Expert testimonial for PDG

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The PDG submitted a series of questions which cover two key aspects of obesity and its management: weight bias and stigma and the effectiveness and impact of weight management programmes. These will be addressed separately.

Weight bias and stigma

Weight bias is assessed using a number of different methodological approaches including qualitative interviews, surveys, experimental manipulations involving vignettes or photographs, laboratory based manipulations, field studies and implicit attitude tests (Ruggs et al, 2010). Although these different approaches focus on different aspects of weight bias and each have their own strengths and weaknesses, in general they conceptualise weight bias as the negative attitudes or stereotypes people hold against the obese and any subsequent prejudice or discrimination. For example, research indicates that the obese are more likely to be thought of as lazy, unintelligent, lacking self discipline and unmotivated compared to those of normal weight (Puhl, Brownell, 2001; Puhl and Heuer, 2009; Teachman and Brownell, 2001) and experience discrimination across a number of different settings including employment, health care and interpersonal relationships (Puhl and Heuer, 2009).

What is the prevalence of bias and stigmatisation towards this population?

Research using a wide range of methodologies has identified weight bias across both professional and lay populations. For example, in terms of professionals, studies from the US, Australia, Europe and North America report high levels of bias in doctors, nurses, psychologists, obesity specialists, maternity care providers and pre service health students (Mulherin et al (2013; Puhl, Andreyeva and Brownell, 2008; Fabricatore, Wadden and Foster, 2005; Puhl and Heuer, 2009; Foster et al, 2003; Scwartz et al, 2006). Further, a systematic review of obesity stigma in the general public (Sikorski et al (2011) identified 7 relevant papers from the US and Germany and concluded that a quarter of the lay population of Germany showed stigmatising attitudes to the obese and that across the studies a majority of participants attributed obesity to lack of activity and overeating and favoured internal as opposed to external causal factors. Similarly Puhl et al (2008) concluded that from their review that weight bias was the fourth most common form of discrimination in the US. In addition, a large population based survey in Sweden reported that 10 year old children showed stereotypical attitudes and prejudice about obese peers compared to average weight individuals. Interestingly they also showed similarly negative views of thinner peers. Further, Andreyeva, Puhl and Brownell (2008) concluded from their analysis of National Survey of Midlife Development in the US that there had been a 66% higher rate of reported discrimination based upon body weight in 2004-2005 compared to 1994-1995. In terms of variability in weight bias, there is some evidence that it decreases with age and is greater in men than women. The link between bias and one's own body weight and a family history of obesity remains inconsistent (see Hilbert, Reif and Braehler, 2008 for a review). The prevalence of weight bias therefore seems to be high in both lay and professional groups and

may stem from internal attributions for the cause of obesity which focus on diet and exercise which are deemed to be within the control of the individual.

What are the effects of bias and stigmatisation on obese people?

Weight bias and stigma has been consistently demonstrated to have negative consequences for the individual being stigmatised against. In terms of the psychological effects, studies indicate that experiencing weight stigma is linked with poorer body image, poor psychological well being, lower self esteem, higher levels of depression and anxiety and that weight related teasing predicted future overweight, disordered eating and binge eating at 5 years follow up (Puhl and Brownell, 2001; Wardle and Cooke, 2005; Neumark-Stzainer et al 2007; Eisenberg et al, 2003; 2006). Furthermore, experiencing weight bias is linked with lower participation in activity and a decreased liking of sports (Faith et al, 2002).

In terms of the social effects of bias, studies indicate that the obese are less likely to be offered jobs, are offered lower starting salaries and generally experience a range of negative outcomes in the work place (O'Brien et al, 2008; Popovich et al, 1997; Rudolph et al, 2009). Giel et al (2010) carried out a qualitative review of the evidence for the impact of weight bias on experiences in the work place and concluded that studies using a range of methods involving both hypothetical and real life situations illustrated the impact of weight bias on work place factors such as hiring decisions, entry into certain professions, promotion once embarking upon a career and unequal treatment, particularly unequal pay in the work place.

Weight stigma is therefore experienced in consistently negative ways by those who are overweight or obese and is associated with psychological morbidity and behaviours which may in turn exacerbate the individual's weight problem.

Are there any characteristics of weight management programmes that may increase or decrease weight bias?

The recent NICE funded reviews provide some evidence as to the impact of aspects of weight management programmes and the leaders that run these groups. In particular, users indicated that the personality and approach of the group leader for both commercial and NHS run sessions had an impact on their willingness to attend the groups and disclose their feelings and behaviours. Some stated that it was useful if the leader had had their own weight problem in the past and many cited the importance of humour and enthusiasm. Most participants across the different studies also described benefitting from the regular weigh in session which they felt added an incentive to their attempts at behaviour change. Further, those in men only groups commented on how helpful it was being in a group of men with a similar level of weight problem to their own. Although not directly linked with weight bias and stigma, these reviews have some implications for understanding the role of weight stigma in the group setting. In particular, it could be argued that a non judgemental and humorous approach by the leader together with a group being composed of people at a comparable level of weight problem may reduce the experience of weight stigma. This in turn may encourage attendance and possibly facilitate weight loss. No evidence exists to date however for this this association.

