The Social amplification of Risk in relation to Obesity.

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Abstract
The categorisation of Obesity from a secondary risk factor to a primary health risk is a recent phenomenon. At the present time, attitudes to being overweight or obese appear to be experiencing a shift. When reading newspapers more emphasis is on place, with cultures and lifestyle seen as major influences. The individual is less to blame for their situation and incidences of litigation have occurred in relation to fast food outlets.

Using Kasperson et al’s (2001) framework for analysing stigma and social amplification of risk this paper seeks to address the way in which Obesity has become a primary risk factor. Kasperson states that for amplification to occur a trigger event is necessary. The Media coverage of both the National Audit Committee Report on Obesity in 2001, and research that showed increase in levels of child obesity and overweight can be interpreted as meeting this criteria.
Introduction.

Obesity has been a feature of Western Society for centuries. At certain historical periods women who are overweight have been seen as desirable or signifying wealth, at others it has been associated with sexual desire and renunciation of God. (Brown 1990, Shaw 1998) During the later 20th Century overweight and obesity have tended to be related to selfishness and overindulgence or stereotypes of the jolly fat lady have featured regularly in cartoons and the media. In dramas such as ‘Porterhouse Blues’ over eating was symbolic of power.

At the present time, attitudes to being overweight or obese appear to be experiencing a shift. When reading newspapers (Thornton & Roberts Feb 2001) more emphasis is on place, with cultures and lifestyle seen as major influences. The individual is less to blame for their situation and incidences of litigation have occurred in relation to fast food outlets. (BBC news 2002.)

Stigma and Social Risk Amplification.

Kasperson et al (2001) presents a framework for analysing stigma and social amplification of risk. (see appendix) Hazards become amplified for two reasons. They may be a new hazard not previously identified or as in the case of Obesity, an existing hazard that is more severe or difficult to manage than expected. One aspect of these socially amplified hazards are that they have the potential to generate stigma- related effects for places, technologies or products. This stigma then creates adverse effects thus multiplying the initial consequences. They define the current usage of stigma as referring to ‘an attribute of people, places, technologies or products that is deeply discrediting or devaluing. Instead of the possessor being viewed as normal or common place, the possessor is viewed as different, with this difference involving important qualities that set the possessor off as deviant, flawed, spoiled, or undesirable.’ (Page 14)
They state that, once the stigma is assigned, a construct or theory may be developed to explain its existence. In order to do this certain criteria need to be met:

a) The selection of a negative attribute.

b) Perceptions by others of the negative attribute.

c) Resultant widespread devaluation of the possessor, frequently including labelling and communication of the labels.

They cite Jones et al (1984) six major dimensions that are particularly influential:

1) Conceal ability.

2) Course

3) Disruptiveness.

4) Aesthetic qualities.

5) Origin.

6) Peril.

Kasperson et al, also state that risk amplification occurs with the release of a government report that provides new information. The presentation of the information to the general public creates awareness of the risk rather than personal experience. The media form a pivotal role in the dissemination of the new knowledge by ‘framing’ the risk and use of metaphors, symbols and language, thus depicting and characterising the risk. Stigmatisation arising from risk-related attributes involves three stages:

1) “The risk related attributes, receive high visibility, particularly through communication processes, leading to perception and imagery of high riskiness, a process that we refer to as the social amplification of risk;

2) Marks are placed upon the person, place, technology or product to identify it as risky and therefore undesirable; and
3) The social amplification of risk and marking alter the identity of the person, place, technology or product, there by producing behavioural changes in those encountering the imagery and marking as well as those to whom they are directed.

Accompanying this process will often be a story or narrative that interprets the evolution of the stigma and assigns responsibility or blame for its presence.” (p19)

Having presented the context of risk, how does obesity fit the criteria to be defined as a source of risk?

The current trigger event appears to be the publication by the National Audit Committee of the House of Commons Report on Obesity in 2001. This was coupled with research that showed increase in levels of both adult and child obesity and overweight and the onset of type II diabetes in children. Statistical data available demonstrates the extent of the perceived problem.

