Critiquing health stories in the media

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Reporting of health stories in the media
Behind the Headlines

Unbiased and evidence based analysis of health stories that make the news

Source: NHS Choices Webpage
Men who cycle more than nine hours a week are six times more likely to develop prostate cancer, study finds

- Study discovers a link between cycling and the disease
- Middle aged men are statistically more likely to develop prostate cancer
- But research rules out link with erectile dysfunction

By BEN SPENCER FOR THE DAILY MAIL
PUBLISHED: 03:23 +10:00, 9 July 2014 | UPDATED: 19:30

Keeping children with a lazy eye in the dark for ten days could help them see better

- A study on kittens showed that their eyesight would improve after extended periods in the dark
- Lazy eye, or amblyopia, affects one in 25 children
- It can lead to problems seeing details and judging distances

By FIONA MACRAE FOR THE DAILY MAIL
PUBLISHED: 08:43 +11:00, 15 February 2013 | UPDATED: 08:50 +11:00, 15 February 2013

Now men have the perfect excuse to avoid shopping... it could make them impotent

By KATE LOVES
UPDATED: 10:14 +10:00, 30 June 2010

Housework could reduce the risk of breast cancer by 13%

By CLAIRE BATES
PUBLISHED: 20:04 +10:00, 4 September 2012 | UPDATED: 21:38 +10:00, 4 September 2012

Health headlines
Australian health headlines..

Drinking type  | Died prematurely
---|---
Non-drinkers  | 69%
Moderate drinkers  | 41%
Heavy drinkers  | 60%

The key to staying thin on ‘burger diet’

DIETING AN OBESITY breakthrough appears to have been made by Danish researchers who say they’ve found a way to keep weight off while eating a “pizza and burgers diet”.

Source: The Daily Telegraph, 2018
Saving your life..
How foods have been reported in the UK media

Based on UK national press reports analysed by Behind the Headlines between July 2007 and January 2011

Source: NHS Choices. [Miracle foods: myths and the media](#)
Media reports of cancer prevention and causes

**Causes cancer:**
- Wifi
- Divorce
- Toiletries
- Coffee

**Prevents cancer:**
- Red capsicum
- Liquorice
- Coffee
- Housework

Source: Ben Goldacre Battling Bad Science
Lost In Translation
Deconstructing cancer: what makes a good-quality news story?

Amanda J Wilson, Billie Bonevski, Alison L Jones and David A Henry

Cancer is a major cause of death and disability and, as such, attracts strong media attention. The implication is clear: everyone is at risk of cancer; therefore, everyone has a vested interest in finding out about the latest preventive measures, diagnostic tests, and treatments for cancer. This is especially true for people who are directly affected by the disease who actively seek new information in the hope of improving their prognosis.

There has been extensive study of how cancer is portrayed in the media. However, studies have tended to focus on one or two types of cancer (breast or skin), one source of news (online), or one type of therapy (medication). Analyses have also been qualitative in nature, examining the content of the reports for tone or themes. To our knowledge, no previous analyses have used quantitative assessments of the quality of information contained in news reports about cancer.

We describe an in-depth analysis of the content, context and quality of cancer reporting in Australian media during the 3-year period from June 2004 to June 2009 using data collected by the media-monitoring website Media Doctor Australia (http://www.mediaro.org.au). Media Doctor

Objective: To describe an in-depth analysis of the content and quality of stories about new cancer interventions in Australian media.

Design and setting: Search of the Media Doctor Australia media-monitoring website for stories about newly reported cancer interventions, including drugs, diagnostic tests, surgery and complementary therapies, that had been collected from June 2004 to June 2009 and rated for quality using a validated rating instrument. A mixed-methods approach was used to analyse data and story content. Data from the website on stories about other new health interventions and procedures were compared.

Main outcome measures: Differences in quality scores between cancer-related news stories (“cancer stories”) and other stories, and between types of media outlet; differences in how cancer was reported in terms of type, morbidity, mortality, and in the use of hyperbole and emotive language.

