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Making news about medicines

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CHAPTER 7

MAKING NEWS ABOUT MEDICINES

DISCUSSION

7.1

INTRODUCTION

This thesis presents a series of studies analyzing the sources used by journalists when writing about medicines. The main question addressed was: Which sources are used and for what reason? The underlying concern was if the mass media can be considered a good channel in optimizing rational drug use. In this final chapter the results are discussed after making some remarks about the methods used.

7.2

SOME NOTES ON THE METHODS

In this study the approach has been qualitative because it is exploratory and qualitative methods are well suited in this type of study. In particular, if the study explores the meanings, variations, and perceptual experiences of phenomena qualitative methods are the instruments of first choice [1].

The qualitative approach (in depth interviews) was combined with a quantitative approach (content analysis). Qualitative and quantitative methods can be effectively used in the same research project [2]. We used the quantitative data obtained from the content analysis to validate the qualitative data on some topics from the interviews. This use of multiple data sources, and of multiple methods as well as the use of various records is called triangulation [3]. The combination of a quantitative and qualitative approach should be used more often in this field of research. As shown in this thesis, the differing research approaches provide us with complementary information. It has been very useful in the understanding of the process of making news about medicines. In chapter 4, for example, the interviews provided information on the selection of experts in general; the content analysis showed that journalists differentiate between researchers and functional experts on one hand, and spokespeople from pharmaceutical companies, patients' interests groups and patients on the other hand.

The methods most commonly used to study the sources used by science journalists are direct questioning the journalists themselves in interviews or by using mail questionnaires or a combination of both methods. Examples of these approaches can be found in the study of Stappers et al. in the Netherlands [4] and the study of Winnubst in Belgium [5], looking into the sources used by science journalists. They used structured questionnaires and questions with "fixed" answers, i.e. quantitative approaches, directed at answering questions like, for example, how many journalists use

the scientific literature as a source of information. Disadvantages of using a quantitative approach in studying the sources used by journalists are that one needs to know beforehand what sources can be used and that the kind of questioning can influence the answers of the respondents and as such introducing a form of bias [6].

In depth interviews

In qualitative research the number of respondents is small compared to the sample size in quantitative research. Sample size is not the determinant of research significance in a qualitative study. The aim is to illuminate the research question, and the major concern is with information richness [7]. The respondents interviewed in this thesis were, in case of newspapers and family magazines, the journalists responsible for news about medicines, except for news about drug policy. To illuminate the role of the pharmaceutical industry, the persons responsible for the contacts with the press were interviewed. The studies described in this thesis show that interviews with a small number of respondents provide us with in depth information on several topics relevant in the process of making news about medicines.

The issue of generalizability is raised frequently in critics of qualitative research [7]. In case of our study this problem is less relevant since the journalists interviewed have a great coverage. The circulation of the daily newspapers, which the journalists included in this study work for, accounts for approximately 42% of all Dutch newspapers [8]. These newspapers sell about 2 million copies, so the journalists are responsible for articles on medicines which can be read by a large part of the Dutch population. The same is true for the magazines. The total circulation of the three women's magazines of which the journalists were interviewed in this study is 1.430.000 copies weekly. The magazine with the largest circulation prints over 740.000 copies every week and reaches 32% of the Dutch population and 50% of the women in the Netherlands over 13 years old [9]. Both the newspaper journalists and the family magazine journalists may play a major role in informing a general public about medicines.

A disadvantage of using (in depth) interviews is the possibility of social desirable answers, i.e. answers biased by the respondent's attempt to give answers that are socially desirable or preferred. To deal with this problem we guaranteed, of course, the anonymity of all our respondents both the journalists and the public relations officers from the pharmaceutical companies. Secondly, in the interviews with the journalists, check or control questions were used;

some questions were asked twice in a different way at another moments of the interview.

All the interviews were tape-recorded and fully transcribed. The tape-recording of the interviews was necessary because many open-ended questions were asked; writing the answers down can cause uncomfortable delay in the interview. Because we used semi-structured in depth interviews the transcripts were very useful for combining relevant information on the different research questions coming up - sometimes even unasked - in different parts of the interviews. A technical problem of method used is that it is very time-consuming.

