

Opinion article

Investigating a multidisciplinary and patient-centred approach to obesity

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Abstract

Obesity is set to become one of the biggest health problems facing governments in Europe. With a significant sequela of associated chronic conditions, treatment and prevention must become priorities in healthcare provision and policy. The cause and treatment of obesity is complex. However, evidence supports the patient-centred approach, which was the focus of discussion at a multidisciplinary educational event for healthcare students and patients held at the University of Southampton. The aim was to increase existing knowledge, promote shared learning and facilitate a better understanding of strategies needed to address the growing prevalence of obesity. The necessity for improved research strategies and a more integrated, multidisciplinary approach to treatment were echoed by the panel of expert researchers and practitioners who spoke. There was also a consensus that obesity needs to be seen as a chronic health concern by governments and health practitioners. In addition, the event provided a locus for inter-professional student groups to work collaboratively with obese (or formerly obese) patients to explore the patients' perspective regarding obstacles to health improvement and possible solutions. Feedback indicated that both students and patients found this experience valuable and rewarding. Some patients were motivated to join other community health initiatives as a result, whilst students indicated that their understanding, future practice and research would be enhanced. Therefore it seems that this experiential approach to collaborative learning may provide a model for further educational events with a focus on patient-centred treatment of similar long term chronic health problems.

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Obesity—the size of the problem

Obesity is a complex disorder characterised by a significant increase in body fat mass [1]. Recent figures estimate that 60% of adults and 20% of school children in the European Union are over-weight or obese, an increase of 10–15% within the last decade [2]. Obesity could soon replace smoking as Europe's largest public health problem and experts predict that life expectancies may even start to decline [3]. It is the medical sequelae of obesity, of which diabetes mellitus and hypertension are the most common expressions of the metabolic syndrome, which are most likely to contribute to increased mortality rates [4,5]. Treatment and prevention must be public health priorities but evidence of effectiveness for many complex treatment strategies remains challenging [6]. Other than

surgical interventions, integrative multi-disciplinary approaches have demonstrated some effectiveness, perhaps due their multi-disciplinary approach and patient-centred focus [7,8]. Tentative research also indicates that school based programmes may be effective for early prevention [9].

This challenge was the focus of an educational event, held at the University of Southampton, which brought together a multidisciplinary group of healthcare students, scientists, practitioners and patients to promote discourse and shared learning. Its aims were to increase students understanding of the complex biopsychosocial factors influencing obesity, the patient's perspective and best evidence treatment approaches.

Obesity—what happens and what works?

The obesogenic environment, characterised by urbanised, sedentary lifestyles and the wide availability of poor quality, high fat food was highlighted by Prof. Jane Ogden, University of Surrey, as playing a significant role in the rising trend

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of obesity prevalence [10]. However, behaviour, illness beliefs and 'social norms' also play a role further complicating the issue of obesity onset and recovery [11]. In view of this, Prof. Ogden suggested treatment strategies should be patient specific and behaviourally focused; arguing that a 'one size fits all' approach precipitates poor outcomes. Indeed, current evidence suggests that traditional diet programmes see up to 99% of dieters regain their pre-diet weight, perhaps partially due to a prolonged denial effect [12,13]. Interventions with better clinical outcomes are multi-component group support programmes, such as Weight Watchers, and bariatric surgery, which typically result in medium to significant sustained weight loss and behavioural change [14,15].

The role that increased visceral fat and blood hypertriglyceridaemia (both characteristic in obesity) play in the pathogenesis of metabolic syndrome, typically linked to diabetes, was discussed by Professor David Bender, University College London [16]. Augmented plasma levels of inflammatory cytokines, particularly TNF α may act as an antagonist to insulin uptake, therefore promoting a state of insulin resistance [17]. Furthermore, an expansion of large hypoxic white adipocyte cells contribute to this state of low-grade chronic inflammation, increasing oxidative stress and significantly increasing the risk of hypertension and atherosclerosis [18]. Prof. Bender concluded by advising that a multidisciplinary approach is critical to combat the health burden that obesity and its associated comorbidities set to place on healthcare systems.