**Prevalence and Trends.**

Obesity has become a major concern particularly in Europe and North America. Figures, concerning adults, from the World Health Organisation (WHO 2002) show that the mean Body Mass index (BMI) in these areas is 25-27kg/m² compared to 20-23kg/m² in Africa and Asia. BMI of 25kg/m² is classified as overweight with 30kg/m² and above as Obese. In Britain and some areas of North America obesity rates have risen threefold or more since 1980. (Page 60)

WHO do not include Obesity as a priority in implementing strategies to improve the world’s health. The main reason for this is that when disability adjusted life years

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1 Measurement of obesity and overweight by Body Mass Indicator is used throughout. Other measures are available i.e. waist measurements but not as widely used.
(DALY’s) are calculated the problem occurs in low mortality countries and is estimated at 2.7% of the disease burden. This contrasts with Underweight, which occurs in high mortality countries and is the highest cause of disease accounting for 14.9% of the disease burden.

Statistics on overweight and obesity in adults show a marked increase in the UK. Imperial College, London (2003) state that 50% of the adult population are overweight and 20% are Obese. They estimate that 1000 preventable deaths per week occur due to obesity. Wilding (2003) states that obesity affects 15% of the population.

The House of Commons report on Tackling Obesity in England (2001) states that 1 in 5 adults are obese and that this is a threefold increase over the last twenty years. They also state that the incidence among men is greater than women with nearly two thirds of men being overweight or obese and half of women.

Social focus on men (ONS 2001) shows the incidence of obesity was 13% in 1993 and has risen to 19% by 1999. Incidence of overweight remained at 44% and underweight at 5%.

When age is taken into account, highest incidence of obesity occurs within the 55 to 64 age range.

Chin and Rona (2001) found from a cross sectional survey of British Children, aged 4 to 12, that prevalence of overweight or obesity was relatively stable between 1974 and 1984. However between 1984 and 1994 incidence in boys has risen from 5.4% to 9.0% and values for girls have risen from 9.3% to 13.5%.

Underweight = BMI under 18.5kg/m², normal weight is between 18.5kg/m² to 24kg/m², Overweight or pre-obese is 25 to 29kg/m², Obesity type I is 30 to 34kg/m², type II 35 to 39kg/m² and type III 40kg/m² and above.

BMI has been calculated taking into account relevant centiles for age.
They concluded that even when taking into account the mean increase in weight for height in the UK, the study shows increase in overweight in children and although prevalence of obesity is low there has been considerable increase since 1984. They conclude that overweight in children is a serious public health problem in Britain.

Reilly and Dorosty (1999) conclude that there is an epidemic of obesity in UK children. Statistics from a national survey shows the percentage of children who are overweight ranges from 22% at age six to 31% at age 15 and obesity ranges from 10% to 17% respectively. They found no significant differences between boys and girls.

Wright et al (2001) have examined the links with childhood obesity and health in later life. They used data from the Newcastle thousand families study, 1947 cohort, comparing available height and weight measurements at age 9 and 13 with present data and the use of a self reported illness questionnaire. Attrition rates of original sample are allowed for. They found that overweight teenagers, particularly at age thirteen, were more likely to be overweight adults, but most fat adults were not overweight as a child. Those people who were thinnest as children and fattest as adults had increased health risks. They conclude that interventions aimed at weight reduction in childhood may not benefit adult health, but interventions for those children who are underweight may be preferable and reduce higher risks of health problems in adulthood.

However, Serdula et.al. (1993), when reviewing available literature, found that being obese in childhood does lead to obesity in adult life.

Department of Health (2001) data on obesity in relation to geographical area use two different indices. Firstly, ONS clusters suggest that rates of obesity are lower in prosperous areas and greatest in inner London. The second set of data uses Health Authority Boundaries. These show that in the East of England West Hertfordshire has
the lowest incidence followed by North Essex. North West Anglia has the highest rate of obesity. When these are compared with national statistics, lowest rates for men occur in North Thames area and both North and South Thames for women. Highest rates were found in Trent for men and women. (Garrow & Summerbell 2002)

Data in relation to Socio-economic differences (British Heart Foundation 2000) show marked differences between manual and professional occupations. Men and women in unskilled manual occupations are four times more likely to be morbidly obese (BMI above 40kg/m²) compared to professional groups.

