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Article

Newspaper portrayals of spinal manipulation therapy: Canada, United States, and the United Kingdom

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ABSTRACT: Spinal manipulation therapy (SMT) is a popular form of treatment for back pain among other musculoskeletal disorders, and it has received increasing media attention. Yet, despite its popularity, SMT is surrounded by controversy, mainly in regards to issues of safety and efficacy. To better understand how the media portrays SMT, we explored the content of print newspapers in Canada, the US, and UK, including article framing, evidence of efficacy, risks and benefits, and the overall tone of the article in terms of whether or not the article was supporting, opposing or neutral about SMT. Results indicate that safety concerns and evidence for efficacy are rarely mentioned, but framing plays a large role in portrayals of SMT in each of the countries.

Introduction

The news media remains one of the public's primary sources for health information.[1] Although the process is complex, news media has been shown to both reflect and influence public opinion,[2,3] as well as influence the policy making process.[4–6] The way a message is framed in the media can also highlight certain aspects of a complex issue over others, often reducing complexity and uncertainty, helping to define and focus debates and perceptions, as well as leading audiences to consider some aspects over others in reaching judgments and making decisions.[7,8]

In recent years, increasing media attention has been paid to spinal manipulation therapy (SMT),[9–11] which is a common approach to treating back pain, as well as a range of other musculoskeletal disorders.[12] A variety of regulated healthcare practitioners provide spinal manipulation therapy including chiropractors, physical therapists, osteopaths, and physicians, but it is most commonly provided by chiropractors. According to the Canadian Chiropractic Association, there are 6500 practicing chiropractors in Canada, and over 4 million Canadians use chiropractic services each year.[12]

Despite the popularity of SMT, controversy persists regarding issues of safety and efficacy. Reported serious adverse events appear to be relatively rare, but include stroke and even death.[13] In Canada, debates about risks and safety issues were instigated by a few high profile legal cases. In each case, patients had strokes, resulting in death soon after treatments that involved upper cervical manipulations.[14]

Controversy exists regarding what, if any, role the manipulation played in the strokes and/or ultimately the deaths.

The evidence for the efficacy of SMT is also a point of debate. Meta-analyses of studies on efficacy of chiropractic show it is as effective as placebo for lower back pain and just as effective as other available treatments.[15] Government health plans (Canada, UK) do not, in general, cover the services provided by chiropractors, but do cover some services provided by physical therapists, which might include SMT. Though rarely covered by public healthcare systems, it is common for private insurance providers to reimburse the cost of treatment. Part of the controversy also exists because of claims about conditions that can be treated. While the Canadian, American, and British Associations for Chiropractic all claim that chiropractic is used primarily to treat neuromusculoskeletal disorders, some SMT providers have made claims regarding the use of spinal manipulation to treat asthma and other chronic diseases.[16]

These debates are fueled and informed, at least in part, by media coverage. To better understand how the media portrays SMT, we explored the content of print newspapers including article framing, evidence of efficacy, risks and benefits, and the overall tone of the article in terms of whether or not the article was supporting, opposing or neutral about SMT.

Methods

To examine news media portrayals of SMT, we collected print news articles from elite newspapers Canada, United States (US), and the United Kingdom (UK). We searched the Factiva database from January 1, 2002 until December 31, 2011 using the search terms: ((\"spinal manipulation\" and (osteopath* or (physical therap*) or physiotherap* or physician)) or chiropract*) and (therapy or treatment). After excluding irrelevant articles, the data set consisted of 456 newspaper articles. Articles were considered irrelevant if the mention of therapy and SMT were not in relation to each other and those that covered animal chiropractic. 175 articles (38.4%) were published in Canada, 108 (23.7%) in the US, and 173 (37.9%) in the UK (see table 1).

Newspaper	Country	# articles
Globe and Mail	Canada	50
National Post	Canada	39
Toronto Star	Canada	53
Vancouver Sun	Canada	32
The Daily Telegraph	UK	33
Financial Times	UK	5
The Guardian	UK	56
The Times (London)	UK	79
The New York Times	USA	32
USA Today	USA	19
The Wall Street Journal	USA	19
The Washington Post	USA	39

Table 1. Newspapers in data set.