Content analysis

Content analysis is a research technique for the objective, systematic, and quantitative description of the manifest content of communication [10]. We used this technique in our studies on the sources (chapter 2 and 6), the study on the agenda-setting function of the scientific and medical literature (chapter 3) and the study on the role of experts (chapter 4). The main problem of content analysis is objectivity of the coders. Since communication always includes the encoding of a message by the sender - in this case, for example, the journalist - and the decoding by the receiver - this case the coder - subjective interpretation cannot be avoided [10]. To deal with possible inconsistency of classification all the analyses were done twice, at least once by the author of this thesis.

The combination of in depth interviews and content analysis

In general, the results of the interviews with respect to the sources seem to be confirmed by the results of the content analysis. However, a few remarks have to be made about this comparison. The comparison at the level of the information sources is not completely exact because, as indicated by the journalists, not all the information sources are always mentioned in the articles. Understandably, only the most important sources and the most influential ones are mentioned. The source may make a story newsworthy; it is possible that sources like the *New England Journal of Medicine* are overrepresented in the content analysis. Whenever this journal is used it is mentioned in an article; this is less prone to occur with a Dutch journal, which may be considered to be less authoritative.

The difference found regarding the role of the pharmaceutical industry as a source of information (see chapter 2), between the results of the content analysis and the interviews may have been due to the way the pharmaceutical industry was coded in the con-

tent analysis. On the other hand this difference may have been caused by socially desirable answers in the interviews.

Better insight in the role of the pharmaceutical industry as a source of ideas and information for newspaper journalists needs further research. To overcome the difficulties of an interview with its inherent possibility of bias, one could envisage a study in which all the material available to journalists from universities, pharmaceutical companies and other sources is analyzed and compared to newspaper articles that appear during that period. Another possibility is a study in which medical journalists are observed during their work. Such work has been undertaken in another field of journalism by Gans [11], but it is clearly labour-intensive and time-consuming. In chapter 5 we used another approach to gain insight in the role of the pharmaceutical industry as a source of ideas and information, we interviewed public relation officers from pharmaceutical companies about the way they make use of mass media channels and the manner in which they approach mass media journalists. The results of these interviews showed that a company does not approach journalists often, but there are many companies approaching mass media journalists with information about their products or their company. The content analysis shows that pharmaceutical companies are often mentioned as sources of information (see chapter 2).

7.2 SOURCES FOR NEWSPAPER JOURNALISTS DIFFERENT ROLES

Most studies on the sources of science journalists have concentrated on which information sources are being used. In the agenda-setting theory another function of sources is described. A source may not be successful in telling the audience what to think about a certain topic but may be successful in telling the the audience what topics to think about [12]; in other words to be a source of ideas. Our hypothesis is that journalists can use the sources in two ways, as a source of ideas or as a source of information. A source of ideas is a source which plays an important role in the selection of a topic to write about. A source of information is used by a journalist to write his story, to obtain (extra) information on the already selected topic. The way in which a source is used, as a source of ideas or information, influences the content of media reporting in a different way. Because we are interested in the factors influencing the content of media reporting on medicines we differentiated between these two kinds of sources.

