Tuberculosis is Denmark: a Content Analysis of Danish Newspapers (2004 – 2013)

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Abstract

Tuberculosis is an infectious disease and the numbers of people infected is increasing, also in low-prevalence, high-income settings like Denmark. The media may play an important role in building the political opinions around funding healthcare initiatives. The aim was to examine how Tuberculosis is covered in newspapers in a Danish context. We searched for stories on Tuberculosis during a 10 year period in the eight largest Danish Newspapers. Reporting on Tuberculosis was found in 61 newspaper articles during the period 2004-2013. In 2004 and 2005 tuberculosis was reported to be a deadly and hard to diagnose disease. Later on, this changed, and the reporting split into the discussion of whether screening of immigrants or improving living condition for the poorest is the best way to lower numbers of people getting infected in the future. A change from treatment to prevention of the disease was seen in the newspaper coverage of Tuberculosis. Different preventive solutions are advanced. If healthcare professionals want to influence the public debate around health care funding, a suggestion is to actively participate in the political debate.

Key Words: political debate, prevention, screening, treatment, tuberculosis

Introduction

Tuberculosis (TB) is an infectious disease that affects millions of people worldwide. After HIV, it is the world's second-deadliest disease due to a single infectious agent. A WHO estimate suggests that about one in three of the world´s population is infected with *Mycobacterium tuberculosis* (Mtb) (WHO, 2012). The future increase or decrease in the numbers of people infected depends on multiple factors. One factor is medical treatment, i.e. the development of new drugs and vaccines for prevention and treatment methods for those infected. A second factor is the social dimension, such as overcrowding or living in areas where there is a risk of coming in contact with infected people, as well as the ever-growing levels of international travel. A third factor encompasses individual aspects, such as age, malnutrition, smoking, drug abuse, alcoholism, HIV and genetic factors (Lonnroth, Jaramillo, Williams, Dye, & Raviglione, 2009). The prevalence of people being infected also correlates with levels of social inequality around the world. The majority of people infected with Mtb live in the low-income high-burden countries, but internal social inequalities are also found in high-income low-burden countries, where the risk of infection is particularly high among people in the lowest social classes.

Denmark is a high-income, low-burden environment, which may explain why, just a few years ago, the expectation was that the disease would be wiped out within a short period of time. However, TB remains a health challenge in Denmark. Active transmission of Mtb is ongoing, and infection rates are not falling as much as expected in the high-risk groups (Lillebaek, Andersen, Seersholm, & Thomsen, 2012). Multidrug-resistant TB, in particular, is considered an infectious disease threat in Eastern Europe, and there is a significant risk that it will become increasingly difficult to eliminate (Suk & Semenza, 2011). It therefore seems likely that for some time into the future, it will be important to remain focused on continuous monitoring

and active development of preventive measures, if we are to meet the goal of reducing the number of future TB patients in Denmark.

In 2001, WHO launched the Stop TB Partnership, the activities of which included the publication of a handbook on advocacy, communication and social mobilisation for TB control (World Health Organization, 2007). In this handbook, four key strategies are identified for achieving the objectives of the Stop TB global strategy: improving detection and adherence, combating stigma and discrimination, empowering people affected by TB, and mobilising political commitment and resources to fight TB. The handbook also states that: "*Experience suggests that TB control services are negatively affected if there is no strong commitment from particular sectors of society, such as decision-makers and influential political and community leaders."* (p. 3)

Public and political agendas, views and beliefs are to some extent shaped by media coverage of selected health issues. The question of the extent to which the media influence opinions, or the public and politicians select media that reflect their own points of view, is one that has been debated. Slater suggests a reinforcing spiral, in which we choose the media that reflect our opinions, the chosen media then reinforce those opinions, and thus the spiral continues (Slater, 2007). In terms of interrelatedness, the media can thus be seen as both producing and consuming political opinions.