Articles were coded for discussion or mention of efficacy, risks and benefits, main frame (i.e., topic) and overall tone of the article. To assess the reliability of the results, a second coder, who was not otherwise involved in the project, coded a random selection of 10% of the articles. Inter-coder reliability was assessed using Cohen's kappa. A Cohen's kappa of .60 (substantial agreement) was used to determine inter-coder reliability.[17] Scores ranged from k = .601 to 1.000, with a mean of k= .732. The two coders held a meeting to resolve discrepancies and come to agreement about the final results. Pearson's Chi-squared test was used to determine significance (p = 0.05).

Results

Media portrayals of SMT differed considerably between the 3 jurisdictions, especially between the UK and the other two countries. Much of the difference can be explained by the framing of news articles. The most common frame of articles was health or medical related in all 3 countries, but the second most common frame in Canada and the US was sports-related compared to the UK where the second most common frame was debate over the efficacy of complementary and alternative medicine (CAM), including chiropractic (see figure 1). The framing of news articles influences the presence and nature of discussions regarding efficacy, benefits and risks, and helps, in part, to explain some of the differences between the 3 jurisdictions.

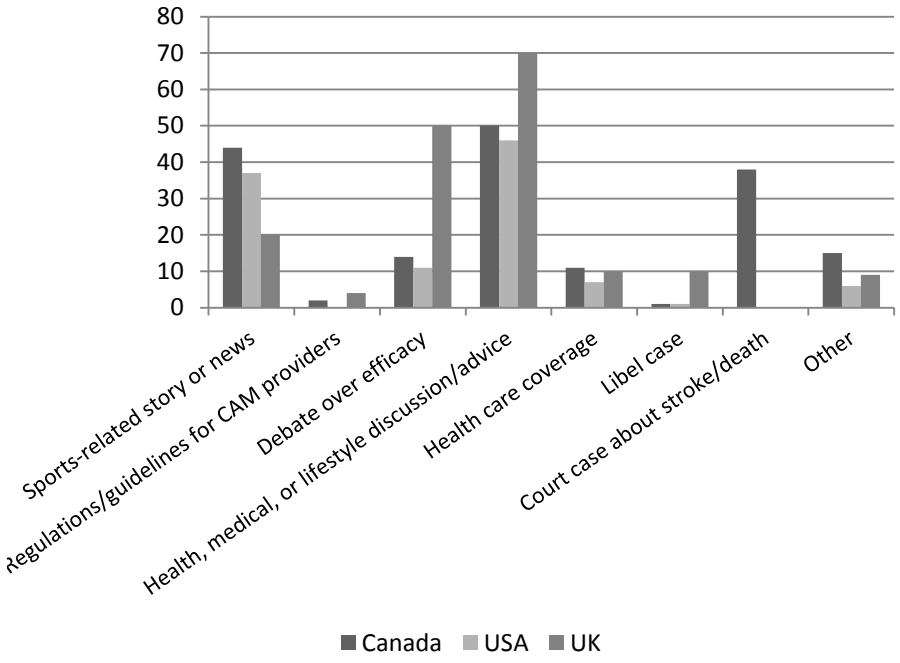

Figure 1. Main frame of news articles.

It is interesting to note that while over half of the articles (55.7%) specified a neuromusculoskeletal condition or injury, 15.6% of articles discussed the use of SMT to treat other conditions such as asthma or the common cold. About a third of the articles did not specify a condition.

Evidence of Efficacy

More than half of the articles (55.3%) did not discuss or provide any evidence for or against the efficacy of spinal manipulation. Those that did broach the subject tended to claim that SMT is not effective or remains unproven (102 articles, 22.4%). Only 65 articles (14.3%) mentioned that SMT is effective. Again, the differences between jurisdictions are significant (*sig*. = 0.000), which is also evident in the framing of the articles. For example, the majority of Canadian and US news articles did not discuss efficacy at all (69.7%, 63.0% respectively), and 82.2% of sports-related articles (*n*=101) also did not discuss efficacy (of which 80.2% were published in Canada or the US). News articles that often mentioned efficacy (or lack thereof) were included in debates over the efficacy of CAM (50.7% claiming SMT was ineffective or unproven, 28.0% effective or proven) and in articles covering the libel case against Simon Singh in the UK (75.0% labeling SMT as ineffective or unproven). Given that the Singh case involved a lawsuit with the British Chiropractic Association for calling many chiropractic treatments "bogus", it is not surprising that efficacy was often a focus of these UK articles. [18]