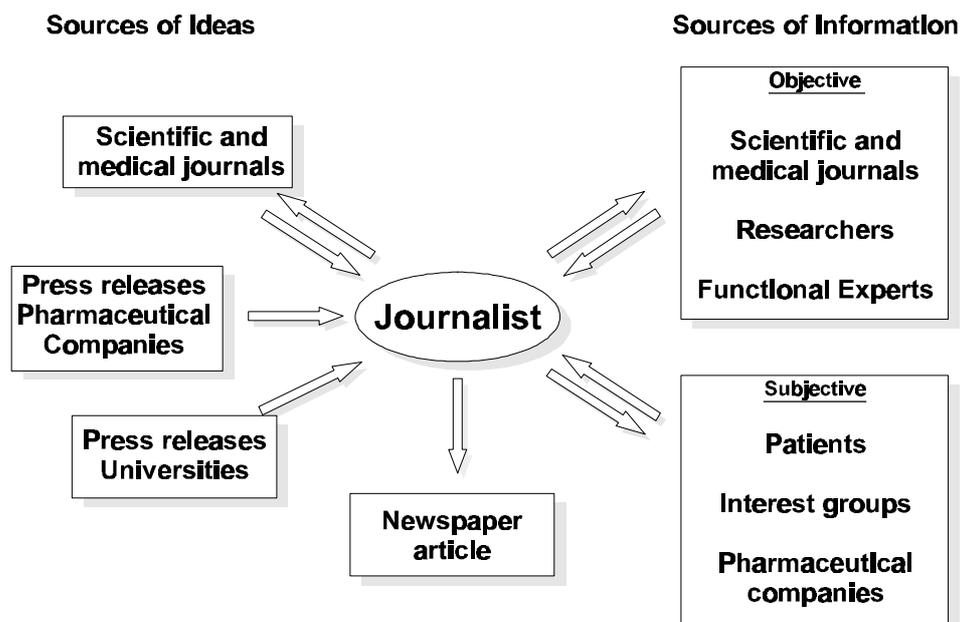


Figure 1
Sources of ideas and of information used by newspaper journalists.

Our hypothesis that sources can fulfil different functions was confirmed in our study. Some sources are more important as sources of ideas while others are more important as sources of information. The results of our study are summarized in figure 1.

Agenda-setting

Our findings that the drugs most often discussed in the scientific and medical literature also appear in the mass media suggests the agenda-setting role of these journals (chapter 3). Vice versa, the scientific and medical community may also use the daily newspapers as an initial source. As shown by Philips et al., scientific articles from the *New England Journal of Medicine* which had been covered by the *New York Times* were more often cited in other scientific articles than articles not covered by the *Times*[13]. We assume that the article in the *New York Times* did not contain enough information for scientists but alerted them to the original article in the *New England Journal of Medicine*. Also in this example we can distinguish between the source of idea, in this case the *New York Times*, and the source of information, the *New England Journal of Medicine*, as used by the scientist.

However, the agenda-setting function of the scientific and medical literature seems to apply less to "bad news", articles focusing on side effects of drugs. Whereas the "good news" agenda of the scientific and medical literature is comparable to the "good news" agenda of the newspapers, the "bad news" agendas, on the other hand, are quite different. It seems that in the case of "bad news" other sources of ideas are more important. Different sources

might supply journalists with information on unexpected side effects of medication or other information important to the users of a particular drug, like for example in the case of acitretin. Both the company selling acitretin and the authorities sent letters to all health professionals and, in addition, sent a press release to the mass media and the mass media did pay attention to the acitretin problem [14]. In case of triazolam, a Dutch psychiatrist informed the mass media about his observation of serious side-effects [15,16]. Different sources can thus fulfil the agenda-setting role with respect to "bad news".

The relationship between journalists and the scientific and medical community

Information from the scientific and medical community comes through different channels to mass media journalists. These different channels appear to fulfil different functions. Press releases from universities are only important as a source of ideas. Press releases draw the attention of a journalist to a topic but seldom contain enough information to be used as sources of information. Experts are used as sources of information. The scientific and medical literature is important both as a source of ideas and information. Journalists subscribe to certain scientific journals, they chose themselves, to look for "safe" subjects to write about and for valid information. The information in these journals is usually peer-reviewed, and gives the journalists, therefore, some guarantee about the correctness and reliability of the information given. According to Entwistle, British medical journalists rely on medical journals for the same reason [17]. The journalists seem to use the same standards and codes as those used in the scientific community to judge the significance of research. This might be explained by the fact that they are dependent on experts from the scientific community for information. If one makes mistakes this might have consequences for one's relationship with informants or experts. And secondly, all journalists are aware of the fact that news about medicines might create false hopes. They all claim to be very careful when writing about medicine(s). One way to be very careful is to only use information that is considered to be valuable within the scientific community and, therefore, published in "quality" journals.

The "Buck affair"

As already discussed, journalists seem to differentiate between two kinds of information sources. This differentiation is also shown in chapter 4 in which we studied the role of different experts as

sources of information. Objective sources are, for example, researchers and medical and scientific journals, whereas the pharmaceutical industry and patients can be considered as subjective sources. An objective source can be the sole source used to write an article on medicines, whereas subjective sources are seldom the only source used. The newspaper journalists recognize the risk of obtaining one-sided information or even incorrect information using one source, objective or subjective, and have learned their lesson from the affair with professor Buck. This affair shows what can go wrong.