Results: 272 unique cancer stories were critically reviewed by Media Doctor Australia. Cancer stories had significantly higher scores for quality than other stories (F = 7.1; df = 1; P = 0.008). Most cancer stories concerned disease affecting the breast or prostate gland, with breast cancer appearing to be over-represented as a topic relative to its incidence. Parallel comparisons showed statistically significant superiority for broadcast newspaper stories over online stories (F = 12.7; df = 1; P < 0.001) and television stories (F = 10.7; df = 1; P = 0.001). Descriptions of morbidity and mortality were variable and often confusing in terms of numbers, time periods and locations. Literary devices including hyperbole and emotive language were used extensively, mostly by the researchers.

Conclusions: While reporting of cancer in the general media is of low quality, many of the poorer aspects of content are directly attributable to the researchers. Researchers and journals need to do more to ensure that a higher standard of information about cancer is presented to the media.

MJA Study findings..

- Reporting of cancer in the main stream media was of poor quality, particularly by TV and tabloid newspapers.
- Individual narrative or testimonial widely used that provided only anecdotal evidence.
- Key finding was the use of emotive words, e.g. ‘..this is fantastically significant for the 2,800 Australian men who die of this disease each year’. 2008 Courier Mail, Brisbane.
- **Most** emotive statements were attributable to:
  - Researcher?
  - Journalist?
Powerful stories..
Bad science can cause real damage…

ANDREW WAKEFIELD

• 1998 – The Lancet publishes a paper that claims a link between the MMR vaccine and autism

• Investigations (2004 and onwards) revealed serious undisclosed conflicts of interest

• Findings shown to be incorrect

• 2010 - Study retracted
  - Wakefield struck off UK medical register
A large retrospective 2015 cohort study of 95,000 children found no increased risk of autism after receiving the MMR vaccine, even among children who were at higher risk of developing the condition.

Wide media coverage

- Wide media coverage
  - anecdotal evidence from parents
  - non-expert commentators

- Criticism of the media - that they provided Wakefield’s study with more credibility than it deserved

‘The original paper has received so much media attention, with such potential to damage public health, that it is hard to find a parallel in the history of medical science. Many other medical frauds have been exposed but usually more quickly after publication and on less important health issues’.

Fiona Godlee, Editor BMJ 2011

Godlee F. The fraud behind the MMR scare. BMJ, 2011; 342:d22
Implications…

• Behaviour change (not based on scientific evidence)
• Avoidance of protective behaviours – e.g. immunisation
• GP / Hospital presentation → Burden on health system
• Fear
• Unclear messages / Confusion
• False hope/unrealistic expectations of healthcare
What to consider when interpreting health stories in the media

- Where the story came from?
- What kind of research was it?
- What the research involved?
- What the basic results were?
Where did the story come from?

• **Who carried out the research and where was it published?**
  – Peer review?

• **Who paid for and conducted the study?**
  – Identify any conflicts of interest
    ▪ Industry funded trials are four times more likely to have a flattering (positive) result than independently funded trials
      
      Lexchin J, Berro L, Djulbegovic B et al. *Pharmaceutical industry sponsorship and research outcome and quality: systematic review.* BMJ 2003. 326 (7400);1167

• **Is the media article based on a conference abstract?**
  – Preliminary research, lack of comprehensive details, not undergone peer review
What kind of research?

Was the research in humans?

The key to staying thin on ‘burger diet’

DIETING AN OBESITY breakthrough appears to have been made by Danish researchers who say they’ve found a way to keep weight off while eating a “pizza and burgers diet”.
Eating plenty of fruit and vegetables may protect against asthma: high fibre prevents lung inflammation

Findings suggest what we eat can influence immune cells in the gut and its effect on lung inflammation. The findings come from experiments with mice in the laboratory.

Importantly, the researchers only tested the effect of dietary fibre on airway inflammation in mice. The results of animal research often do not translate into the same results for people.

However, the basic biology of humans and mice is surprisingly similar in some aspects, so these findings give a good starting point for further study in humans.

Although these results can help scientists learn more about the role dietary fibre plays in protecting against airway inflammation, headlines stating that a high-fibre diet "prevents lung inflammation" are premature.

