# YouTube as a health app? How reliable is health-related content?


Image source: Blog post by Tom Allingham
https://www.savethestudent.org/make-money/how-to-make-money-youtube.html

Today, digital technology seems to provide the answer to all health concerns. You name a health problem and there's someone who claims to have an answer to it on the internet. In 2009, YouTube, an online platform that supports the uploading and streaming of video content, became mainstream. In the past few years, YouTube has become increasingly famous, to the extent of being considered a new digital "necessity." Nowadays, it comes as a built-in app in all android phones. In addition, practically everyone who uploads content on YouTube (from here on 'YouTubers') also has their presence on other social media like Instagram, Pinterest, Tik Tok, Facebook, etc. Many of these YouTubers, and the channels that they deliver, make a variety of health claims. For example, there are a multitude of videos on the health benefits of asparagus, on lacing one's running shoes in case of bunions, on managing eye health in aged care facilities and on the dangers of oil consumption for Vegans. I will return to the latter example shortly.

All in all, it is fair to describe YouTube as one of the most influential health apps in the world today. However, as the arachnid wisdom goes, "with great power, comes great responsibility".

Although a lot of the most popular videos on YouTube are uploaded by trusted sources, such as research institutes, public health agencies and reputable media, a lot of it clearly isn't. Apart from some basic rules on hate speech, slander and some of the worst misinformation (for example on the Covid-19 pandemic) there are no substantive requirements made on YouTubers. As a result, these videos generally don't follow any established research methodology which in turn makes many of their claims questionable and their lack of scientific rigour creates a huge bias in the message that they convey. How? There are four answers to this;

- The selection of articles may be biased. Scientific methodology involves incorporating information that does not necessarily fit your perspective. Scientists are of course only

humans, and some may try to discard or downplay inconvenient sources. However, they can be and – in many cases are held accountable for providing a balanced overview of the relevant literature. YouTubers, of course, are held to no such standards. Many of them select references to match their preconceptions and select only those articles that support their claims.

- Alternatively, YouTubers may just leave out references altogether, i.e. not provide sources for the claims conveyed through their channels.
- The third reason is the possible involvement of subjectivity in the interpretation of research papers. YouTubers may simply lack the expertise to properly assess the available data. After all, not every health channel on YouTube is run by an epidemiologist or a health practitioner. This may lead to unintentional misinterpretation of results.
- Some YouTubers may have their followers' best interests at heart but some may also be motivated by commercial incentives, specifically marketing and advertising products, in the trending space of health and wellness. Some of them might end up passing on wrong or medically unjustified information to the audience. In fact, wellness is a word often used by YouTubers in such a manner that it blurs the line between health and beauty, thereby persuading people, especially the younger generation, to purchase things that may only benefit the YouTubers and not the audience.

In today's world where many people are connected to and via social media, such influencers with their iffy research may influence their followers to take actions that may not be in their best interest. For instance, in the video about oil consumption for vegans mentioned above, the YouTuber makes a very strong claim that vegans are at high risk of cardiovascular disease if they consume oil but fails to back this up by providing sources that clearly support this claim. Upon careful reading of recent publications online on this topic (for example this) and careful inspection of his videos, it may be deduced that the YouTuber misrepresents and even apparently wilfully manipulates the information. Let us zoom in on this specific example.

The title of the video is apparently designed to generate clicks, or at least is not very subtle: "Oil: The Vegan Killer". We click. We see a young man, casually dressed, with a well trimmed beard and an unbuttoned shirt, who immediately starts talking, bombarding us with information. He wastes no time on impressing on the viewer a sense of danger associated with fat in general by the fancy graphs and charts making his video to appear edifying. There's little time to assess the claims and the relatively slick visual graphics work to emphasize a sense of alarm: the word "FAT" is slammed on the screen in block letters to convey the message that anything related to lipid substances should be shunned. Moreover, by making suggestive comparisons to consuming large amounts of refined sugar it is claimed – rather vacuously – that "processed foods are processed foods". There is, however, no definition provided, no explanation given beyond the apparent assumption that fat is just unqualifiedly bad, in and of itself. What follows are several minutes of irrelevant information, limping comparisons and some fallacies. Yet, because the narrator seems to rely on scientific insights, it is difficult for even well-informed individuals to sift out the truth of the matter. More specifically, the video suffers from three serious methodological flaws. First, in the entire video, it is explained how oil consumption is detrimental to human health but it wasn't critically commented on how oil consumption is bad for the health of vegans in particular. Second, no links are provided to any paper that supports the claim of oil intake on a *vegan* diet. Third, the claim seemed to be foggy because it wasn't mentioned what quantity of oil was bad for vegans in particular. To support this, only those excerpts of the presentation/speech of researchers were shown when they mention how oil is bad for health, not particularly mentioning vegans or the quantity of the oil that is bad for health.

Only those who are particularly interested in epidemiological studies may take the pain to critically examine such research, but to a regular consumer of online information, YouTube might be a source of quick, seemingly reliable, and entertaining source of health information.

This is not limited solely to "research videos" but also to other health information content on YouTube,

for instance, as we have seen, many YouTubers use ‘click baits’ in the form of exaggerated or even false titles/images so that people go through their videos. Furthermore, the YouTube recommendation service works to draw users further and further into the disinformation ‘rabbit hole’. (Link 1 , Link 2, Link 3)

In the second quarter of 2020 YouTube took down 26% more videos than the videos taken down last year during the same period and 83.5% of these videos were either spams, scams or had misleading content. This was performed by relying more strongly on electronic algorithms – and decreasing human interference in the filtering of videos. Although this was done with the intention of prioritizing responsible information practices over entertainment, the question still remains, how capable is the machine brain in filtering out superficial health related research content that – under the veil of “research” – looks unsuspicious to both the human and machine mind.

Recent bogus videos on the causes, vaccination and treatment of COVID-19 that have been surfacing on YouTube are an apt example of how disinformation is spread. For example, there were YouTube videos circulating on WhatsApp falsely claiming the availability of vaccination of COVID-19 and also regarding baseless treatment and causes of COVID-19. This disinformation was further spiced up by individual WhatsApp users which only added to the pile of disinformation regarding Corona virus.

It is hard to imagine a world without the Internet and smartphones, but cases like this show the fragility of Internet video blogging. There’s a lot of health related content on YouTube which can be misleading, have bad influence or even be harmful to the viewers in various ways, including audiences following a certain diet, work out regime or a health lifestyle that celebrities preach about without taking into consideration their individual existing health conditions or needs. It seems hard to overstate just how dangerous this is. These practices may lead to the risk of the development of other diseases or injuries, not just to one or two individuals, but, as videos become more popular, on a near population scale. At the moment of writing this blog, the ‘Vegan Killer’ video was ‘only’ watched 683,432 times, but, taken together disinformation on health by way of YouTube is absolutely massive. By contrast, scientifically valid, academic papers may get only 100 citations.

Therefore, it is imperative that people are given access to genuine evidence-based information. This observation raises a number of ethically interesting questions. How to deal with the deluge of misinformation? Of course, we do have the ‘right to freedom of expression’ but the fact that a baseless, misinterpreted or incomplete information can reach millions of people and influence their health decisions is blood-curdling. Perhaps, YouTube should consider regulating its health related content on humanitarian grounds and people should be more willing to be smart viewers.