About a quarter of the articles cited some evidence for or against efficacy, including unspecified scientific studies (45 articles, 9.9%), peer-reviewed journal articles (41, 9.0%), or other evidence such as an observational study (29 articles, 6.4%). Quotations or evidence cited for claims for or against the efficacy of SMT appeared in several articles. Quotations about efficacy came from a range of people and levels of expertise, such as scientists and academics (40 articles, 8.8%), members of the public (34 articles, 7.5%), SMT providers (32 articles, 7.0%), medical professionals who do not provide SMT (23 articles, 5.0%), and even athletes/celebrities (11 articles, 2.4%).

Benefits of Spinal Manipulation

Almost a third of the articles mentioned some type of benefit of SMT (132 articles, 28.9%). While Canada and the US newspapers published articles mentioning benefits at a relatively stable rate over the 10 years, the UK published a fair amount of articles mentioning benefits until 2007 when this dropped off sharply. Framing did not play a big role in determining discussion of benefits, but benefits in articles from the UK focused more on the management of symptoms like back pain or that SMT "appears" to work and articles published in Canada and the US discussed a wide range of benefits (see table 2).

CANADA		USA		UK	
40 articles, 22.9%		27 articles, 25.0%		61 articles, 35.3%	
Appears to work	15 articles (8.6% Can articles)	Management of chronic pain	11 articles (10.2% US articles)	Management of chronic pain	38 articles (22.0% UK articles)
Addresses specific sport-related ailments	13 (7.4%)	Avoid surgery or medication	6 (5.6%)	Appears to work	22 (12.7%)
Avoid surgery or medication	12 (6.9%)	Addresses specific sport-related ailments	6 (5.6%)	Avoid surgery or medication	8 (4.6%)
Management of chronic pain	10 (4.7%)	Symptom reduction	6 (5.6%)	Addresses specific sport-related ailments	6 (3.5%)
Symptom reduction	8 (6.4%)	Appears to work	3 (2.8%)	Symptom reduction	2 (1.2%)
Enhances athletic performance	3 (1.7%)	Enhances athletic performance	3 (2.8%)	Cures other illnesses	2 (1.2%)
Cures other illnesses	1 (0.6%)	Cures other illnesses	1 (0.9%)	No specific benefits mentioned	1 (0.6%)

Table 2. Benefits of SMT Identified in Newspaper Articles in Each Country.

When benefits were discussed in an article, chiropractors (36 articles, 7.9%) and members of the public (22 articles, 4.8%) were often quoted. Scientific evidence supporting benefits was not often cited, but some articles cited an unspecified scientific study (17 articles, 3.7%), peer-reviewed journal article (9 articles, 2.0%), or other scientific evidence such as a case study (7 articles, 1.5%).

Risks and Safety Issues

Only about a quarter of the articles (117 articles, 25.7%) mentioned risk issues. Risks were mentioned most often in news articles published in Canada (65 articles, 37.1%), and least often in the US (13 articles, 12.0%). The framing of news articles contributes to these differences. All of the articles that discussed court cases regarding stroke or death possibly related to SMT (all of which were published in Canada) also highlighted the risks of SMT. Sports-related articles and articles about health and lifestyle mentioned risk or safety issues the least, and the majority of the US articles were framed as either sports or health and lifestyle related (table 3).

The discussion of risk and safety was often accompanied by quotations from medical professionals who did not practice SMT (32 articles, 7.0%), scientists or academics (22 articles, 4.8%), or members of the public (20 articles, 4.4%). Scientific evidence was also sometimes provided, such as a specific case report (41 articles, 9.0%), peer-reviewed journal articles (17 articles, 3.7%), or some other form of evidence such as an unspecified scientific study (7 articles, 1.5%).