When ethnic group is taken into account, Bangladeshi men and Black Caribbean and Pakistani women have higher rates in relation to other minority ethnic groups. In comparison to the general population, women in all ethnic minority groups have a higher incidence of obesity.

All the above show, that there has been a marked increase in the prevalence of overweight and obesity, both globally but particularly in Britain. The evidence also points to the probability that the trend may continue. The statistics point to a number of higher risk groups; men and women aged 55 to 64 and children particularly around 13 years of age. There is also a worrying trend that ethnic minority women have higher rates of obesity as do lower socio-economic groups. There appears to be a link between income and diet but as the data is taken from different sources this cannot be confirmed. In viewing the above, obesity at present particularly affects women and incidence is related to occupation and ethnic group. The incidence of overweight in men has dramatically risen and although obesity is not at the same rate as women there is a significant trend towards the same levels.
Quantification of Risk in relation to Obesity

The House of Commons report (HoC) (2001) lists the four most common health problems for obese individuals as: Heart Disease, Type Two Diabetes, High blood pressure and Osteoarthritis. WHO (2002) support this and with Garrow and Summerbell (2002) highlight the risk significantly increasing when BMI is 25 – 30kg/m² and rapidly increases with values above 30kg/m². Obesity can also lead to high Cholesterol, which also leads to heart disease.

What appears to be of more concern is that with the rise in obesity in children Type two Diabetes is now found before the age of puberty where as for most of the 20th Century this condition was found only in adults. (Garrow and Summerbell 2002) Raised BMI have also been found to contribute to certain cancers (WHO 2002) and psychological issues with high rates of self reported depression in severely obese adults, concerns have also been expressed as to the effects of ‘teasing’ particularly for children (Garrow and Summerbell 2002).

HoC (2001) estimate that obesity results in 18 million sick days per year, 30,000 deaths per year, resulting in 40,000 lost years of working life and on average life span is shortened by nine years. This leads to an estimated £½ billion NHS treatment costs and possibly £2 billion a year impact on the economy.

Being obese also creates more risk in relation to anaesthesia, childbirth and development of pressure sores. There are also implications for the provision of appropriate equipment and facilities to care for level III clients.

Garrow and Summerbell (2002) suggest that problems in identifying the extent of obesity can occur. Most people self diagnose and treat obesity and do not use the NHS except when these measures fail. Therefore the statistics gathered do not include those whose self-help was effective.
Sources of information.

The sources of information, for the general public, tend to be from indirect communication via the media. This has included programmes such as ‘Diet Trials’, ‘Celebrity Fat Club’ and others. Direct communication does occur often by the general practitioner as their remit includes greater emphasis on health education. For some individuals personal experience through health problems for themselves or witnessing them in others may aid to construct obesity as a risk. For health professionals the increased number of clients who are overweight or obese and the need for specialist equipment for moving and handling has prompted awareness of obesity as a risk factor both for the client and the professional.

Information channels

Once the above sources are recognised information channels come into play. Due to the heightened awareness individual senses start to recognise the existence of the problem. As obesity is highly visible it is possible to mark and therefore stigmatise those with the condition. Informal social networks may then come into play. This may include discussions among peers as to the actions needed and what type of action may be effective or family members expressing concern or criticism. The impact of informal networks feeds into and is influenced by professional information brokers. Advice on diet and nutrition comes from a variety of sources particularly the media. In relation to obesity there are often mixed messages. The messages portrayed by magazines can be confusing. On one page the reader is encouraged to diet in order to attain the present view of what is attractive. On another page they may be encouraged to cook the best chocolate cake ever. Advice regarding children’s diet is also conflicting. We are expected to monitor and ensure they eat a healthy diet and maintain an acceptable weight but are also censured
to prevent children from becoming overly concerned about weight and diet in order to prevent anorexia nervosa. The information channels feedback into the sources of information resulting in a continual flux within the framework.

