

Full Length Research Paper

The media's and health scientists' perceptions of strategies and priorities for nurturing positive scientist-media interaction for communicating health research in Uganda

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The mass media plays a central role in provision of health information to the public. We sought to investigate factors that influence the scientist-media interaction in communicating health research in Uganda. During four training workshops conducted with 80 scientists and 24 journalists, participants were requested to indicate contextual factors and personal barriers and solutions for successful media-scientists interaction. Data was analyzed thematically. While scientists and journalists support closer dialogue for communicating health research, they are concerned by lack of competence (to communicate to each other), and poor recognition or reward for this activity (compared to research itself). Perceived barriers are inadequate or inappropriate skills, negative attitudes and lack of supportive environment by employers and peers. For scientists, communication skills training to change values and impart skills were deemed critical. For the media, implementing strategies on how journalists and scientists should work together more effectively was key to addressing these challenges.

Key words: Health scientists, media, scientist-media interaction, research communication, training needs.

INTRODUCTION

Each year worldwide, research is conducted with the goal of improving health service delivery and subsequently quality of life of the population. However, there is a challenge of translating this research output into evidence-based practice, social change or policy development. Thus there is critical need to bridge the gap between research discovery and service delivery to ensure that benefits from scientific discoveries reach the research beneficiaries in a timely manner (Bero et al., 1998; Bradley et al., 2004). One method of disseminating

research findings to the public is through use of mass media (newspapers, radio and television). In Uganda, most of these newspapers, radio and televisions are privately owned (by individuals, by private organizations, by religious organizations. Though their goal is similar (to educate, inform and entertain the public), it is the interests of the management and ownership of these institutions that determines what they publish or broadcast.

Representation of science in print and broadcast media suggests that science coverage is often full of distortions and is unreliable, exaggerated or inaccurate.

This prevents lay audiences from adequately understanding science reports/news or making timely and anticipated decisions about scientific research (Singer,

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1990; Stocking, 1999; Conrad, 1997; Kua et al., 2004). For instance, the ways in which genetics research is presented in the news (on radio, newspapers and television) has significant effects on an individual's perception of risk (Condit and Parrot, 2004) and health behaviours (Cappella et al., 2007). Media coverage that focuses on the negative aspects of genetic discoveries may lead audiences to fear about their application. This limits the utilization of information on genetics or involvement in genetic research (Geller, 2002; Condit, 2008). The most common errors in science journalism include omission of critical information and context, misquoting, simplification or sensationalization of headlines (Stocking, 1999; Weigold, 2001).

One way to address the above problem is for scientists to link up with the media to communicate health research to the public, policy makers and policy implementers (Brown, 2000). Many research organizations in Uganda, for instance Uganda Virus Research Institute and the Walter-Reed Research Project, employ science communication personnel. The role of these people is to act as intermediaries in the dissemination of scientific research findings or news to the public (Dunwoody, 1999; Weigold, 2001). Such public information officers facilitate relationships between scientists and journalists (Dunwoody, 1996; Logan, 2001; Nelkin, 1995; Weigold, 2001), in conducting media interviews or officiating at press releases. The reason for this is that scientists frequently express fear about communicating with the public directly, relying on public information officers to assist them in their interaction with the media or the public (Dunwoody and Ryan, 1983). The role of public information officers has not been fully explicated within the literature (Borchelt, 2001). Research in this area (Woloshin and Schwartz, 2002) has highlighted the possibility that errors originate with the press release, the media interview and the subsequent appearance of the research information in the media. The mass media (radio, television or newspapers) plays a central role in provision of timely and reliable information to the public, fellow scientists and policy makers. The mass media is often cited as a primary source of health information.