In our earlier study of the experience of patients of being diagnosed with TB, we suggested that an increase in public awareness of the disease may help to lighten the burden on individual patients when diagnosed (Konradsen, 2014.). In a study of the coverage of TB in South African newspapers, Daku and Heymann showed that there was an inconsistency between the media's presentation and the best practice articulated by WHO (Daku, Gibbs, & Heymann, 2012). South Africa is a high-prevalence country compared to Denmark. Never the less, we do not think that there are reasons to believe that the media's influence on beliefs and the public and political agenda is significantly different in Denmark.

The aim of this paper is to analyse to which extent Danish newspapers cover TB in a Danish context, the distribution of frequent issues over time, and how the issue is described as an example of a high-income TB low-burden country.

Methods

Although electronic news communication is developing rapidly, newspapers remain one of the main suppliers of news stories, and they also enable the systematic collection of data, as each example is consistently filed (Burnett, Johnston, Corlett, & Kearney, 2014; Levinsen & Wien, 2011). We selected the eight largest Danish national newspapers, drawn from two genres: broadsheets (Politiken, Jyllandsposten, Kristelig Dagblad, Information, Weekendavisen and Berlingske) and national tabloids (BT and Ekstra Bladet). We searched for data representing a ten-year period from 1 January 2004 to 31 December 2013. This time frame was selected as it covers a period from a point in time when the TB-rate was expected to fall, through the years where it was realised that this would not be the case, and up until recent times. The data was identified by searching for the single word "tuberculosis" in the Infomedia electronic database. As a result, the data represents media coverage from eight national newspapers over 3,650 days – a total of 29,200 days, with an innumerable total number of articles in each newspaper. The first data extraction resulted in a total of 1,853 articles. The headlines were read, and if necessary the main text was also read, and the articles were then sorted according to the following exclusion criteria: fiction, historical report, non-Danish context and pharmaceutical development.

Ethical approval was not necessary for this project. In order to analyse the data, a combination of qualitative inductive and deductive category development was undertaken (Mayring, 2000). The inductive approach was carried out in three steps. Firstly, all the articles included were read and re-read, in order to identify "what is going on". Secondly, a simple coding frame was developed, consisting of the date, newspaper, number of words in the article, whether the article was reporting the story of a single patient or on TB in general, and the way in which the paper described how TB infection entered Denmark and who it infects. The coding frame was data-driven as it was developed alongside reading the articles, by generating categories that captures similarities and then adding more categories to capture differences (Schreier, 2012). Thirdly, the coding was entered into SPSS version 19.0 (SPSS Inc., Chicago, IL, USA) in order to generate quantitative graphical representations of the data. Further manifest deductive qualitative content analysis was then undertaken. All text within the articles was considered data and openly coded, followed by the creation of categories, in order to discover patterns and themes between and within the articles (Elo & Kyngas, 2008; Green & Thorogood, 2014). Together, the inductive and deductive approaches formed a description of patterns defined by the manifest content of the data (Sandelowski, 2000). Qualitative data were coded using Word 2010.

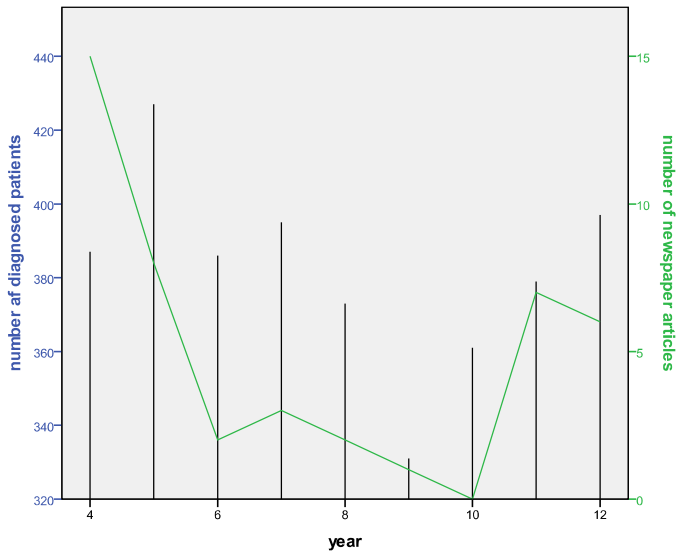
The findings were evaluated for their credibility, dependability and transferability, as recommended by

Graneheim and Lundman (2004) for studies which take a content analysis approach. A single-word approach meant retrieving more papers from the Infomedia database than would have been the case if further restrictions were applied. This was considered to increase credibility, as it could be expected that as many aspects as possible would be covered. Open dialogue between the researchers ensured consistency during the data analysis.