**Social stations**

The media act as one of the social stations. Their influence in relation to bringing obesity into the public arena and keeping it there has been noted. In the White Paper “Choosing Health” (DoH 2004) they cite data from the King’s Fund that shows the number of newspaper articles with Obesity in the headlines was under 100 in 2001, over 100 in 2002 and up to June 2004 just under 300 with the yearly total estimated at over 500 articles. A MORI poll (2003), in the same report, showed that the respondents identified their General Practitioner as the main source of health information, 20% stated they also obtained information from television or newspapers. 22% highlighted Magazines and the Internet as additional sources.

**Content Analysis of Newspaper Articles.**

A content analysis of newspaper articles from The Sun, Daily Mail and The Guardian was undertaken at the time of the publication of The National Audit Committee report on Tackling Obesity (February 2001). A total of twenty-seven occasions were identified and included specific health reports or features, follow up articles, letters and cartoons.

The articles were mainly in response to the coverage of research into child obesity and the publication of an official report by the National Audit Office on Obesity in the United Kingdom. (2001)

Jones et al (1999) state that for items to be considered news worthy a number of factors are taken into account. In this incidence, immediacy or frequency applies as does cultural relevance. A further criteria used would be expectedness in relation to
the seasonal reporting.

A content analysis of the twenty seven occurrences was carried out using Krippendorff’s “fishing expedition” approach (Krippendorf 1980). Each article was looked at in relation to type of report, consistent themes, language used and visual images. In addition, positioning, type and length of the article were recorded and particular emphasis was placed on the use of headlines.

The spread of items across the three Daily newspapers in relation to placement and type of occurrence can be seen in table I. The Daily Mail had a wider range of type but The Sun had the greatest number of occurrences. Both the Daily Mail and Guardian included articles on Obesity specifically addressing education of under sixteen’s.

**Table one**

<table>
<thead>
<tr>
<th>No’s. Items</th>
<th>Daily Mail</th>
<th>The Sun</th>
<th>The Guardian</th>
</tr>
</thead>
<tbody>
<tr>
<td>News</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Cartoon</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Health</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Letters</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Comment page</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Education</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Feature</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The size of the occurrences (excluding Cartoons and letters) ranged from an eighth of a page to three pages. The Sun was more likely to have more than one article on a page on the same theme and made greater use of visual images. The timing of the inclusion of material on Obesity showed all three newspapers focussed on child obesity on the 9th February and on the 15th February the National Audit on Obesity was covered. The Guardian included three articles, the Daily Mail two and the Sun one. However, The Sun included further articles on the following two days. All three
newspapers presented the BMI definition and Graph for individuals to assess their own state.

The Sun was the only newspaper to emphasise the risks of being underweight alongside overweight, Obese and Morbidly Obese and did so by using photographs of people in each category. The photographs used reflected the gender statistics with a male being used to show Obesity, although one area of concern is the use of more revealing outfits for female models as the size of the person increased.

Two newspapers used cartoons to illustrate some of the issues. The Sun focussed on dieting and used three of the regular cartoons featured on the same day (9th February 2001), before the report by the National Audit Office was reported on. The Cartoons addressed some of the rationalisations used by individuals to suggest they are eating more healthily. Two focussed on changing lifestyle and one on the relationship of height to weight in calculating need to diet.

The Cartoon in the Daily Mail directly related to the Audit Report, (Mac 15th February 2001) by including a newspaper with a clearly readable headline. It featured an obese woman sitting on the sofa surrounded by cakes and chocolates in front of the television. She is ringing her mother as her husband has disappeared and no Valentine gifts were received. When one looks closer the husband is underneath her. An obese dog is also in the room.

The use of headlines within the three newspapers, (Table II) concentrated on those that suggested factual information, those that related to national concern and childhood obesity. Others related to individuals experiences usually from people who were obese and had successfully dieted. The latter mainly taken from the general public with the exception of one “celebrity”.