Other initiatives that have been implemented to improve the science-media relationship involve training (Peters, 2008). These include running training workshops in which scientists and journalists meet to discuss the problems in their interrelationships, appeals to scientists to become public communicators, and training members of the media as science journalists or science communicators. Another strategy is establishing research and academic institution guidelines on how researchers can effectively interact with the media in institutions. Such interaction may be through issuing press releases and conducting media interviews, and training workshops. The latter are meant to prepare scientists for contacts with journalists so as to change or shape their perceptions, opinions and values regarding perceptions, opinions and values regarding communication of science

(Peters, 2008).

At the Makerere University College of Health Sciences, faculty, graduate students and some undergraduate students conduct research. Often research findings are written up into research reports or dissertations that may not be readily accessible to the public or policy makers. Consequently, very rarely are findings from this research used by policy makers or the public. Using a grant from Wellcome Trust International Public Engagement Awards to Makerere, we implemented a training programme of active engagement between health researchers and the media.

The goal of this training project is to build a critical mass of researchers and journalists (from the print and broadcast media) with competence in communicating scientific research to the public. Training uses short-term courses (lasting 2 to 3 days) where health professionals and journalists are trained together to instill a spirit of teamwork and networking, using didactic sessions, group work, interactive discussions, case presentation, role-plays and take-home assignments. Our objective during the training workshops was to explore factors that influence the scientist-media interaction in communicating health research in Uganda from the perspective of health scientists and the media. As a spin-off of this training, we wish to share lessons learnt on barriers and solutions to nurturing successful scientists-media interaction geared to communicating health research in Uganda.

METHODS

The participants from whom this data was collected were 80 health scientists from the Makerere University College of Health Sciences and its affiliated research projects who attended the training workshops. Invitations were sent out to health scientists (mainly from the medical profession), who had ever conducted health research. These invitations were placed on notice boards and were also sent through e-mails sent to a general mailing list of the Makerere University College of Health Sciences. The 24 journalists came from the print and broadcasting media (both radio and television).

Invitation letters for these were sent out to media houses requesting them to identify participants to attend training workshops on how to improve interaction between media houses and health scientists regarding communicating health research. The only requirement to attend (and what could have been a motivation any of the participants) was having an interest in strengthening health research communication. Other than a modest transport refund, there were no incentives to attend the training sessions or participate in the questionnaire survey.

Participants were requested to fill a pre-training questionnaire on their experiences regarding scientist-media interaction to communicate health research. The open-ended semi-structured questionnaire inquired on experiences in communicating health research, perceived barriers to communicating health research and perceived solutions to addressing challenges in health research communication. Participants were also requested to indicate the contextual factors of communicating research through the print or broadcast media, perceived barriers to successful media-scientists interaction and possible solutions. This they did by anonymously writing this information on pieces of paper which they passed on to

the workshop facilitators. The papers were later collected and analyzed thematically to assess the personal, (contextual) structural and professional factors that might act as barriers to scientist-media interaction (in communicating health research). Content analysis (Pope et al., 2000) used to analyze the information involved familiarization; identifying a thematic framework, indexing; mapping and interpretation. The identified barriers were discussed in the training workshops to gain a deeper understanding of the perceived barriers and suggested solutions to health research communication. All the participants gave their consent for their anonymized views to be published or discussed in subsequent workshops.

RESULTS

Lack of opportunities to conduct or disseminate research

From the questionnaires, the anonymously filled responses and the subsequent discussions, it was noted that many scientists were good at communicating to each other through journal publications, presentations at scientific conferences and in scientific meetings with fellow scientists. Many scientists thought health research is complex as there are many ethical issues involved, at the same time, there is limited funding for health research. Many scientists noted that they rarely disseminate their research especially through the media (due to work pressure, imbalances in payments to different health scientists, high cost of living). Health scientists from research organization are keen on relating with media to communicate science and research issues, unlike health scientists from academic institutions or hospitals (several journalists and scientists). The explanation for this anomaly was that there is overwork due to understaffing, leaving scientists with limited time to conduct research or disseminate research especially through the media, as indicated by one scientist:

“Many researchers have other roles as clinicians, managers, administrators, team leaders or researchers, and thus have competing interests, which hinder participation in dissemination or publication of research findings.”