In April 1990 professor Buck and his colleagues announced at a press conference a major breakthrough in the AIDS research. The mass media paid much attention to these remarkable findings. The day after this press conference the results were published in *Science* and therefore journalists thought the findings were reliable. However, later that month, there were doubts about the stability and purity of the substance used in the experiments. A year later, a research committee observed shortcomings and mistakes in the planning of the research, the interpretation of the results and their presentation in the *Science* article.

All sorts of people, including scientific researchers, do want to get their messages out through the newspapers for all sorts of reasons, and they may not be as careful as they should be [18]. Partly in response to the Buck affair Dutch biomedical researchers developed a concept code of conduct with respect to press contacts. In this code it is stated that researchers should be very careful in giving information to mass media journalists to prevent that their statements create false hope or unnecessary fear. Before notifying the press about developments they should discuss the results of their research with their peers [19].

Both journalists and researchers should be very careful with information about research findings which could possibly lead to new cures for life threatening diseases or untreatable diseases. Journalists should use their common sense to evaluate research findings, even if these findings are peer reviewed and published in scientific journals, and ask experts for advice. Researchers should evaluate their own research findings and those of other researchers very critically. Despite the fact that both researchers and journalists agree to be as careful as they can, the Buck affair can happen again.

Controversies: Prozac[®]

In chapter 4 we showed that different experts cited in the same article most of the time gave the same or complementary information. This is in contrast with, for example, political reporting, where experts are used to express different views in the same article. In the field of medicine, the media seem to exclude dissident experts and voices [20]. However, in some cases different views are expressed. In recent years, the mass media in the Netherlands did pay much attention to the different views about fluoxetine (Prozac[®]). Some of the reports regard this drug as a breakthrough in psychiatric treatment while others do not think fluoxetine to be different from the other drugs used in psychiatry. Furthermore, there is a debate going on amongst the advocates and opponents of the biological psychiatry or psychopharmacology. The advocates argue that psychiatric disorders are caused by too much or too little neurotransmitters and can be treated by drugs influencing neurotransmitters. The opponents, on the other hand, challenge this theory and propose other therapeutic measures, like, for example, counselling therapy.

During our study-period attention was paid to different views. A small number of articles was dedicated to fluoxetine; according to the Scientology Church fluoxetine caused suicide and this drug should not be used, while on the other hand psychiatrists claimed that not fluoxetine but the depression fluoxetine was used for, was the cause of the suicide. In the mean time, Jick et al. have showed that the risk of suicide is not determined by the antidepressant used. They state that, though the suggestion has been made that fluoxetine may trigger an emotional state which in itself increase the risk of suicide, this suggestion can not be supported by formal evidence [21].

"Objective" versus "Subjective" sources

Physicians and medical researchers (objective sources) are treated differently by the media than other sources of information. Karpf states that when doctors and medical researchers take part in radio or TV programmes they are accorded privileges which would turn politicians green with envy. When an interview is recorded, science features producers and presenters are generally keen to ensure that a scientist or doctor has expressed himself in the best possible way, and both sides are satisfied with the result. Though broadcasting organisations formally retain editorial control, doctors and scientists are often allowed to view programmes before transmission and suggest editorial changes on the grounds of

medical inaccuracy [20]. The situation in Britain as described by Karpf cannot be confirmed in the Netherlands. Most of the newspaper journalists in our study do not have such a strict policy regarding the "control" of the scientist or physician interviewed prior to publication. When the expert interviewed wants to check the article this will be arranged, and whenever the journalist is not sure that he has got the information right, then this would be another reason to ask the expert to check it. During the correction process only facts can be changed. These results are confirmed by Willems et al. who also interviewed science journalists in the Netherlands [22].

The "subjective" sources are treated differently by the journalists. Spokespeople of pharmaceutical companies are usually not asked to check the information they have given to the journalists.

Patients are seldom used as sources of information by science journalists writing about medicines in Dutch newspapers. It seems that these journalists consider the expertise of one patient an insufficient basis for an article. In society, however, the expertise of patients is recognized to be important. Patients and interest groups do play a role as experts in the development and implementation of health policy. In our study period, patients were cited in newspaper articles with respect to sumatriptan, which was introduced during that period as a new drug for the treatment of migraine. Migraine patients are, just like many other patient groups, well organized in an interest group. It is, for a journalist, relatively easy to trace these patients while in the case of other diseases it might be more difficult to find a patient who is willing to talk about his experience. More important is the fact that these journalists do not consider patients to be experts. It is our impression that patients and interest groups are more often used as sources of information with regard to drug policy. In relation to the Dutch drug reimbursement system, introduced in the beginning of the 1990s, interest groups were able to express their opinion in newspaper articles.