The majority of the news headlines included either Fat or Obese or other euphemisms such as heavy. The headlines also give a strong message regarding the linking of Fat with place. The use of “Nation”and “land” being a case in point. The Sun used the Union Jack with the words “Weight Britain” beside a number of articles, thus illustrating further the concept of place. The Daily Mail provided a map of Britain showing statistics of the rate of obesity for eight different areas.

The Sun was the only newspaper to highlight economic cost in the headline and the Daily Mail in one headline emphasised the Human cost by the use of “Deadly warning”.

<table>
<thead>
<tr>
<th>Date</th>
<th>The Sun</th>
<th>Daily Mail</th>
<th>The Guardian</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th February</td>
<td>How “Darth Vader” Lost 14 stone to walk down the Aisle</td>
<td>One in 5 children under 4 too fat.</td>
<td>One in ten toddlers are obese, say researchers.</td>
</tr>
<tr>
<td>9th February</td>
<td>One in 5 children under 4 too fat.</td>
<td>Expanding alarmingly the number of obese under 4’s</td>
<td>“Why being obese is bad for the country”</td>
</tr>
<tr>
<td>13th February</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>14th February</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15th February</td>
<td>Tubbies cost us £2.5 Billion</td>
<td>A Deadly Warning as heavyweights triple in 20 years.</td>
<td>Action Urged to cut the fat of the land</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fattism. Britain’s top apologist for obesity (until she lost six stones) on why fat is not fate. ( Daily Mail)</td>
<td>Fat Facts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“I Liked feeling full. I thought about it all day”</td>
</tr>
<tr>
<td>16th February</td>
<td>Are you Obese?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fat: the Facts. Weight Britain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17th February</td>
<td>Slim chance of Fun if you are a fatty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19th February</td>
<td>I feel like a lean-ager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20th February</td>
<td></td>
<td>Lose Weight to prevent cataracts</td>
<td></td>
</tr>
<tr>
<td>21st February</td>
<td>Truckers fat peril</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24th February</td>
<td></td>
<td>Being Fat can Cause Cancer</td>
<td></td>
</tr>
<tr>
<td>1st March</td>
<td></td>
<td>Can too much fast food slow a young mind?</td>
<td></td>
</tr>
</tbody>
</table>
The personal experiences articles were used either as supporting material for the main story or on health pages promoting particular diets. The majority were provided by The Sun and the headlines emphasised the benefits of being thin which included being sexy, feeling younger and having more fun than when the individual was overweight or obese. Most of the articles, focused on women, and on one occasion a couple although, both the headline and the bulk of the article related to the woman’s weight loss. These articles directly referred to slimming clubs with contact details alongside the articles. The women were also used to advertise clothing for specific outlets.

Of the three headlines (one from each newspaper) commenting on the rise of Obesity in children, The Sun and The Guardian used statistical information without expressing opinion or using shock phrases. They also avoided the use of word puns and descriptors, whilst The Daily Mail differed in that the headline included the use of “Expanding alarmingly”. This contrasts with the other headlines where word play is used extensively and to a smaller degree descriptors which may point the reader to reacting with concern or suggest that there is a specific group with the problem which may be seen as “other” and therefore to blame for the rise in statistics.

The content of the articles raised a number of themes including risk, blame and responsibility. Gender differences were also re-enforced.

All three newspapers presented factual information from both the research on childhood obesity and The National Audit Committee’s report. They included the economic cost and the possible causes for the increase in obesity and overweight in Britain. All three also explained the Body Mass Index and how to calculate this. In all cases expert opinion was sought and comments given from either Medical Doctors, Nutritionists or representatives of the Department of Health. Advice was also
provided as to what needed to be done in order to prevent a further rise in the statistics and to avoid the projected incidence of Obesity.

The reasons given for the rise in obesity levels can be categorised under Lifestyle, Nutrition and Individual behaviour. Lifestyle factors emphasised were the increased use of Cars, television and computer games, energy-saving devices such as escalators, stranger danger and the impact of women working. Another issue raise was the impact of Human Evolution and how our lifestyle needs to change to compensate for the move from hunter gatherer and seasonal variation in the availability of food, to sedentary working lives and year long availability of food.