Negative attitudes to science communication

Fear by scientists to share their findings that other scientists may “steal” their research ideas, especially if these are findings from preliminary research, was also cited by several young scientist/researchers. Members of the media also expressed fear that other researchers may hijack the research idea. There was also a big problem in absence or scarcity of role models for public engagement with research through the media. Old scientists were perceived as by the young scientists as conservative, that they looked down upon young scientists who readily interact with the print or broadcast

media.

“The concept of active dissemination of research is new and scientists may not want to change their views or values” (several scientists)

This view was also supported by members of the media who reported difficulty in interacting with senior or older generation of research scientists. Part of the perceived problem was due to lack of skills for science communication, a view exemplified by a quote from one journalist:

“Many scientists are poor communicators (lack skills in effective communication of scientific research), so even when they attempt to communicate health research findings, they are not understood. They often use difficult scientific jargon”.

It may also be partly due to attitude problems, as many journalists felt scientists look down upon them, as noted by one journalist:

“Once their research is not written or presented by the media in the way they want it, some researchers think this is deliberate distortion; they get annoyed, frustrated and stop interacting with the media.”

There is a negative attitude of newspaper and medical journal editors towards young scientists, whose work they often reject for publication, as noted by one scientist:

“Radio and television producers are more interested in senior scientists whom they host on their programmes.”

Some scientists who conduct research only do so with the aim of getting an income, especially if they win a grant, or for academic gains, so they do not want to spend any money or time on dissemination or publication of results. On the other hand, some scientists who conduct research only do so with the aim of getting publications and eventual promotion, but not necessarily to disseminate the research findings locally, a view exemplified by one radio journalist:

“Some young scientists conduct research only because it is a requirement to eventually graduate (the thesis is partial fulfillment of requirements for the degree award.”

Perceived barriers by scientists and journalists to linking up with each other in communicating health research

Poor working relationship between the health scientists and the media were cited as a major barrier to dissemination of research findings, as noted by one scientist:

“Senior scientists mistrust journalists, while journalists

find some scientists arrogant and unapproachable when they seek research information."

Negative attitudes of scientists to communicating research were also cited as a major barrier, a view exemplified by one journalist:

"Many scientists do not appreciate the value of communicating research using newspapers or broadcast media"

Lack of skills

Lack of knowledge by scientists about how to disseminate research was cited by both members of the media and scientists. The scientists agreed to this view that many lacked such skills. Many scientists were perceived as lacking skills for scientific writing, such that even scientists who have conducted research cannot ably summarize, let alone communicate their research findings in a simplified manner to lay persons. This view was common among journalists, as exemplified by one radio presenter:

"Many scientists who attempt to communicate their research findings use complex language that is not suitable for newspapers or radio presentation, as lay people may not understand let alone comprehend the intended message."

Misconceptions about what and whether to communicate research

Scientists and journalists perceived fear and misconceptions about when, whether and how to publish or disseminate negative research findings as a major barrier to communicating health research. Many researchers expressed fears regarding communicating negative findings or findings that are contrary to their expectations. Selfishness was also cited: some researchers do not want to share their knowledge. Not knowing the interests of newspapers (what kind of research the media may be interested in publishing). Failure to identify a conference with a suitable theme for the research conducted and failure to realize any value in dissemination of research, as policy makers rarely show interest or utilize local research products in policy making.

Perceived solutions for improving scientists-media interaction

Engaging medical journal and newspaper editors as well as radio and television producers, through science communication training, was identified as key to

improving scientist-media interaction. Several scientists identified need to impart skills or mentor scientists in science communication, a view expressed by one scientist:

"There was a need to conduct regular training workshops on how to disseminate research."

"Scientists in health professional training institutions should be trained in communication skills" (several scientists and journalists).