7.3

FAMILY MAGAZINES

The sources of ideas and information used by journalists writing in family magazines are quite different as compared to those used by newspaper journalists. Letters from readers and mass media channels are the most important sources of ideas. This agenda-setting role of the newspapers is confirmed in our comparison of the drugs most often discussed in the newspapers and those most

often discussed in family magazines. This agenda-setting through other mass media channels can take place in a direct and indirect way. Direct, because the editors use other mass media as sources of ideas. Indirect because some people write letters to the magazine in response to mass media publicity. These letters from readers on medical topics are important for the editors of family magazines. They provide information about the topics that are worthwhile discussing because readers have to deal with these topics and are interested in them. Family magazines have to please their readers; approximately 60% of the revenue comes from subscriptions and the sale of single issues [23].

Experts, in particular general practitioners and medical specialists, and patients are the most important sources of information (see figure 2). In contrast to our findings in newspapers, family magazines prefer to use the same expert on several occasions. The information needed from an expert is information of practical value, not on the level of scientific research. Journalists working on family magazines seem to prefer generalists and professionals "directly" caring for patients. Therefore, it is possible for these journalists to use the same experts at different moments. It is sometimes difficult to find another expert because not all experts are suitable as sources of information. Often the magazines employ physicians to answer the questions received from the readers of the magazine. The pharmacist is seldom asked for advice, despite his expertise and the fact that he is also more or less a generalist in the field of medicines.

Another contrast to newspapers, is that patients are important sources of information in family magazines. Readers of family magazines learn from articles and the question and answer section

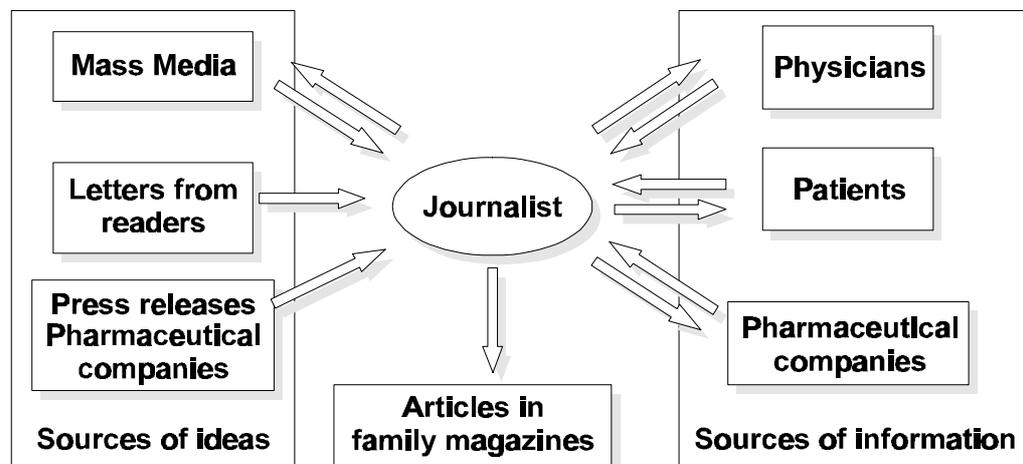


Figure 2
Sources of ideas and information used by 'family magazine' journalists

how others solve and deal with problems in the field of illness. Furthermore readers are especially interested in human interest stories and the question and answer section [24]. This being the case it seems rational to use patients as sources of information.

Family magazines and pharmaceutical companies

Sometimes a magazine co-operates with a pharmaceutical company. A company may finance an enclosure about a disease or group of drugs. Both the journalists and the spokespeople of pharmaceutical companies mentioned this kind of co-operation. In this case the magazine is financially dependent on the support of the industry. Another form of dependence can arise if pharmaceutical companies advertise in these magazines.