Are there any effective interventions to reduce stigmatisation towards the obese?

In 2010 Danielsdottir, O'Brien and Ciao (2010) published a review of studies designed to reduce anti fat prejudice which was used as the umbrella term for weight bias, weight stigma and anti fat attitudes and behaviour. Their search used four online research data bases and identified 16 published works which varied in their theoretical and methodological approaches as well as their choice of outcome measures. The studies also varied in their choice of intervention with some targeting knowledge and beliefs about the causes and controllability of overweight and obesity, some attempting to evoke empathy, acceptance and positive affect towards the obese and some using social influence mechanisms to promote attitude change. In general, Danielsdottir et al (2010) concluded that many of the studies identified were flawed in their methods due to the absence of an experimental design and / or a control group. They also concluded that whilst interventions designed to change beliefs about the causes of controllability may change knowledge, this had little or no effect on anti fat attitudes. Similarly, they concluded that whilst evoking empathy, acceptance and liking may changes these constructs, this again had no effect on subsequent anti fat attitudes. Finally, they concluded that whilst challenging social norms though the mechanisms of social influence appeared more effective than the other two strategies at reducing anti fat attitudes this may have been due to social desirability effects and the reluctance to express these views after the intervention rather than a change in views per se. Their one positive conclusion, however, was that a combined intervention using changes in beliefs about causes and controllability, and the evocation of empathy and the use of social norms may be more effective than any single strategy but that the evidence for this was modest but encouraging. Since this review several more papers have been published exploring the effectiveness of interventions to change weight bias. For example, Swift et al (2013) used a film to change beliefs about obesity and both explicit and implicit anti fat attitudes amongst trainee doctors and dieticians. Two 17 minute films were used containing information about the experience of weight stigma and the multifactorial causes of obesity beyond overeating and under activity and measures of anti fat attitudes were measured both implicitly and explicitly. The results showed that compared to a control film, the weight stigma film resulted in improved explicit attitudes but not implicit attitudes. Similarly, Poustichi et al (2013) evaluated the impact of the same film on the beliefs of medical students and reported improvements in explicit attitudes and a shift towards a belief in the role of genetic and environmental factors rather than personal control. Implicit attitudes were not assessed. Accordingly, the data so far on the effectiveness of interventions to change weight bias is mixed but indicates that an intervention using a series of different strategies, perhaps all included in a film, may be the most effective but that implicit attitudes are far harder to shift than explicit ones.

Commentary

There are some methodological problems with weight stigma research that need to be considered. First, much research illustrating the psychological consequences of perceived stigma is cross sectional in design making conclusions about causality problematic. Therefore, although it is clear that perceived stigma and psychological problems such as lowered mood and poor body esteem co exist, the direction of cause and effect is not always

apparent in from the data. Further, when using experimental designs these sometimes involve student populations and / or hypothetical scenarios with vignettes or photographs which lack ecological validity making generalisations to real life problematic. In addition, research exploring the impact of stigma on subsequent behaviour has tended to use short term follow ups making conclusions about the longer term effects harder to make. For example, if behaviour is assessed immediately post stigma and shown to be negative it is unclear whether or not this will predict continued negative behaviour in the longer term. Behaviour change can be linear or cyclical and changes in the short term are not always sustained into the longer term as, although an initial dip in mood may be detrimental to behaviour in the short term, it is possible that it could trigger change in the longer term (Ogden and Clementi, 2010). There are also problems with the ways in which stigma has been conceptualised and operationalized with some definitions focusing on character attributes such as 'unintelligent' and some focusing on behaviour such as 'lazy'. Finally, research to date has tended to focus on stigma at the level of the individual rather than the social consequences of stigma. For example, although there may well be negative consequences of stigma for the individual, social consequences may be quite different. For example, migration data indicates that the BMI of ethnic groups increases to match that of their new country when they migrate from a place where obesity is in the minority to where it is more common (Misra and Ganda, 2007). Similarly, research exploring social networks indicates that one person's BMI can be predicted from that of their peer groups and that BMI clusters according to social networks (Christakis and Fowler, 2007). This suggests that when obesity becomes the social norm and therefore more accepted, the rates of obesity increase in line with these norms. This may be because as obesity becomes the norm for the majority it is less stigmatised, as it is no longer a minority condition, making it more likely that people will gain weight.

To summarise, it is clear that weight bias is common place amongst both professional and lay populations. It is also clear that it is experienced as unpleasant by those that are overweight or obese and is linked with a number of psychological issues such as low self esteem, depression and anxiety and unhealthy behaviours. To date, it is also unclear how weight bias can be changed although a multi strategic approach may be effective as long as it can change both explicit and implicit attitudes. There are problems with this research, however, which limit the conclusions that can be drawn due to the use of cross sectional designs, vignette studies or short term follow ups. In addition, research has focused on the individual rather than social consequences of stigma and the longer term effects of such stigma remain unknown.