Results

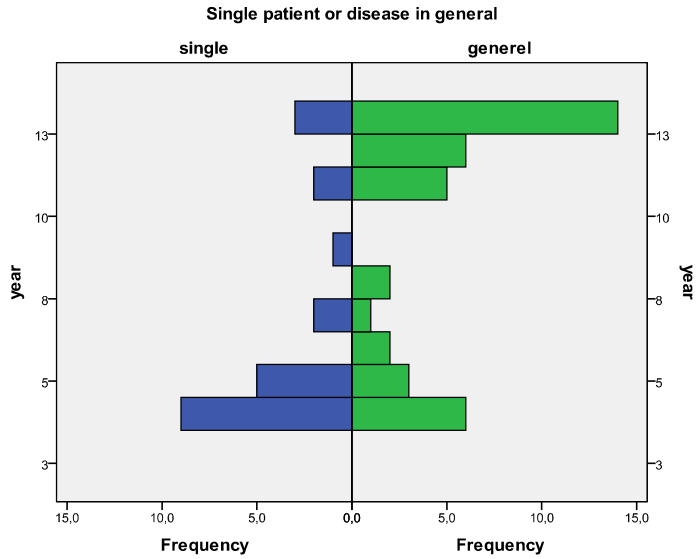
A total of 61 articles were found, 12 (20%) of them from the national tabloid newspapers and 49 (80%) from the broadsheet newspapers. Table 1 consists of two parts; the first is a graph of the number of newspaper articles dealing with TB over a ten-year period, while the other is a graph of the numbers of newly-diagnosed patients with TB during the same ten-year period. Although caution should be exercised due to the relatively small number of articles involved, a trend may be observed in which the graphs tend to follow the same curve.

Figure 1 *The number of newspaper articles published on TB during the ten-year period, and the number of patients diagnosed with TB during the same period.*



One way of sorting the articles was to group them into two categories: those representing the story of a single-patient case of TB, and those reporting on TB in general. The numbers in each category are shown in table 2.

Figure 2 *The frequency of articles reporting the story of one person having been diagnosed with TB, or reporting on the disease in general.*



In 2004 and 2005, the papers were dominated by single-patient stories that presented TB as a deadly, almost-forgotten disease that was difficult to detect and treat. The headlines tended to emphasise this; one example was: "*The doctor let Danny die of TB*" (BT 040210). The difficulty of diagnosing the disease was further illustrated by a story about a health care professional working at a maternity ward, who was diagnosed with TB. "*She visited the doctor regularly, but the doctor could not give her a diagnosis or show she had an infectious disease*" (Politiken 040619) As a result, parents of children born within the previous two years (1,375 children in all) were sent a letter recommending that they allow their children to be examined for Mtb infection (referred to as TB in the article). The articles that presented general information about TB during 2004 and 2005 stated that the number of patients being diagnosed was relatively stable, but also that caution was advisable, as the total numbers might disguise the fact that "*the disease is spreading among men*" (Berlingske 050124). One article in a tabloid newspaper stated in a headline that a "*Deadly TB epidemic is threatening*", even though it also later quoted a laboratory director as saying: "*There are very few cases of multi-resistant TB in Denmark… the numbers are not increasing*" (BT 040525).

In 2013, the single-case stories tended to go in two directions. One article presented a story about a foreign-born man who had travelled around Denmark while diseased with multi-drug resistant TB. The article stated that "*No-one knows whether he has infected anyone else, or if he himself will survive*" (Politiken 131021). Later on in the article, the story was used as an argument for the routine screening of immigrants from selected countries. Another article was about a woman from Greenland who was an alcoholic and lived in Denmark. The article presented the social difficulties she experienced, and ended with her saying "*If you take your medication, and keep a good standard of hygiene, you can be cured of TB*" (Politiken 131023).