Such training would make the editors and programme producers develop more interest in medical research, particularly research from young and upcoming scientists, as this would improve communication of scientific research in the mass media. There should be opportunities for both the journalists and scientists to train in Science Journalism. There should be joint training fora for scientists and the media on communicating science and health research. Two journalists highlighted training in conducting media interviews and press releases as critical:

"Research dissemination should involve training in issuing press releases to the media houses."

"Train journalists and scientists on communicating research findings using media interviews or policy briefs."

Need to show more value in science communication

There was a need to improve payments/salary so that scientists can have more time to spare on research and dissemination. Both scientists and the media indicated that the public and policy makers should show more interest in locally generated research output when making policy changes. There was a perceived urgent need to assess what the public wants regarding scientific research, as indicated by one radio journalist:

"The media can be used to pose different questions to the public, who can then make suggestions on what can be presented by newspapers."

Need for more scientist-media interaction

There was a need to arrange quarterly meetings with the media houses and journalists. There was also an urgent need to invite journalists whenever there is a scientific breakthrough, as noted by one broadcast journalist:

"Scientists should form a steering group that identifies scientific research issues on which to engage the media continually."

This is important for changing values and attitudes of

both young and old scientists so that they should learn to share and not be conservative. This can start with health professional associations to develop the link between the media and scientists. The media houses (television and radio stations and newspaper groups) should identify, train and keep motivated journalists interested in health research. There should be an e-mailing list for scientists and the media where they can form a forum to regularly communicate. Researchers should liaise with journalists through workshops so that they discuss barriers to their working together.

DISCUSSION

The main findings of this study are that scientists and journalists are supportive of closer dialogue for communicating science and health research. However, there are concerns from lack of competence to communicate to each other, and lack of recognition or reward for this activity (compared to research itself). The perceived barriers to scientist-media interaction are inadequate or inappropriate skills, negative attitudes and lack of supportive environment from employers and peers for the activity. The findings suggest that barriers exist on the side of both scientists and the media. For scientists, the most critical need was communication skills training to change values and impart skills for communicating health research. In contrast for the media, the most critical need was identifying and implementing strategies on how journalists and scientists might work together more effectively and effectively.

The reliability of news media as an agency for communication of scientific research information depends on efficiency with which public information travels from an original source through an intermediate agent (the newspapers or news media) to the recipient of the news (television viewers, radio listeners or newspaper/magazine readers) (McQuail, 2000). This transmission model oversimplifies the complex negotiation process that occurs among the press, public information offices and scientific sources. Our findings demonstrate the perceived challenges and solutions in nurturing a positive scientist-media interaction.

The interpretation of the findings is that where as many scientists and journalists in Uganda are enthusiastic about participating in engagement activities geared at communicating health research, there are obstacles from both groups towards engagement. While the media are a major source of scientific information for the public, including health research information, its members may reinforce prejudice or negative stereotypes about science or research. Secondly, the scientific culture plays a critical role in establishing expectations of scientists regarding control over the communication process, acceptable topics and preferred styles of communication. This may be at variance with journalistic expectations.

Thirdly, science and journalism construct knowledge about the world according to different principles. Meanings of scientific messages may therefore change when journalists reconstruct them for the public sphere. Fourthly, there are valid fears regarding accuracy and distortion of research.

A fundamental problem of communicating research through the media is failure to link the media article with the original source, where the information may be verified. Moyer et al. (1995), from a sample of 116 U.S. magazine and newspaper articles published between June 1, 1990, and May 31, 1992, identified 42 inaccuracies between the original science articles and their coverage in the print media. They highlighted the difficulty in linking coverage back to the original research through often untraceable references. Bubela and Caulfield (2004) substantiate the concern about the general tendency for media science reports to under-represent risks and overemphasize benefits.