Professor George Lewith, University of Southampton, also acknowledged the multifaceted contributors to obesity and highlighted the challenges that the complex nature of interventions required for treatment pose to clinical research [6]. He likened this to the challenge of measuring the complex interactions involved in complementary and alternative medicine (CAM) interventions; both require targeted and applicable research strategies to gain a pragmatic understanding of effectiveness in relation to treatment or management [19]. Finally, Prof. Lewith suggested that the prioritisation of patient choice regarding treatment options may not simply impact compliance but also offer the best chance of health improvement due to the patient's belief in the chosen treatment's efficacy [20].

Attitudes towards obesity and individual responsibility were further explored by Dr. Susan Jebb, Head of Nutrition and Health at Cambridge. Dr. Jebb maintained that health services and governments must move away from regarding obesity as a social, cosmetic issue and towards viewing it as a major chronic health concern [21]. From this perspective, more extreme treatment modalities, such as bariatric surgery, may be the most effective and viable intervention clinically and economically. Gastric bypass typically induces a 30–35% loss in weight, often correlating with a significant reduction of mortality and diabetes incidence over a 5 year follow-up, therefore suggesting it could be deemed both proactive and preventative [22]. Similarly, services users referred to commercial weight loss programmes by their GP may lose up to twice as much weight as patients receiving standard primary care alone [23]. Dr. Jebb conceded that patient choice improves treatment adherence, but argued that due to constrained health resources it will prove an unsustainable

long-term. She suggested that the most viable solution would be to prioritise prevention within the public health agenda.

Professor David Peters, University of Westminster, considered the potential of patient initiated self care to improve the sustainability of healthcare delivery [24]. With the ever increasing clinical and financial burden of long term chronic conditions (LTCs), the Department of Health has communicated policy in support of self care with the aim of increasing health resources through patient self-management [25]. Self care education may even improve patient outcomes however, an issue remains with ensuring the safety and reliability of the information [26]. Innovative online services such as The Selfcare Library (supported by the DoH and now provided by the College of Medicine) provide patients and health practitioners with current, evidence based and interactive information regarding self care strategies for twelve common chronic conditions [27]. Initiatives such as this could have the potential to be translated for obesity self care in the future. Prof. Peters concluded with the recommendation that future obesity interventions must be truly integrated and address the bio-psychosocial nature of obesity to be economically and clinically viable [28].

Placing it into the patient's perspective

With the aim of placing knowledge gained into a patient-centred context, inter-professional student groups worked alongside obesity patients to gain insights into the patients' perspective. The key points from these discussions have been categorised into four broad obesity related topics below.

Community care

Community groups can provide a useful resource for individuals wanting to lose weight within a supportive environment, with the added benefit of reducing pressure on primary care services. However, as one service user explained, attendance is often disproportionate to the number of patients that may benefit from such a resource. One suggestion was to increase health practitioners' awareness about local groups through a localised leaflet. This could increase the ease with which information is accessed therefore increasing patient referrals. However, patients may be constrained by personal barriers such as anxieties about joining a new group or stigma associated with obesity. Extra support such as the opportunity for a phone call prior to attending a group may encourage new users to attend. A further recommendation was the suggestion for qualitative research to be carried out to identify causes for the underutilisation of such groups and to address barriers to attendance and adherence.

Exercise and the environment

Environmental changes such as increased car use have negatively impacted the amount of exercise that people perform due to a reduced need for activity [29]. Additional constraints such as limited access to open spaces or unsafe neighbourhoods may have also played a role. A solution discussed was future collaboration with town planners in designing built

environments that encourage activity. Nevertheless, this would not address immediate short-term needs. An alternative to relying on environmental cues could be to increase motivation; yet, a commonly cited barrier to this is the perception of lack of time, often associated with poor exercise and activity levels [30]. From the patient's perspective there may be a preconception that activity necessitates setting aside time for a formal exercise session. A more helpful approach highlighted was to place activity into the context of a patient's daily life through small achievable goals; for example getting off the bus a few stops early to walk. It was agreed that this was likely to increase patient engagement therefore adherence.