Kessler showed that women's magazines in the United States did not cover smoking-related health concerns because they might risk losing advertising revenue by publishing articles on this subject. Still, women's health was a major concern of all the magazines [25]. The risk of losing advertisers can become a conflict of interest between the editors and financial managers of a magazine. In 1981 the Dutch family magazine *Nieuwe Revu* published a ten page article on smoking and its hazards. The tobacco industry reacted with an advertising stop [26]. Such a conflict of interest sometimes influence the independency of the editorial board. Advertisements are important to women's magazines; about 40% of the revenue originates from advertisers [23]. The pharmaceutical industry is important in terms of OTC (over-the-counter) advertisements. This can make the magazine dependent. Because the journalists also use pharmaceutical companies as a source of information, this may seriously bias the information provided.

Newspapers versus family magazines

The differences in sources used by newspaper journalists and family magazine journalists can be explained by their differences in function. Whereas newspapers focus on news, family magazines are more interested in information that is directly useful or applicable for their readers and not new information or news per se. Family magazines are guided by letters from their readers and by other mass media channels for the selection of topics that might be of interest for their readers, whereas newspaper journalists writing about medicines, are guided by the scientific and medical community to get information on recent developments in the pharmaceutical field. This may in part be explained by the type of newspaper journalist we interviewed, medical or science journalists. In our newspaper study, information on drug policy and the

Dutch drug reimbursement system was excluded. The journalists working on family magazines stated that drug policy and the reimbursement system were topics they never wrote about.

These differences in function are also reflected in the sources of information used. Newspapers seem to prefer scientific experts whereas family magazines seem to prefer generalists and health care professionals. Neither newspapers nor family magazines consider the pharmacist important as a source of ideas or information. The recommendation of the World Health Organization in 1989 that the pharmacist should play a central role in the provision of advice and information to the general public on the use of medicines has, therefore, not yet been implemented [27]

7.4 THE PHARMACEUTICAL INDUSTRY AND THE LAY PRESS

Information from the pharmaceutical industry to the general public has become more extensive and emphatic. Pharmaceutical companies consider informing a lay audience about their products and diseases to be important. In our study two reasons were given to explain this increasing interest of pharmaceutical companies in a lay audience: 1. the emancipation of patients; and 2. the weak image of the pharmaceutical industry which has to be dealt with. Because EC directives forbid the advertising of prescription drugs to the general public [28] one sees that pharmaceutical companies try to gain interest from the mass media journalists to pass on messages to a mass audience [29-33]. In our study the representatives from pharmaceutical companies stated that the lay press, both daily newspapers and family magazines, play an important role in informing a lay audience about diseases and (new) products obviously because of the great impact.

As long as independent and critical journalists and editors decide themselves if information about drugs coming from pharmaceutical companies is newsworthy enough to be published it is news and no "hidden advertising". Journalists should make it very clear to the reader which sources have been used to write the article, so that the receiver himself can decide whether or not the information is reliable. Journalists are aware of the fact that news about (new) drugs might create false hopes and patients have no choice whether or not to "buy" or use a particular drug. Some journalists feel responsible for the consequences or effects of their publications [22]; this does not stop them to write about developments in AIDS research or potential new drugs. As stated above, editors of magazines can become dependent on the pharmaceuti-

cal industry because of the revenues of OTC advertisements and financial support from companies to publish enclosures on certain drugs or diseases. This may seriously bias the information provided.

Sturkenboom et al. showed that the mass media do play an important role in warning the users of a prescription drug quickly, and that not all the users can be traced and will be informed through health professionals in the Netherlands [14]. In such a case it is important that pharmaceutical companies and journalists co-operate in the best and most effective way they can. Mass media play an important role in warning users of a drug quickly whenever a major health threat is associated with that particular drug.

7.5 MASS MEDIA REPORTING AND THE PROFESSIONAL VIEW

Our study shows the scientific and medical community to be major sources of information on medicines used by newspaper journalists. These sources obviously have their reasons on some occasions to inform the press about recent developments. Sometimes researchers try to attract mass media publicity - before publication in scientific or medical journals- because publicity might influence research funding. Another reason to supply journalists with information about "unpublished" results is that rapid dissemination of information about promising new therapies is crucial for patients with severe illnesses that have no effective treatment [34,35]. Steinbrook argues that only for a tiny minority of studies, this urgency justifies unconventional communications [34]. The public discussion of results after formal publication has the advantage of peer review but introduces a delay of many months [35]. We prefer media publicity after formal publication and agree with Steinbrook, who states that editors of scientific journals should accelerate reviews of studies of far-reaching clinical significance [34]. Formal publications before mass media publicity gives health professionals the opportunity to judge the results of a study themselves. Mass media reports do not provide health professionals with enough information to make a balanced decision about, for example, a new drug. Mass media publicity can accelerate the diffusion of information by pointing out to important scientific papers. In case new information about unexpected severe side effects of drugs becomes available or a life threatening production error is made, mass media publicity should be encouraged to warn potential users of the drugs. As shown by Sturken-

boom et al. not all users of a drug can be warned by health professionals [14].

