Can uptake of public health interventions be improved by including grey literature in the evidence-base?

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Abstract

Interventions to prevent obesity are not working. Despite the substantial efforts of a multiplicity of interventions and strategies from the public health sector, by 2025 Australian adult obesity rates are predicted to rise by 65%. There is little doubt that increased physical activity/decreased sedentary behaviour combined with dietary intervention produces an outcome of reduced BMI: this is the science of weight loss and not in dispute, though a profusion of RCTs continue to be conducted along similar lines and academic journals continue to publish them. Policy in this area abounds but practical long-term successes remain elusive.

What is often missing from the debate is acknowledgement and understanding of the public's resistance to uptake of obesity prevention interventions. This crucial information can be gleaned from the grey literature. To be genuinely evidence-informed, policy needs to access the broadest literature base and include both published and unpublished sources. Grey literature includes surveys, public opinion, crowdsourcing, social media, theses and conference papers, issues and working papers, technical reports, unpublished studies and projects, newspapers and blogs. It is vital to consider these sources in the evidence-base to balance the science of obesity.

Grey literature is where societal attitudes, beliefs, values and opinions might be reasonably expected to be found, and also where pilot programs and case studies assessing the feasibility of public health interventions will have been reported. The degree to which this literature has been accessed and incorporated into the evidence that informs policy arguably has an impact on the ultimate success or sustained "take-up" of an intervention.

Introduction

The Australian Institute of Health and Welfare (2010) defines public health interventions as those which "focus on maintaining the wellbeing of populations … and are aimed at protecting or promoting health or preventing illness" and to be successful, these interventions need to impact people's behaviour.

Changing people's health behaviour is notoriously difficult because human beings are complex and unique. Theories which explain behaviour and predict probability can be useful, but are too often derived from optimum research environments which do not translate successfully into the uncertainty and variability of real life. And there is a need for people to 'buy in' to change. "People change if they believe there is both value in change and that it is achievable" (Kok, 1997).

One public health intervention which has achieved a clear measure of success is tobacco control. In 1971 39% of adult Australians smoked and in 2015 that number was reduced to 14.5% with a government aim of a new low of 10% by 2018. Forty five years of continuing policy implementation and legislation has succeeded in significantly changing specific health behaviour with a large degree of 'buy in' which has been sustained. While the example of tobacco control shows what can be achieved, 45 years is too long to wait for the successful uptake of obesity prevention interventions.

Background

There is an urgency accompanying the public health crisis of obesity which has been called a pandemic and a 'time bomb'. No country has yet succeeded in reversing obesity trends: in fact by 2025 obesity rates are predicted to rise in Australia by 65% (Walls, 2012). This is despite a great diversity of interventions and strategies from the public health sector, supported by legislation targeting advertising and labelling of food, national consumer education programs, limiting availability of unhealthy foods sold in schools and hospitals and much, much more. As a public health challenge obesity is proving frustratingly difficult to tackle and there is a pressing need for solutions. For those in the developed world, eating is a pleasurable everyday activity and immediate gratification often wins out over long term, delayed, negative health outcomes. Obesity is a very complex issue with causes and contributors ranging between "personal choices" and "external forces" (Kibbe, 2011) and influenced by biological, behavioural, social, psychological, emotional, environmental and economic factors. There is a plethora of strong published evidence in the form of studies, trials and systematic reviews which stress the dangers of obesity and the success of higher energy output over intake. There is little doubt that increased physical activity/decreased sedentary behaviour combined with dietary intervention produces an outcome of reduced BMI if behavioural change is maintained over the long term. This weight loss

science is not in dispute, but by any measure the published research detailing outcomes of interventions and programs is clear: these interventions are largely unsuccessful and rarely sustained over time. People are not consistently compliant.

Clearly 'knowledge transfer', defined by the Canadian Social Sciences and Humanities Research Council (2006) as "Moving research knowledge actively into the realms of policy, practice, products, and public understanding", is still a significant challenge. Somehow there has been a disconnect in the general population between this knowledge and the necessary behavioural change for obesity prevention. With a lack of consensus and a need to gain greater understanding of where the community stands on this issue it is suggested that increased engagement with the grey literature may provide some answers. Access to this information which is largely missing from the current evidence-base may lead the way to improved uptake.

Unpublished studies and trials

Grey literature in the form of unpublished trials must be retrieved and considered as part of the research literature, to avoid publication bias. This approach is mandated by both the Cochrane Collaboration and the Campbell Collaboration. It is known that larger studies with positive results are more likely to be published than smaller studies or those with negative results (Hopewell, 2007) and in the obesity prevention literature the ensuing imbalance has been less than helpful. It has placed undue emphasis on intervention studies which continue to expound the scientific and biomedical aspects of weight loss and prioritised quantitative research (Perez, 2015). This "science to service" model often sees a simplification or generalisation of outcome interpretation for groups or populations which were not indicated in the research and, for example, reports on how many participants achieved a decrease in BMI but not why those who dropped out of the programs did so.   Unpublished studies with negative outcomes need to be accessible as do unpublished smaller studies which provide a close look at a very specific population. Close examination of both the published and the unpublished research may provide greater insight into the difference between success and failure of interventions. After all, to a large extent the participants themselves hold the key.