Communication and patient empowerment

Communication is essential if healthcare practitioners are to empower patients to lose weight. The detrimental effect of a non-empathetic and impersonal consultation without an individualised approach was cited as a considerable barrier to losing weight. Health practitioners must endeavour to form a truly patient focused, non-judgmental relationship with an emphasis on listening, discussion of treatment options and increase referral to weight-loss programmes. A guiding approach is likely to be more effective than a traditional directive approach which can lower patient motivation and trigger denial through the placement of blame on the patient [31]. Time restrictions within the consultation are a concern; however, agenda setting ensures that the patient's priorities can be addressed first. Furthermore, involving patients in decision making regarding alternative services for further support would be beneficial over simple persuasion to introduce lifestyle changes typically associated with lower patient self efficacy [32].

Improving nutrition

From a patient perspective changing eating behaviours requires action against a number of environmental, emotional and even familial obstacles. Foods high in fat, sugar and calories are often cheap, readily available and appealing in tastes and may even be used to provide comfort and assuage stress. Poor education was also cited as a key contributing factor to obesity onset. Unsurprisingly for many, changing these habits is extremely challenging. One solution could be community level interventions such as early education. Alternatively societal interventions requiring no effort by the individual such as the removal of sugar from soft drinks or increasing taxes on unhealthy foods may assist with reducing obesity prevalence [6]. Further clinical research is needed but psychological behaviour change techniques (BCTs) may also prove useful to encourage patient motivation and adherence [33].

The potential for community based interventions

For the most part obesity onset occurs over several years [34]. Therefore early intervention strategies such as community based programmes targeted at the overweight and mildly obese could

play a vital role in reducing the burden that obesity sets to pose on scarce healthcare resources [35]. A recent randomised controlled trial conducted in three countries saw participants referred to a community based commercial weight-loss programme losing twice as much weight as those receiving usual primary care [23]. Contributing factors included the multi-faceted approach, regular contact which improved motivation and the supportive group environment, findings broadly consistent with other studies [36,37]. Such clinically significant outcomes, along with the potential for cost savings through group delivery in a community setting indicate that further research to quantify cost-effectiveness is warranted [23]. Although this intervention may not suit all patients, demonstrated a 50% attrition rate and a predominately female study population, this research model also provides a valid basis with which to investigate the effectiveness of primary care referral to other targeted community based interventions [23].

Conclusion

A key theme that emerged from the event was the need for more suitable, well-designed community care based research models to acknowledge the complex nature of obesity treatment and inform policy. This would be better facilitated if governments no longer viewed obesity as a cosmetic issue but as a significant, chronic societal health problem. Public health initiatives could then better utilise community based projects alleviating some of the pressure on limited healthcare resources. Through providing better information regarding local groups and projects to health practitioners patient referral would increase.

This pilot educational model provided patients and healthcare students with a unique locus for knowledge sharing and collaboration. The benefits of such opportunities are manifold; students gain from early exposure to patients and an inter-professional environment which in turn can encourage good practice, influence research and enhance patient journeys [38]. Feedback post-event demonstrated that the experiential nature of the learning was particularly valuable and enabled students to gain a greater empathy for barriers to change as well as possible solutions for treating this complex condition. The patients also found the experience equally as rewarding and empowering. The success of this pilot suggests this model could provide a structure for future educational initiatives involving patient facilitated inter-professional student learning. Furthermore, Patient involvement appears vital in the development of successful community-based obesity prevention programmes indicating that the recommendations reached here were both applicable and relevant [39]. The 2004, 'Health in Partnership' research programme carried out by the DoH clearly illustrates the importance that promoting patient involvement plays in service development and policy reform, fundamental to the modernisation of healthcare services [40].

The creation of a patient-centred and preventative health service with greater opportunity for self and community care are principles at the core of College of Medicine.

Conflict of interest

None declared.