We did find the scientific and medical literature (formal publications) to be the most important source of both ideas and information. The medical journalists in our study indicated to prefer indirect contact with the professional community provided through journals, partly because of the peer review system the journals use, which gives the journalists some guarantee of reliable results and conclusions. Moreover, these journalists are well aware of the fact that information about medicines might create false hopes so if they feel uncertain information is checked by seeking advice from relevant experts. However, as stated before, the system of peer review is not completely waterproof. Journalists must be able to assume that a peer reviewed published paper is reliable and based on sound scientific experiments.

Good news, bad news?

The criticism that bad news is more newsworthy than good news, cannot be confirmed in our study. On the contrary good news about medicines received more attention in newspapers than bad news. In the scientific and medical community, studies showing any (adverse) effects are more often submitted and accepted for publication than studies showing no (adverse) effects; this is called publication bias. As already shown by Koren et al. this publication trend seems to be reinforced by the way newspaper journalists select their topics. Journalists prefer to write articles about studies showing (adverse) effects [36]. This thesis shows that on top of that, newspaper journalists introduce an extra form of bias by focussing on good news.

Another concern of the scientific community - i.e that the media does not portray current developments and concerns within the scientific community - seems not to apply completely for news about medicines. In fact, our study dealing with agenda setting suggests that the newspapers pay attention to the same topics - therapeutic groups of medicines - as the professional literature. If therefore some diseases or pharmaceuticals receive more attention than others in mass media reporting this can be partly explained by the preoccupation of the professional journals. However, the mass media do pay more attention to "good" news than to "bad" news on medicines. With respect to this point, it seems true that the way in which the mass media portray therapeutic developments is too optimistically; the publication bias as found in the scientific journals is reinforced. Journalists writing about scientific developments are dependent on their sources. Both researchers

and pharmaceutical companies are eager to promote their stories of success. Nelkin argues that the press coverage of new technological developments probably encourages the public desire for easy solutions to economic, social and medical problems. Just as high technology is presented as the solution to international competition, so medical technologies are portrayed as solutions to problems of health. Nelkin states that the press focused extensively on the search for a AIDS vaccine well before this technological solution was in sight, helping to divert public attention from the more immediate need to prevent the transmission of the disease [37]. Both scientists and journalists should be aware of this kind of effect of mass media publicity and should portray scientific research in a more realistic way. Journalists and scientists should pay more attention to the process of scientific research, and to its "failures" and pitfalls.

Health education through the mass media?

Some of the forms of criticism are also related to differences in opinions about the role the mass media should serve. Especially health educators think that mass media journalists should have a responsibility and a role in patient education and counselling. Therefore, they are very concerned with the lack of practical information and the fact that some diseases are underreported in the mass media. Winnubst showed that science journalists do think they have a task informing a general public about developments in science and to provide their audience with practical information about these developments. Science journalists, however, are autonomous in the selection of topics. They are guided by latest trends in science, not by the needs of health educators. Family magazines, on the other hand, do provide their readers with practical information on several topics; health educators could try to co-operate with family magazines. This kind of co-operation has, in our opinion, several advantages. Family magazines do play a major role as an information source for the general public on health topics. Furthermore, they do know how to deal with a topic. Health educators could provide journalists with important information on a topic that needs attention.

Both our studies concerned with information about medicines in family magazines (chapter 6) and medicines in relation to pregnancy (annex 1) show that the reader's do get practical information about medicines. The question and answers sections of these magazines are specially designed to "educate" the readers. However, we agree with the criticism of Freimuth about risk information [38]. Although the public wants to know about side effects of

medicines [39,40], this information is given in less than half of all the publications in family magazines. If family magazines wish to assume a degree of responsibility in patient education they should pay attention to the side effects of drugs in all articles. Magazines could play a major role in health education, since the editors do know their audience very well. They know the needs, perceptions and language of their readers and are, therefore, in a position to pass on health messages in an effective way to a large audience. Their audience is, in fact, very interested in health related information. The pharmaceutical industry is well aware of the potential of this communication channel and is already using it. Health educators could try to cooperate with these magazines in a similar way, instead of wasting money to produce yet further brochures.