Nutritional factors related to the consumption of fatty foods and junk food, working hours and the use of convenience foods, sponsorship of schools by food companies and food used as pacifiers for under fours.

Individual behaviour was not highlighted in the news reports but focussed on in the health and diet pages. Most related to over eating or lack of exercise but often as a result of marriage and childbirth.

**Other Social Stations.**

Other Social Stations includes opinion leaders, cultural and social groups, government agencies, voluntary organisations and news and media. The value placed on body image in British society has lead to film and television personalities becoming used as opinion leaders. They are featured as part of the news and media campaigns and often take on the role of health promotion and education. Government agencies that have an interest in risk in relation to Obesity are numerous. The Department of Health and Department of Education are the two most obvious. The National Institute for Clinical Excellence is responsible for new anti-fat drugs amongst other initiatives. The Food Standards Agency works closely with
manufacturers and retailers to address content of processed foods and labelling of products. Other government agencies include the Health Education Association, Primary Care Groups or Trusts. As we are now in a global society the World Health Organisation and European Parliament are becoming increasingly more influential in relation to British government.

Voluntary agencies that focus specifically on obesity are not evident. The British Heart Foundation does include obesity but as a predisposing factor for heart disease and The British Dietetics Association focus on healthy eating and provide information on how to lose weight. What Kasperson does not allow for is the unique role of private agencies within the amplification of risk. Slimming clubs have been in existence for some time. The present amplification of risk may have heightened awareness and raised attendance initially but this is a regular pattern of behaviour. With the HoC report highlighting the increase in male overweight and obesity one response by Weight Watchers has been to develop Mp5 which is aimed at men only (Weight Watchers 2003). The advertisement directs women to encourage their male partners to order the diet. It is also a home diet, which appears to reflect men’s work loads, so attending meetings is not required. Throughout the advertisement men are not addressed directly.

The above example also reflects cultural and social group issues. As dieting has been a gender issue, therefore more relevant to women than men, the present statistics particularly impact on men. Weight Watchers approach also recognises the difficulties for men to identify with an organisation that is seen as predominantly female.

The work by Mary Douglas in relation to cultural perceptions is particularly relevant (Lupton 1999). The place of food in British society and the rituals that surround it are influential in the responses to the current statistics. Mennell
et al. (1992), provide a range of information that focuses on issues such as traditional diets, family meal times and the diet culture.

**Individual Stations**

The individual takes into account the available information and its source to form their own construction of obesity or overweight and decide if this constitutes a risk. This cognition of the events and information fits with Tilley’s concept of objective risk perception. However Kasperson et al. appear to suggest that the same criteria are used but subjective perception and not objective perception occurs. Douglas’s concept of ‘Other’ can be seen to influence the intuitive heuristics. The individual can perceive Obesity to be the problem of ‘Others’ in relation to both place and person. The current statistics may change individual stations as they show Britain now has a problem. The individual stations are influenced by the information received and how that information is decoded. The causation of obesity has been linked to a range of theories. Wilding (1997) suggests that increase in sedentary lifestyles and easy availability of high fat foods may be the main contributory factors but recognises that this may be combined with a hereditary predisposition. Research reported in The Sun, Guardian and Daily Mail (15th February 2001) all cited lifestyle and sedentary behaviour as the causes. Genetic explanations suggest a polygenic trait (Wilding 1997), whilst other research has looked at biological triggers, specifically the enzymes and neurotransmitters that either increase or decrease the amount of food intake and effect thermo-genesis. A further explanation based on research in America is that a virus causes obesity. (McGrath 2002).

The examination of causes of obesity and overweight in children concur that lifestyle changes have the biggest impact. The reduction in amount of exercise, the fear of danger to children if allowed outside to play and the growth in Television and
computer based games, combined with changes in diet and reliance on convenience food and fast food outlets are all seen as contributing. (Guardian 16th Feb 2001).