What kind of research?

Study Design

- Experimental (e.g. RCT)
- Observational (Cohort, Cross sectional)

Source: Cochrane Collaboration
Common limitation: Confounding

- Where something other than the main factor being assessed (a confounding factor) may be responsible for effects.

Study of 1,373 Dutch men followed for 40 years and found:
- Men who consumed an average of half a small glass of wine a day lived about five years longer than those who didn’t drink alcohol.
- Lower risk of death from CVD among those who drank a small amount of wine than those who didn’t.

Source: Daily Telegraph
SAUNA HEALTH BOOST  Daily saunas could significantly reduce the risk of suffering a stroke, say scientists

Sweating it out in a sauna isn't just relaxing, it could also have major health benefits, according to a new study

By Brandon Malinksy
2nd May 2018, 9:00 pm  |  Updated: 2nd May 2018, 9:00 pm

Source: The Sun, 2018
What did the research involve?

• How many people did the research include?

• Did the study assess what is in the headline?
  – Are proxy measures used?

• Self-report

• Recall bias
Study findings and what else to consider

- Statistical significant findings
- How generalisable are the findings?
- “Lack” of evidence?
- Strengths/Limitations of the study mentioned?
Brushing your teeth THREE times a day could ward off diabetes as study finds those who exceed the twice-a-day recommendation have a 14% lower risk

- A study looked at the oral hygiene of almost 190,000 people from South Korea
- They were followed for an average of 10 years to see who developed diabetes
- Those who brushed three times a day had a 14 per cent lower risk of diabetes

The study, led by Dr Tae-Jin Song of Seoul Hospital and Ewha Womans University College of Medicine, was published in the journal Diabetologia.

- Smoking, alcohol, BMI etc adjusted for – not diet
- Exaggerated headline reporting a 14% decreased risk which was from one small subset in the study. The main findings was a less dramatic 8% reduced risk.
- Does not prove that increased teeth brushing causes reduced risk of diabetes
- Findings don’t provide strong basis for increasing teeth brushing from recommendations
Be aware of:

- Sensationalised headlines
- Misinterpreted findings
- Animal/laboratory studies
- Non peer-reviewed material (e.g. conference abstracts)
- Small sample
- Conflicts of interest
- Proxy measures
- Research that is unable to prove a cause and effect relationship, instead only proves an association
FACTS OR FICTION?

Online

- Quality health and wellbeing content online can help you make informed decisions.
- In what formats is health information available online? Text, images, audio, videos, animations, tools and apps.

Who wrote it?
- What are the qualifications of the author?
- Who publishes the content?

TIP: Check the About us page.

TIP: Look for author or editor info.

Is it clear?
- Is the information easy to find and understand?
- Are images or videos used to help explain the text?

TIP: Browse the site or use any available search features.

Is it up to date?
- When was it written?
- When was it last reviewed?

TIP: Look for this information at the bottom of each page.

Is it your privacy respected?
- Is there a privacy policy on the site?
- If the site collects personal information, is it secure and private?
- What will your personal information be used for?

TIP: Look for a 'Privacy statement' or 'Privacy policy'.

Is it accurate?
- Is the information based on research?
- Are information sources provided?

TIP: Look for WebCite certification, a global standard for quality and transparent health information online.

Is it right for you?

Think for yourself

- How can you consume it?
  - Via computers, laptops, tablets, mobile phones and social media.

of Australians say they looked for health information online in the past year.
Online
- Health Direct Australia – health advice
- NSW Health
- NHS Choices. Behind the Headlines - analysis of health stories that make the UK news
- UK National Institute for Health Research (NIHR): Signals
- The Conversation (website) – informed commentary and debate on current issues
- Media Doctor Australia – assesses the quality of Australian health news

Other
- Health Report (ABC radio) Mon 5.30pm, repeated Wed 11am
- Book: Bad Science by Ben Goldacre
- Johns Hopkins University – Free online course of short videos that cover the basics of COVID-19 including vaccine development
- Media Watch
Thank you!

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