CANADA		USA		UK	
65 articles, 37.1%		13 articles, 12.0%		39 articles, 22.5%	
Stroke	54 articles (30.9% Can articles)	Stroke	4 articles (3.7% US articles)	No details	18 articles (10.4% UK articles)
Torn arteries	39 (22.3%)	Avoid necessary conventional treatment	3 (2.8%)	Stroke	11 (6.4%)
Death	32 (18.3%)	No details	3 (2.8%)	Torn arteries	8 (4.6%)
Paralysis	4 (2.3%)	Neurological or nerve damage	1 (0.9%)	Death	5 (2.9%)
No details	4 (2.3%)	Dislocations and fractures	1 (0.9%)	Neurological or nerve damage	3 (1.7%)
Avoid necessary conventional treatment	2 (1.1%)	Torn arteries	1 (0.9%)	Mild side effects	3 (1.7%)
Neurological or nerve damage	2 (1.1%)	Paralysis	1 (0.9%)	Avoid necessary conventional treatment	2 (1.2%)
Torn tendons and muscles	2 (1.1%)	Death	1 (0.9%)	Lengthen recovery time or make injury worse	2 (1.2%)
Lengthen recovery time or make injury worse	1 (0.6%)	Mild side effects	1 (0.9%)	Dislocations and fractures	2 (1.2%)
Unnecessary x-rays	1 (0.6%)			Misdiagnosis or failure to diagnose	2 (1.2%)
Deafness	1 (0.6%)			Unnecessary x-rays	1 (0.6%)
				Paralysis	1 (0.6%)

Table 3. Risks and safety issues related to SMT identified in newspaper articles in each country.

Overall tone

The overall tone of articles differed considerably between countries. The UK tended to portray SMT more negatively and has a clear trend of becoming increasingly negative over time. The USA tended to be a little more neutral, and there is no discernible pattern, but it looks like there is less negative coverage over time. In Canada, there is also no clear trend, but it appears that media coverage is slowly becoming more positive as well, though this could be due to the early stories on specific adverse events.

The framing of news articles also affected the overall tone. Sports-related articles were most often neutral (77 articles, 76.2% of sports articles), whereas articles debating the efficacy of CAM were most often negative in tone (47 articles, 62.7% of debate articles).

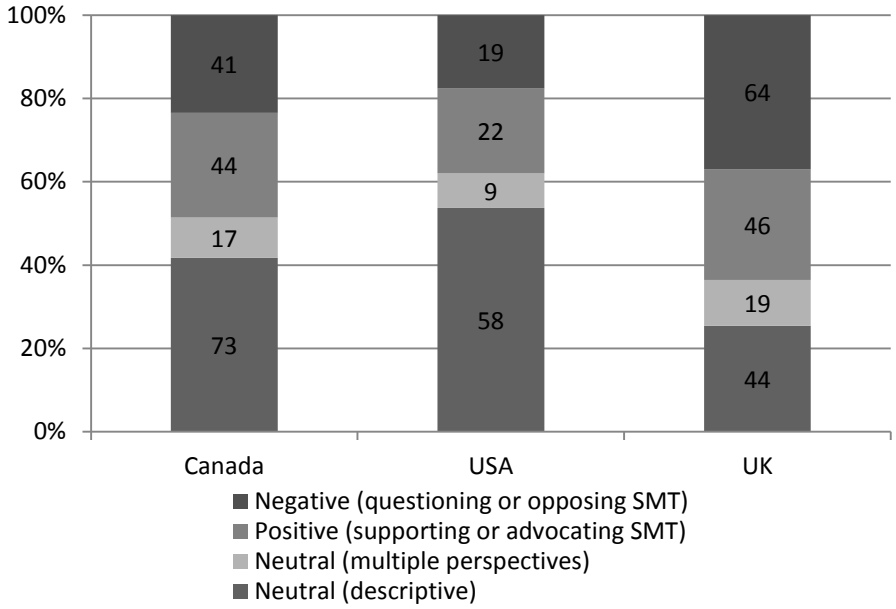

Figure 2. Overall tone in each country.

If articles were coded as positive or negative, the reason for the positive or negative tone was also coded. The most common reason that an article would be coded as positive in all 3 countries was that SMT was described in the article as appearing to help people maintain or regain health. Reasons for negative tones differed a little between the 3 countries, with negative articles from Canada usually citing safety concerns (21.7%), and the US and UK arguing that there is no evidence for efficacy of SMT (18.5% and 34.1% respectively) (table 4).