The study findings of perceived time constraints for communicating health research are in contrast to findings by Poliakoff et al. (2007). Poliakoff et al. (2007) found that factors that may predict scientists' intentions to participate in public engagement activities were negative attitude (whether participation was regarded as positive), perceived behavioral control (beliefs about whether participation was under their control), and descriptive norms (whether scientists believe their colleagues appreciate), rather than career recognition and time constraints. Though scientists are frequently required to indicate their public engagement plans when applying for research funding (Pearson et al., 1997; Pearson, 2001), scientists and the media express concerns when they consider the pros, cons and challenges of interacting with each other. Motivation to interact with each other might be based on perceived sense of duty, perceived necessity, organizational pressure or perceived personal benefit. Whereas some scientists express satisfaction in relating with the media, others show indifference, ambivalence or dissatisfaction.

The changing relationship between science and the mass media is characterized in theory as a "medialization of science", which differentiates two dimensions, an increasing media attention for scientific issues on the one hand and an increasing orientation of science towards the media on the other (Rodder, 2009). Science is no longer merely presented by the mass media to a passive audience, but is "medialized" (Schäfer, 2009). That is, science in the media is presented in such a way that the audience is informed and therefore can ably follow and contribute to the discussions and controversies reported. The mass media plays a crucial role beyond acting as secondary sources of news created in the scientific arena (Radford et al., 1996; Brossard, 2009). Scientists who decide not to participate in public engagement activities do so because they have not participated in the past; they have a negative attitude toward participation; they

feel that they lack the skills to take part; or they do not believe that their colleagues participate in or appreciate participation in public engagement activities (Poliakoff, 2007).

Inconsistencies occur in the transfer of research information from scientific sources to the public at large through the mass media (Brechman et al., 2009).

These include misinterpretation of partial or preliminary results. Here a press release or news article alters information by drawing conclusions that may be premature based on insufficiencies of the research. Others are overgeneralization or simplification of research findings (exaggerated or simplified claims made in the corresponding press release(s) or news article).

The media information often fails to distinguish mere associated factors from predisposing factors, confounders or causes of a disorder. Lastly, there might be contradictions, where inconsistency occurs between information in the corresponding press release(s) or media interview and published articles (Ransohoff and Ransohoff, 2001; Brechman et al., 2009).

Conclusion

Though there are perceived barriers for positive media-scientist interactions in communicating scientific research findings, both scientists and the media are supportive of changes geared to development of constructive media-scientist collaborations. For scientists, communication skills training to change values and impart skills is critical, while for the media, implementing strategies on how journalists and scientists might work together more effectively is the solution to address this challenge.

