moreover in a recent article on measles vaccine published by the same unit, the superiority of the measles vaccine produced by them over the other available in the market in terms of immunogenicity and safety ¹ was

brought.

RESPONSE OF THE JUDICIARY

State Human Rights Commission [SHRC] chairman, Justice A.S.Venkatachalamoorthy took suo motu cognizance of the press reports about the death following vaccination and asked for a report from the Health Secretary of the State Government of Tamilnadu [The Hindu 26th April].

RESPONSE OF THE PROFESSIONAL ASSOCIATION

The Tamilnadu Government village health nurses association has demanded the immediate revocation of suspension of village health nurses and asked for additional training with provision of emergency medicines ¹¹.

RESPONSE TO VACCINATION AFTER VACCINE RELATED DEATH

Since vaccine related deaths happened on 23rd April 2008(Wednesday being in Immunization day), it was expected that there may be a drop in vaccination on 30th April. Despite of official trepidation, barring a few places, pregnant women and mothers came with their children for immunization at primary health centers. In fact 56,052 childrens and 9,072 pregnant women have received the vaccines on 30th April and the coverage rate was 93%. This indicated that public has faith in the State health care delivery and vaccination. More over, vaccination deaths have not affected the immunization program ¹² grossly.

ROOT CAUSE ANALYSIS

The deaths following measles vaccination is really intriguing. In the present report, one after other three children died after administration of the vaccine from a single vial. Similarly, one more death has occurred in another village. Interestingly, the records showed that 230 doses of the same vaccine batch were used in seven villages of the same primary health center areas on that day without any severe reaction among others.

The causes for previous measles vaccination related deaths occurred at Salem district of Tamilnadu in 1978 and at Cuddappah of Andhra Pradesh and Tamilnadu in 1980 found to be due to toxic shock syndrome (TSS) ¹³. Experts in the central team said that an anaphylactic shock following measles vaccination is extremely rare and occurs one out of million cases. In the present juncture, the cause for anaphylactic shock as pointed by experts were human error ^{6,14} resulting in mixing vaccine with a different chemical in

the place of regular diluent provided by the manufacturer (or) contamination of vaccine by a foreign protein like bacteria because of being kept open for more than three hours after being reconstituted. Center for Disease Control, USA has admitted that a child received EZ measles vaccine of Standard potency died from bacterial infection which was unrelated to vaccination. The other causes for allergy or anaphylaxis are components of vaccine such as gelatin and neomycin.

LAY PRESS AND HEALTH CARE CYCLE

Since the lay press has brought out the health care issues and sensitized those involved in health care, the cyclical relationship between lay press and health care is mentioned under 'Lay press and health care cycle' and shown in figure 1.

MEDICAL EDUCATION AND LAY PRESS REPORTING

Despite wide coverage of the tragedy in the lay press and internet, only around 30% of medical students were aware of it. To over come this, the respective departments should display health and illness related lay press reports in the notice board for students to read and give an opportunity to discuss such issues in class room like journal discussion. This will help them to get to know the current affairs and prepare them to face the challenges from public, press and authorities.

ADR REPORTING SYSTEM IN INDIA

Recently Central Drug Standard Control Organization (CDSCO) under the Director General of Health Services, Ministry of HFW, GOI, New Delhi has designed an ADR reporting system and provided guidelines about voluntary reporting in their website ¹⁵ www.cdsc.nic.in. Surprisingly, this is not known to many of the medical residents. Most of the medical colleges in India do not have pharmaco vigilance division /section and ADR reporting system, as these were not insisted by Medical Council of India, the monitoring and regulatory authority for medical colleges in India. Now, WHO has launched the National pharmaco vigilance program in India from January 2008 which has been funded by the World bank.

STRENGTH AND LIMITATIONS

The study reviewed the lay press reports independently, classified and analyzed; and the limitation being a secondary data.

Suggestions:

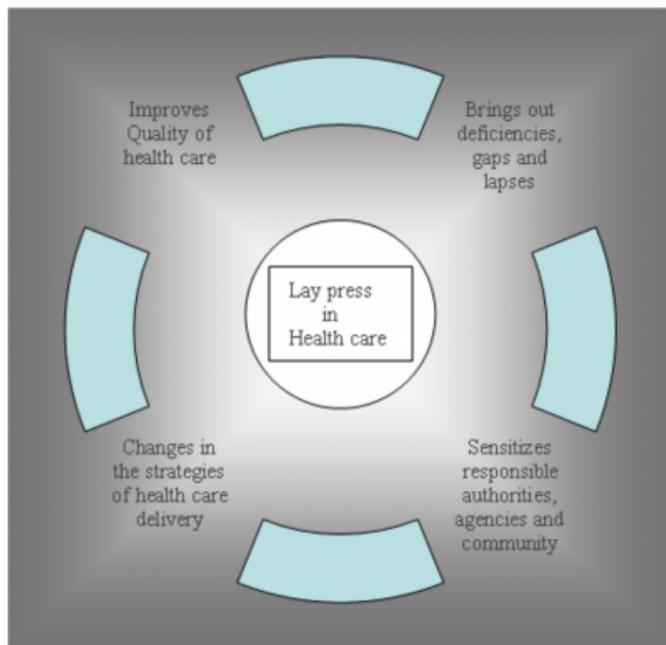
The needs of the hour are to develop the following at National and regional level: viz., National Vaccine information center (NVIC), National Vaccine injury compensation program (NVICP), compulsory pharmaco vigilance system at district hospitals and medical colleges under public private partnership manner, and a Toll free call number at state level with 24 hours service with call recording facilities on drugs and ADR.

CONCLUSION

Lay press brought out the emotions, demands and expectations of the public, pointed out the lapses, gaps and deficiencies in the existing health care delivery system, attracted the attention of responsible health authorities, forced the authorities to rectify / revise the functioning systems, presented the misuse of privilege by the public and suggested remedial measures.

Figure 1

Figure 1: Lay press - health care cycle



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