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References

- [1] Donini LM, Savina C, Castellana E, Coletti C, Paolini M, Scavone L, et al. Multidisciplinary approach to obesity. *Eat Weight Disord* 2009;14(2):23–32.
- [2] The global epidemic. International obesity task force. Available from: <<http://www.iaso.org/iotf/obesity/obesitytheglobalepidemic/>>; 2010 [accessed 30.12.11].
- [3] House of Commons Health Committee. Obesity. House of commons. London: Stationery Office. Available from: <<http://www.publications.parliament.uk/pa/cm200304/cmselect/cmhealth/23/23.pdf>>; 2004 [accessed 30.12.11].
- [4] Saw JE, Sicree RA, Zimmet PZ. Diabetes atlas: global estimates for the prevalence of diabetes for 2010 and 2030. *Diabetes Res Clin Pract* 2010;87:4–14.
- [5] Must A, Spadano J, Coakley EH, Field AE, Colditz G, Dietz WH. The disease burden associated with overweight and obesity. *JAMA* 1999;282:1523–9, doi:10.1001/jama.282.16.1523.
- [6] Jain A. Fighting obesity. *BMJ* 2004;328:1327, doi:10.1136/bmj.328.7452.1327.
- [7] McTigue KM, Harris R, Hemphill B, Lux L, Sutton S, Bunton AJ, et al. Screening and interventions for obesity in adults: summary of the evidence for the US Preventive Services Task Force. *Ann Intern Med* 2003;139:933–49.
- [8] Donini LM, Savina C, Castellana E, Coletti C, Paolini M, Scavone L, et al. Multidisciplinary approach to obesity. *Eat Weight Disord* 2009;14(2):23–32.
- [9] Waters E, de Silva-Sanigorski A, Hall BJ, Brown T, Campbell KJ, Gao Y, et al. Interventions for preventing obesity in children. *Cochrane Database Syst Rev* 2011;12, doi:10.1002/14651858.CD001871.pub3.
- [10] Epstein L, Ogden J. A qualitative study of GPs' views of treating obesity. *Br J Gen Pract* 2005;55(519):750–4.
- [11] Ogden J, Sidhu S. Adherence, behaviour change and visualization: a qualitative study of the experiences of taking an obesity medication. *J Psycho Res* 2006;61(4):545–52, doi:10.1016/j.psychores.2006.04.017.
- [12] Wadden TA. Treatment of obesity by moderate and severe calorie restriction: results of clinical research trials. *Ann Intern Med* 1993;119:688–93.
- [13] Glenn AM, O'Meara S, Melville A, Sheldon TA, Wilson C. Review: the treatment and prevention of obesity: a systematic review of the literature. *J Obes* 1997;21(9):713–37.
- [14] Heshka S, Anderson JW, Atkinson RL, Greenway FL, Hill JO, Phinney SD, et al. Weight loss with self-help compared with a structured commercial programme. *JAMA* 2003;289(14):1792–8, doi:10.1001/jama.289.14.1792.
- [15] Buchwald H, Avidor Y, Braunwald E, Jensen MD, Pories W, Fahrenbach K, et al. Bariatric surgery: a systematic review and meta-analysis. *JAMA* 2004;292(14):1724–37, doi:10.1001/jama.292.14.1724.
- [16] Bender DA. An introduction to nutrition and metabolism. 4th ed. New York: CRC Press; 2007.
- [17] Richie SA, Connell JMC. The link between abdominal obesity, metabolic syndrome and cardiovascular disease. *NMCD* 2007;17(4):319–26, doi:10.1007/s11906-008-0029-7.
- [18] Laclaustra M, Corella D, Ordovas KM. Metabolic syndrome pathophysiology: the role of adipose tissue. *NMCD* 2007;17(2):125–39, doi:10.1038/ki.2008.517.
- [19] Lewith GT, Jonas W, Walach H. Clinical research in complementary therapies. 2nd ed. London: Churchill Livingstone; 2011.
- [20] Pariente J, White P, Frackowiak RSJ, Lewith G. Expectancy and belief modulate the neuronal substrates of pain treated by acupuncture. *NeuroImage* 2005;25:1161–7, doi:10.1016/j.neuroimage.2005.01.016.
- [21] Jebb S, Kopelman P, Butland B. Executive summary: FÖRESIGHT 'Tackling obesity: future choices' project. *Obes Rev* 2007;8(Suppl. 1):vi–xi, 10.1111/j.1467-789X.2007.00344.x.