7.6 CAN THE MASS MEDIA BE CONSIDERED A GOOD CHANNEL IN OPTIMIZING RATIONAL DRUG USE?

Increasingly, the general public wants to be promptly informed of new medical and scientific findings. Elie showed in a pilot study that news about new cures results in a small increase in physician consultations [41]. This puts pressure more than ever on all of us engaged in biomedical research to be clear, accurate, and honest and not to overstate our findings [42]. Several articles have been written about the way to interact with the media with special focus on physicians and other health professionals [43-45]. Special meetings have been organized to stimulate a discussion between healthcare professionals and mass media journalists [13,46] and to make a fruitful cooperation with respect to medical news possible.

Both the scientific and medical community on one hand, and the mass media journalist on the other, are responsible for what is published in the lay press about medicines. Sources, like the scientific and medical community, influence the news by decisions about what they tell and what they do not tell and their timing of bringing news. Recently, some researchers in the Netherlands wrote a fake book about the latest developments in medicine. All the articles in this book were invented by the authors [47]. They wanted to "check" whether or not the medical community and journalists were able to discover that all of it was nonsense. In fact at least one journalist called the editor of the book to check some of the information. However, this editor did not disillusion him. This shows that it is the duty of the journalist to check information on medicines with a relevant expert, since we all know that information in the lay press about (promising) new cures can create

false hopes. Journalists should in all cases consult relevant experts. On the other hand, if a relevant expert is asked for advice by a journalist it is his duty to cooperate in the best way he can to prevent mistakes being made. If an expert is asked for advice on something he is not an expert on, he should make that clear to a journalist. Both scientists and journalists should not portray scientific research on drugs in a too optimistical way; the picture that drugs will solve all the health problems is not a very realistic picture. This picture could be, or is perhaps already, created by focusing mainly on positive effects of medicines.

In the last three decades people have become more involved in their health and illness. The access to relevant and new information about disease, their causes and treatment is of major importance in this emancipation process. Newspapers and family magazines do play a role in the provision of information about drugs to a general public. The provision of information about the latest trends with respect to drugs is important in the general education of the public. Secondly, because this kind of information might be directly applicable in one's own situation - it might influence a decision whether or not to use a particular drug, or to visit a physician. Thirdly, because it allows people to make up their own minds about political discussions in this field. On the other hand, information about medicine in the public media causing disease awareness and interest in certain issues is one of the factors influencing the "medicalization" process. This is especially relevant, since journalists use the professional medical literature as a source of ideas and information, and the two processes might enhance each other. Both health professionals and the general public might get the same sort of information at the same time.

In this thesis information about drugs in newspapers and family magazines was studied. Further research is necessary to study the role of journalists working in television, free local papers, and gossip papers, and the kind of information about drugs provided to a general public through these channels. The impact of information in the mass media on drug utilization merits attention as well. The development and validation of research methods in this field also needs attention. In general, the combination of a quantitative and qualitative approach could be used more often in this field of research. As shown in this thesis, the different research approaches, provide us with complementary information and have been very useful in understanding the process of making news about medicines.

- The communication power of both newspapers and family magazines is potentially enormous. The pharmaceutical industry is well aware of this fact. Both newspapers and magazine editors know their readers, and can be, therefore, more often asked to be helpful in designing and implementing health education campaigns. In articles about (new) medicines attention should be paid to side effects. Furthermore, these channels play an important role informing people about newly discovered serious side effects of drugs.
- Information provided by mass media journalists is partially in accordance with the professional literature. The scientific community and health professionals are the most important sources of ideas and information. Nevertheless, the information about medicines in newspapers and magazines is biased. Both newspapers and magazines do pay more attention to "good news" than "bad news" on medicines.
- Scientists and health professionals as well as journalists should not portray news on medicines in a too optimistical way. The picture that drugs will solve all the health problems could be, or is perhaps already, created by focussing mainly on positive effects of medicines.

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