Discussion

The media representations of SMT seem to parallel the diverse perspectives associated with the therapy found in society more broadly, whether among physicians[19,20] or the general public. Given this variety of views about SMT, it is no surprise that the framing of the main topic of the news article played a large role in determining whether or not there is discussion of efficacy, risks and, to a lesser extent, benefits within a news article. For example, if the article was framed as a lifestyle or sports piece, it was more likely to be positive or neutral with little reference to risks. But if the issue of efficacy was raised or if a legal case was the primary focus, the article was more likely to be negative in tone.

The remarkable heterogeneity and tone of coverage of SMT raises questions about whether the media is effectively communicating information in this context, given that it is a key source of health information for the public. As noted, fewer than half of the articles discussed evidence of efficacy and less than a quarter touched on issues of risk.

CANADA		USA		UK	
POSITIVE					
Appears to help maintain and regain health	39 articles (22.3% Can articles)	Appears to help maintain and regain health	20 articles (18.5% US articles)	Appears to help maintain and regain health	52 articles (30.1% UK articles)
Safe, little or no proof of risk	14 (8.0%)	Helps patients avoid surgery or medication	8 (7.4%)	Helps save money and resources	12 (6.9%)
Helps patients avoid surgery or medication	10 (5.7%)	Helps save money and resources	4 (3.7%)	Helps patients avoid surgery or medication	9 (5.2%)
Helps save money and resources	7 (4.0%)	No details	4 (3.7%)	Helps manage pain in combination with other treatments	7 (4.0%)
Rigorous education, or similar standard as MDs	3 (1.7%)	Helps manage pain in combination with other treatments	3 (2.8%)	Addresses issues that conventional medicine finds difficult to treat	5 (2.9%)
Simple and/or logical treatment	3 (1.7%)	Good alternative to medical doctors	3 (2.8%)	Good alternative to medical doctors	5 (2.9%)
No details	3 (1.7%)	Safe, little or no proof of risk	1 (0.9%)	Safe, little or no proof of risk	3 (1.7%)
Quick, easy appointments	2 (1.1%)	Rigorous education, or similar standard as MDs	1 (0.9%)	Rigorous education, or similar standard as MDs	3 (1.7%)
Helps manage pain in combination with other treatments	2 (1.1%)			Quick, easy appointments	1 (0.6%)
Addresses issues that conventional medicine finds difficult to treat	2 (1.1%)				
Negative					
Safety concerns, risks outweigh benefits	38 (21.7%)	No scientific evidence to support efficacy	20 (18.5%)	No scientific evidence to support efficacy	59 (34.1%)
No scientific evidence to support efficacy	18 (10.3%)	Safety concerns, risks outweigh benefits	5 (4.6%)	Safety concerns, risks outweigh benefits	28 (16.2%)
Didn’t/doesn't help problem	7 (4.0%)	Didn’t/doesn't help problem (5, 4.6%)	5 (4.6%)	Waste of money and resources	10 (5.8%)
Waste of money and resources	4 (2.3%)	Waste of money and resources	2 (1.9%)	Didn’t/doesn't help problem	9 (5.2%)
No details	3 (1.7%)			Unethical	3 (1.7%)
Unethical	1 (0.6%)			No details	1 (0.6%)

Table 4. Positive and negative portrayals of SMT in newspaper articles in each country.

Given that these are, arguably, the two biggest health policy issues associated with SMT,[15, 21–25] the relative absence of coverage in most SMT articles is less than ideal. Indeed, might the large portion of the articles that were neutral in tone – and which did not mention efficacy, benefits or risks – imply that SMT is a routine, effective and safe therapy to treat back pain and sports-related injuries?

Of course, there was variation between jurisdictions and between countries, which also contributed to the differences in discussion about benefits and risk. The articles in the UK, for example, tended to be more negative in tone, likely due to the high number of articles devoted to addressing the debates about the efficacy of CAM (including chiropractic) spurred on by Prince Charles' advocacy efforts in the Smallwood Report and the subsequent backlash.[26, 27] Yet, despite the negative tones and arguments regarding the lack of scientific evidence for efficacy for most of CAM treatments, there was still minimal discussion of actual risks.

This study has numerous limitations. For example, we only looked at news in the print media. Increasingly, the public is getting health information from other new media sources. In addition, we did not compare the claims and statements in the articles to existing scientific literature. Nevertheless, this study highlights the degree to which the media can send mixed messages about the efficacy and safety of a popular and controversial intervention.

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