- [22] Sjöström L, Lindroos AK, Torgerson J, Bouchard C, Carlsson B, Dahlgren S, et al. Lifestyle, diabetes, and cardiovascular risk factors 10 years after bariatric surgery. *NEJM* 2004;351:2683–93, doi:10.1056/NEJMoa035622.
- [23] Jebb SA, Ahern AL, Olson AD, Aston LM, Holzapfel C, Stoll J, et al. Primary care referral to a commercial provider for weight loss treatment versus standard care: a randomised controlled trial. *Lancet* 2011;378:1485–92, doi:10.1016/S0140-6736(11)61344-5.
- [24] Peters D. Why we need a new model for 21st century healthcare. *J Holist Healthc* 2005;2(1):11–5.
- [25] Brock C, Dost A. Self care—a real choice: self care support a practical option. Department of Health. Available from: <http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4100717>; 2005 [accessed 23.01.12].
- [26] Bodenheimer T, Lorig K, Holman H, Grumbach K. Patient self-management of chronic disease in primary care. *JAMA* 2002;288:2469–75, doi:10.1001/jama.288.19.2469.
- [27] Selfcare Library. College of Medicine. Available from: <<http://selfcare-library.info/>>; 2011 [accessed 23.01.12].
- [28] Peters D. Integration, long term disease and creating a sustainable NHS. *J Holist Healthc* 2009;6(1):29–31.
- [29] Jeffery RW, Utter J. The changing environment and population obesity in the United States. *Obes Res* 2003;11(Suppl.):12S–22S.
- [30] Trost SG, Owen N, Bauman AE, Sallis JF, Brown W. Correlates of adults' participation in physical activity: review and update. *Med Sci Sports Exerc* 2002;34(12):1996–2001, doi:10.1249/01.MSS.0000038974.76900.92.
- [31] Rollnick S, Butler C, McCambridge J, Kinnerley P, Elwyn G, Resnicow K. Consultations about changing behaviour. *BMJ* 2005;331(96):1–3, doi:10.1136/bmj.331.7522.961.
- [32] Ashford S, Edmunds J, French D. What is the best way to change self-efficacy to promote lifestyle and recreational physical activity? A systematic review with meta-analysis. *BJHP* 2010;15:265–88, doi:10.1348/135910709X461752.
- [33] Abraham C, Michie S. A taxonomy of behaviour change techniques used in interventions. *Health Psychol* 2008;27(3):379–87, doi:10.1037/0278-6133.27.3.379.
- [34] Jebb SA, Lang R, Penrose A. Improving communication to tackle obesity in the UK. *Proc Nutr Soc* 2003;62:577–81.
- [35] Graffagnino CL, Falko JM, La Londe M, Schuamburg J, Hyek MF, Shaffer LE, et al. Effect of a community-based weight-loss program on weight loss and cardiovascular disease risk factors. *Obesity* 2006;14:280–8, 10.1038/oby.2006.36.
- [36] Heshka S, Anderson JW, Atkinson RL, Greenway FL, Hill JO, Phinney SD. Weight loss with self-help compared with a structured commercial program: a randomized trial. *JAMA* 2003;289(14):1792–8, doi:10.1001/jama.289.14.1792.
- [37] Truby H, Baic S, deLooy A, Fox KR, Livingstone BE, Logan C, et al. Randomised controlled trial of four commercial weight loss programmes in the UK: initial findings from the BBC "diet trials". *BMJ* 2006;332(7553):1309–14, doi:10.1136/bmj.38833.411204.80.
- [38] Cooper H, Carlisle C, Gibbs T, Watkins C. Developing an evidence base for interdisciplinary learning: a systematic review. *JAN* 2001;35(2):228–37, doi:10.1046/j.1365-2648.2001.01840.x.
- [39] King L, Gill T, Allender S, Swinburn B. Best practice principles for community-based obesity prevention; development, content and application. *Obes Rev* 2011;12:329–38, doi:10.1111/j.1467-789X.2010.00798.
- [40] Department of Health. Patient and public involvement in health: the evidence for policy implementation. Available from: <http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4082332>; 2004 [accessed 23.01.12].