The effectiveness of weight loss programmes

Weight loss programmes are currently offered by commercial organisations such as Weight Watchers and Slimming World or by the NHS administered by nurses or dieticians or involving a prescription to commercial groups.

Which behaviour change principles promote sustainable long term change?

The recent NICE funded review identified 29 RCTs exploring the effectiveness of commercial and NHS funded weight loss programmes. The analysis indicated that most programmes used a wide range of behaviour change principles such as goal setting, action planning, graded tasks, self monitoring, feedback, planning social support and instructions on how to change behaviour but that there was no evidence that either individual strategies or groups of strategies were predictive of greater weight loss. There was some moderate evidence however, that the number of sessions was predictive of weight loss by 12 months. This could tentatively indicate that contact with any professional, regardless of the behavioural strategies being used, is more effective than less contact.

What are the adverse effects of failing to lose weight?

Research indicates that dieting but failing to lose weight can have several psychological consequences. For example, the recent NICE review indicates that failed weight loss was a key factor for non attendance at weight loss programmes. In addition, research indicates that a history of failed weight loss attempts can be linked to lowered self esteem, lowered mood, poor body image and subsequent overeating (see Ogden, 2010 for a review). In addition, studies exploring yo yo dieting suggest that weight loss followed by weight regain may be linked with physical health consequences such as heart disease and sudden death although this research is inconclusive (Jebb et al, 1991; Kroeke et al, 2002).

What are the risks of weight loss?

Most research consistently shows that weight loss, whether achieved through behavioural modification, medication or surgery, results in improved self esteem and confidence, improved mood and higher levels of body esteem and quality of life and reduced risk of diabetes, heart disease and mortality (Wing and Hill, 2001). There has been some debate as to whether the obese who lose weight are in a permanently deprived state as they may be resisting their own set point, continuously hungry and subsequently preoccupied with food. To my knowledge, although a small minority of those who show weight loss maintenance may experience negative consequences, the majority seem to experience their new weight status in a positive way. Furthermore, evidence indicates that further weight loss and weight loss maintenance becomes easier as time progresses (Wing and Hill, 2001).

What are range of weight loss journeys users take?

Most people who are overweight or obese utilise a wide range of weight loss strategies including monitoring their food intake, dieting, self weighing, self help books, peer support, commercial weight loss programmes such as Weight Watchers, visiting their GP or seeing a dietician. A minority also take medication and some have bariatric surgery. Quantifying these attempts in any useful way is problematic as many are forgotten or not even seen as weight loss attempts and many people will simply report that they have always been on a diet since they were a child. Some data does exist however, but it needs to be interpreted with caution. For example, Butryn et al (2007) reported that between 20-40% of American adults reported trying to lose weight by dieting; French and Jeffrey (1997) concluded that women with a BMI between 25 and 30 had lost on average 2.2kg intentionally a mean of 5.3 times

and Gibbons et al (2006) reported that patients waiting for bariatric surgery reported a lifetime prevalence of 4.7 dieting attempts. Research exploring the impact of previous attempts on success has produce mixed results with some studies indicating that a higher number of past failed attempts may lower self esteem and self efficacy thus predicting failed weight loss attempts in the future (Teixeira et al 2004ab; 2005). In contrast, other studies indicate that successful weight loss is predicted by a higher number of attempts (Latner and Ciao, 2013). This is in line with research on smoking cessation and fits with a 'try try try again' approach to behaviour change.

Commentary

There are some problems with research exploring the effectiveness of weight loss programmes that need to be considered. First, most systematic reviews or meta analyses only include RCTs, which although are regarded as the gold standard of methods rely upon large numbers in which individual variability in outcome can be lost in the aggregated measures used. In addition, such trials are often under powered to explore sub group analyses. Further, such studies only include those participants who have tried to lose weight whilst within a study as opposed to those who either self manage or partake in a study not being evaluated. The results therefore tend to be overly negative about the success of weight loss attempts. There are, however, other designs either using ongoing large data bases of weight loss success or qualitative studies which provide further insights into the predictors of weight loss maintenance (eg Wing and Hill, 2001; Ogden and Hills, 2008). For example, some research indicates a role for life events and key triggers in promoting both weight loss and weight loss maintenance. These studies suggest that whereas many weight loss attempts may be unsuccessful, a life event may offer an opportunity for reinvention which if capitalised upon by either a health professional or the individual themselves, could be used as a teachable moment for longer term change (Ogden and Hills, 2008; Ogden et al, 2009; Epiphaniou and Ogden, 2010).

In summary, research indicates that whereas failed weight loss attempts can lead to a reduction in psychological well being across a number of domains, actual weight loss is experienced in positive ways for the individual and is linked with clear psychological and physical benefits. There is no evidence that individual behaviour change strategies are more or less effective at promoting weight loss but those who are overweight seem to experience long and complex weight loss journeys which involve a multitude of different approaches to weight loss. For some, eventually, these repeated efforts result in weight loss. There is some preliminary evidence indicating, however, that the likelihood of weight loss maintenance may be increased after a life event if this is utilised as a teachable moment and a chance for reinvention.

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