Traditional grey literature sources

Grey literature from the obesity prevention community of practice is also crucial to understanding the challenges to successful uptake of interventions. It was pleasing to note that the most recent "Australian Dietary Guidelines: providing the scientific evidence for healthier Australian diets" (NHMRC, 2013) consulted over 200 references from the grey literature, making up 20% of their evidence base. Included were multiple reports, evidence reviews, guidelines, working and background papers, conference papers, standards, opinion papers and policy briefs. Moreover their Terms of Reference stipulated they actively seek "comments provided by the broader community through public consultation".

This consultation process for a national government publication endorses at high-level, the view that societal attitudes, beliefs, values and opinions are expected to be found in the grey literature, along with practice-based evidence reports assessing the feasibility of public health interventions. The degree to which this literature has been accessed and incorporated into the evidence that informs policy may have an impact on the ultimate success or sustained "take-up" of an intervention.

Recognition that the strength and value of grey literature lays in the way it can reflect the lay voice: what people actually think, is vital. How can policy succeed when individuals' beliefs and behaviours are at odds with the underlying principles and truths of achieving healthy weight? Grey literature is where we find this voice: in public opinion polls and surveys, in focus groups and in policy reports and working papers. Listening to people is part of the community engagement so vital to any public health change: it is a challenging but well-supported aspect of behavioural change in public health.

New types of grey literature

Innovative grey literature sources like blogs and social media, talkback radio, crowdsourcing, online competitions and interactive websites can breathe fresh life into public issues, broadening and enlivening the debate and further informing the evidence base. In 2012 the Childhood Obesity Challenge was launched. It was an online competition open to everyone and designed to solicit ideas and proposals on how to address the childhood obesity epidemic. This crowdsourcing platform was designed to have wide appeal and was open to the use of anything that could relay a possible solution, including the latest technologies and use of social media. Organisers said popularity voting was to encourage participants to create solutions for childhood obesity that would "rank well with the general public" and expected them to come from "outside the standard scientific framework".

In 2013 the University of Vermont also used crowdsourcing and set up an interactive website to gather information about childhood predictors of adult BMI from the general public. People discussing the issues with each other zeroed-in on predictors of obesity, some which were previously undocumented. Researchers were surprised that "the website visitors discovered some intriguing connections that experts hadn't considered".

As Australian obesity prevalence continues to rise it is reasonable to suggest that we must accept that traditional approaches to obesity prevention have been largely unsuccessful and that the evidence supporting them are at best under-informed. Looking further afield opens up exciting possibilities. Innovative examples from the grey literature illustrate how looking outside academia and the published research provides additional rich information content drawn directly from the people whose behaviour we seek to change. Tapping into the widest variety of sources allows us to reflect the complexities of the issue and the perceptions of those we target (Thomas, 2010).

A key to uptake: Community receptiveness

All the additional grey evidence gathered from this multiplicity of sources provide a much broader understanding of the way the public and the practice community think about obesity prevention. One way to achieve increased uptake of prevention interventions and bring about a change in health-related behaviour is to tie into community receptiveness.

With a community, a traditional needs analysis approach can be creatively substantiated with events like town hall meetings and crowdsourcing, which involve the general public contributing to the debate in innovative ways. Simkhada's view (2004) is that grey literature is needed to fill the information gap as "an essential part of the evidence base for practice in complex interventions, which may have multi-stakeholders, have multi-variables, have a lack of predictability and robust data and require a broad literature approach". .Armed with a far richer knowledge of public views, and actively involving stakeholders in programme design, implementation and evaluation, it is possible to ensure that the community's needs are met, and that the public is supportive and invested. There is a demonstrable need to clearly identify the issues, values, beliefs and attitudes of those the intervention aims to engage when designing and planning a public health intervention which aims at changing their behaviour. There are numerous tools for assessing community readiness for change, and many involve the identification of 'change champions'. These are usually respected and integral members of the community who can assist the change process. Tsui (2006) suggests the message must be "one that is valuable to an audience based on their needs, delivered by a messenger they can trust, in language they are comfortable with" and Flynn (2006), discussing the community prevention of obesity, includes a "Sensitivity check". Essentially this sensitivity check can usefully be applied to all ideas, strategies and interventions to assess if "they empower … [people] to take positive action, are culturally aligned, as well as validate community/population readiness".

The innovative nature of such approaches, often developed in partnership with communities, reflect and incorporate local need and can inform the evidence on supporting people and communities to make positive behavioural changes.

Conclusion

Grey literature provides the voice of the public and the practice community and brings a bottom-up perspective to the obesity prevention debate, to temper the top-down approach. This additional evidence may help address the question: why is obesity prevention not working? With greater understanding of public values, beliefs and attitudes there is every possibility of achieving increased engagement and uptake in the middle ground of community consensus.

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