Most of the articles about TB in general reported from a clinic that offers free medical services to people who are in the country illegally, and where they can be examined anonymously. The discussion in these articles tended to focus on whether the right approach to check the spread of the disease would be to examine all immigrants entering Denmark, or to strengthen the medical follow-up among marginalised groups where cases of TB have been found. On two consecutive days, one newspaper cited, firstly, a doctor who stated that we need to examine immigrants more thoroughly (Politiken 131022), and the next day, another doctor who said that we need to strengthen our medical services among socially marginalised groups (Politiken 131023).

Figure 3 *Presents data, extracted from the articles, concerning whether TB can infect anyone, or mainly particular population subgroups.*

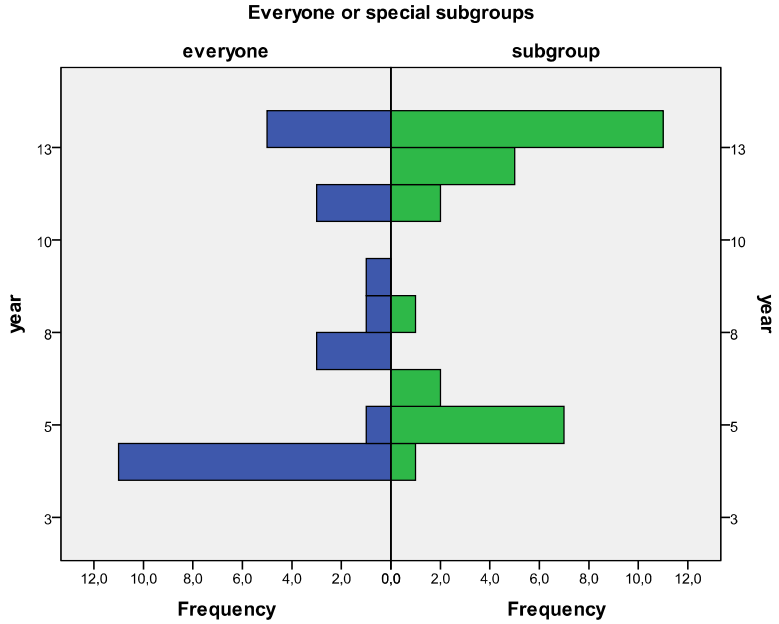


Table three illustrates the distribution of articles stating either that TB is a disease that anyone can catch, or a disease for which only selected subgroups of people are at risk of being infected. The general trend reflects the same historical development as seen before. In 2004 to 2006, more articles presented the view that TB could be transmitted to anyone, which is in line with the story of the hidden disease that is hard to detect. One example is a story from a school where one student was diagnosed with TB. A medical professional is quoted as saying: "*half of the students might need preventive treatment, although the risk of catching the disease is minimal*" (Jyllandsposten 040827). In 2013, the picture was split between the view that TB could be transmitted to anyone, or is predominately transmitted to special social subgroups. This split reflects, on the one hand, the argument for screening, as TB might infect any of us, and on the other hand, the argument for expanding health care among special social subgroups, as these are the people most at risk of catching TB.

Discussion

The topic of the influence of the written word in the media on the public/political debate and on opinions and attitudes towards diseases and medical treatment is not new. In relation to TB, one of the most important historical cases dates from the 1950s. In India, the decision to introduce a BCG vaccination programme met strong resistance and sparked a debate on whether the best approach to combating TB was to invest in BCG vaccines (which at that time had not yet proven their effectiveness) or to spend the money on improving living conditions for the poorest groups in society (McMillen & Brimnes, 2010).

In 2012, Reitmanova and Gustafson documented how the important link between social inequality and TB had been ignored in the news coverage and in public health policy, with regard to people immigrating into Canada (Reitmanova & Gustafson, 2012). This view was further expanded in our study. We found that in Denmark, social inequality was used to build a case for those arguing that free and anonymous health care should be offered to special social subgroups, including immigrants. On the other hand, the issue of social inequality was often ignored by those arguing for the screening of immigrants. Here, the argument focused on the risk of immigrants spreading disease in Denmark. This division in the political debate for or against the screening of immigrants has also been found in other clinical contexts, for example in relation to HIV, where the discussion of how best to stop transmission tends to centre on the issues of securing equal rights to health care or implementing preventive measures towards people from special social risk-groups (European Centre for Disease Prevention and Control, 2009).