REFERENCES

- Bero LA, Roberto G, Grimshaw JM, Harvey E, Oxman AD, Thomson MA (1998). Closing the gap between research and practice: an overview of interventions to promote the implementation of research findings. *BMJ*, 317(7156): 465-468.
- Borchelt RE (2001). Communicating the future: Report of the research roadmap panel for public communication of science and technology in the twenty-first century. *Sci. Commun.*, 23: 194-211.
- Bradley EH, Webster TR, Baker D, Schlesinger M, Inouye SK, Barth MC, Lapane KL, Lipson D, Stone R, Koren MJ (2004). Translating research into practice: speeding the adoption of innovative healthcare programs. *Issues in Brief. Commonwealth Fund*, 724: 1-12
- Brechman J, Lee C-J, Cappella JN (2009). Lost in translation?: a comparison of cancer-genetics reporting in the press release and its subsequent coverage in the press. *Sci. Commun.*, 30 (4): 453-474
- Brossard D (2009). Media, scientific journals and science communication: examining the construction of scientific controversies. *Public Understanding Sci.* 18(3): 258-274
- Brown K (2000). A new breed of scientist advocate emerges. *Science*, 87: 1192-1195
- Bubela TA, Caulfield TA (2004). Do the print media "hype" genetic research? A comparison of newspaper stories and peer-reviewed research papers. *CMAJ*, 170(9): 1399-1407
- Cappella JN, Mittermaier DJ, Weiner J, Humphreys L, Falcone T (2007). Framing genetic risk in print and broadcast news: A content analysis. Paper presented at the annual conference of the National Communication Association, Chicago.
- Condit C (2008). How geneticists can help reporters to get their story right. *Nature Rev.*, 8: 815-820.
- Condit CM, Parrot R (2004). Perceived levels of health risk associated with linguistic descriptors and type of disease. *Sci. Commun.*, 26: 152-161.
- Conrad P (1997). Public eyes and private genes: Historical frames, news constructions, and social problems. *Soc. Problems*, 44(2): 139-154.
- Dunwoody S (1999). Scientists, journalists, and the meaning of uncertainty. In S. M. Friedman S, Dunwoody S, Rogers CL (Eds.), *Communication uncertainty: Media coverage of new and controversial science* (pp. 59-79). Mahwah, NJ: Lawrence Erlbaum
- Dunwoody S, Ryan M (1983). Public information persons as mediators between scientists and journalists. *J. Q.*, 60: 647-656.
- Geller G, Bernhardt BA, Holtzman NA (2002). The media and public reaction to genetic research. *JAMA*, 287: 773.
- Kua E, Reder M, Grossel MJ (2004). Science in the news: A study of reporting genomics. *Public Understanding of Science* 13: 309-322.
- Logan RA (2001). Science mass communication: Its conceptual history. *Sci. Commun.*, 23: 135-163.
- McQuail D (2000). *McQuail's mass communication theory* (4th ed.). Thousand Oaks, CA: Sage.
- Moyer A, Greener S, Beauvais J, Salovey P (1995). Accuracy of health research reported in the popular press: Breast cancer and mammography. *Health Commmun* 7(2): 147-161.
- Nelkin D (1996). An Uneasy Relationship: the Tensions Between Medicine and the Media. *Lancet*, 347: 1600.
- Pearson G (2001). The participation of scientist in public understanding of science activities: The policy and practice of the UK research councils. *Public Understanding Sci.*, 10: 121-137.
- Pearson G, Pringle SM, Thomas JN (1997). Scientists and the public understanding of science. *Public Understanding Sci.*, 6: 279-289.
- Peters HP (2008). Science-media interface: It is time to reconsider. *Sci. Commun.*, 30(2): 266-276
- Poliakoff E (2007). What Factors Predict Scientists' Intentions to Participate in Public Engagement of Science Activities? *Sci. Commun.*, 29(2): 242-263
- Pope C, Ziebland S, Mays N (2000). Qualitative research in health care. Analyzing qualitative data. *BMJ*, 320: 114-116.
- Radford T (1996). Influence and power in the media. *Lancet*, 347.9014: 1533-35.
- Ransohoff D, Ransohoff R (2001). Sensationalism in the media: When scientists and journalists may be complicit collaborators. *Effective Clin. Pract.*, 4: 185-188.
- Rodder S (2009). Reassessing the concept of a medialization of science: a story from the "book of life" *Public understanding Sci.*, 18(4): 452-463
- Schäfer MS (2009). From public understanding to public engagement an empirical assessment of changes in science coverage. *Sci. Commun.*, 30(4): 475-505
- Singer E (1990). A question of accuracy: How journalists and scientists report research on hazards. *J Com.*, 40(4): 102-116.
- Stocking SH (1999). How journalists deal with scientific uncertainty. In S. M. Friedman, S. Dunwoody, & C. L. Rogers (Eds.), *Communication uncertainty: Media coverage of new and controversial science* (pp. 23-41). Mahwah, NJ: Lawrence Erlbaum
- Weigold MF (2001). Communicating science: A review of the literature. *Sci. Commun.*, 23: 164-193.
- Woloshin S, Schwartz L (2002). Press releases: Translating research into news. *JAMA*, 87(21): 2856-2858.