It has been argued that a historical perspective on TB shows that the emphasis on improving living conditions for the poor has receded following the early success of new medical interventions. The challenge now is therefore to rebuild the policy agenda, which opens up the debate about TB and social injustice (Gandy & Zumla, 2002). The presence of arguments on how best to reduce the number of new cases of TB, whether through screening immigrants or by improving the living conditions of the weakest, seems to suggest that the debate is ongoing in a Danish context. Both initiatives, even when looked at through the eyes of health care professionals, appeal to different political opinions. The debate might therefore represent a mix of political opinions as well as TB community appearing not to being able to give an precise answer. Previous studies have shown that conflicting stories about scientific controversies with underlying political tensions may result in information-seekers being influenced by their own ideologies in their perception of the issue (Jensen & Hurley, 2012).

In a study examining the international branding of DOTS (Direct Observation Of Treatment) as an instrument in improving the treatment of TB, it was found that the branding and marketing of DOTS was successful when related to an external event that could frame the campaign. Ogden et al. give examples of this tendency, also referred to as “a window of opportunity”, in which the branding of DOTS was linked to HIV worldwide and the MDR-TB outbreak (Ogden, Walt, & Lush, 2003).

In this context, it is also suggested that the simultaneous occurrence of problem, policy and politics in South Africa facilitated the implementation of the TB Adherence Programme there. It is therefore suggested that the availability of research evidence is not by itself enough to change policies – interactions between policymakers, programme managers and researchers are also necessary (Atkins, Lewin, Ringsberg, & Thorson, 2012).

Whether researchers, health care professionals and future patients will benefit from this approach in future is a question that will require further examination. Rising numbers of people infected with Mtb in risk groups might represent such a “window of opportunity”. It has been shown that if researchers wish their results to gain attention in the media, part of the responsibility lies with the researchers themselves, as reporters are often confronted with an overwhelming amount of news every day (Suleski & Ibaraki, 2010). This approach might be even more important with respect to TB in low-burden countries, where the potential patients almost all belong to specific vulnerable and often low-income population groups.

Studies have shown that there is only limited transmission of Mtb between immigrants and Danes (Kamper-Jorgensen et al., 2012; Lillebaek et al., 2001). Rigid requirements may work against the successful detection of infected persons, as these may fear that being diagnosed could compromise their immigration status (Kulane, Ahlberg, & Berggren, 2010; Munro et al., 2007). Improved cross-sectorial partnership might be a better strategy, as socio-economic inequalities exist right across the EU (Alvarez et al., 2011; Dara et al., 2012). Up until recently, the case-finding strategy in Denmark in relation to new cases of TB has been passive, which might not be the best way of detecting new cases of infection (Satyanarayana et al., 2012). Recently, it was recommended that active case finding should be implemented systematically for high-risk groups (Lillebaek et al., 2012).

It seems unlikely that a causal relationship could exist between the numbers of patients being diagnosed and the number of newspaper articles on the issue. The small numbers of papers found also has to be taken into account when results are presented. Instead, researchers might use the increase in cases as a means of informing the public and influence the political debate concerning the importance of funding preventive measures, such as active case finding, among the subgroups of people who are at particular risk.

Conclusion

The focus on TB in the national newspapers in Denmark has varied over the past decade. A tendency of a relation between the numbers of papers published and the numbers of people affected was found. The initial story of uncertainty about diagnosis and treatment and a focus on single-patient stories has shifted towards discussions on immigrant screening or better living conditions for the poorest. If health care professionals wish to influence this debate, which involves various shades of political opinion, one way forward might be to take a proactive part in the public debate.

Author statement

According to Danish Law, this study did not need ethical approval, as no data related to specific individuals were included. No funding was provided for the study, the authors have no competing interests. The manuscript has not been submitted to another journal.

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