Institutional and Social Behaviour

The synthesis of the preceding information may or may not produce an attitude change in relation to social or institutional behaviour. A brief search on the BBC news web site provided a number of explanations for obesity in addition to those above. These included genetic factors that intimate that some women are predisposed to storing fat, the consumption of takeaway foods and that our diet is too varied and therefore encourages over eating. All the explanations point to life style and genetics as the two main explanations. The multiple perspectives on obesity appear to agree in relation to the risks presented. Where disagreement occurs is in relation to methods of dealing with obesity. Government backed schemes focus on prevention in children and on the individual adult. Most interventions are not clearly linked to obesity and there is a myriad of information available in relation to the perceived and actual health risk. More information is being added as current research becomes published.

Information concerning approaches to dealing with the risk and what works is still debated. The Atkins diet, for example, is seen to be effective in weight loss but raises concerns for other health problems (BBC April 2003.) Data on types of fat and its distribution in relation to health risk has only recently been explored.

The risks associated with obesity can be seen to be affecting others in a variety of ways. Firstly the link to hereditary factors is based on patterns within the family unit. Secondly the cost of treatment and loss of working days cited earlier have an impact on the economy. Thirdly there is some evidence that pregnant women who are obese may damage the future health of the baby. Lastly recent news reports demonstrated health risk from being seated in an aeroplane next to an obese person.
Most interventions are not clearly linked to obesity as the problem but to Coronary Heart disease and other indicators such as cholesterol and high blood pressure. Other interest groups for example food manufacturers and suppliers and diet marketing may be less interested in the nations health than ensuring market share and increased profit margins. (BBC Feb 2003).

Scientific information does present different view-points. Research presented can contradict each other and there are a range of theories concerning aetiology which may divide funding and research efforts.

The current public health response, according to Milner (1998), has focused on epidemiological explanations to construct ‘Webs of Causation’ and the determinants of ill health. “This web depends, for its empirical survival, on statistical techniques of multivariate analysis. The underlying model of pathogenesis assumes that improvements to public health depend on experts’ ability to identify ‘risk factors’ and to predict the results of breaking supposed chains of causality or at least, selected strands of the causal web. Thus, the epidemiologist’s view of public health depends on statistical notions of risk, rather than individuals’ personal experience of their own health. Current health-promotion practice is based around these supposed risk factors.” (page 315-6)

Web of causation focuses on Individual risk factors of; Inherited disease susceptibility, physiological variations, biological threats, preconceptual or in utero exposure to risk factors, life style risk factors. Environmental/social risks: pollution, housing, education, income, employment, access to transport, ethnicity, social class, area of residence and access to services. Public health promotion tended to focus on life style factors and assumes people can and should protect their health. Behaviours become seen as good and bad and produce ‘victim-blaming’.
The new paradigm for health-promotion engages more seriously with health determinants that include:

Autonomy, the will to live, vitality, experience of meaning and purpose in life, high quality of relationships, creative expression of meaning, body awareness, consciousness of inner development, individuality and belonging. If unable to meet these constitutes risk to health i.e. school health move away from behavioural aspects of food choices and drug taking to personal growth and development.

Peterson and Lupton (1996) perceive that health status has become a predominant concern of our age. They point to a proliferation of new knowledge’s and activities since the 1970’s and the focus on ‘populations’. They cite attention to body shape, diet and exercise as an obvious manifestation. Along with this, the new consciousness of risk looks beyond individual control towards human activity and the effect on the environment.

Most healthy eating and exercise initiatives were directed at school children. These include the five a day initiative, extra sports activities and walking or cycling to school. Additional strategies include working with the food industry to improve the nutritional quality of school dinners. It is also recommended to increase the amount of fruit and vegetables eaten in school.

Garrow and Summerbell (2002) conclude that there may be a number of explanations as to why the NHS and the Health Education Authority have not taken obesity seriously. Firstly, obesity has not been seen as a health hazard in its own right. It is identified as a contributing factor to certain diseases with research emphasising smoking, high blood pressure and cholesterol as the main criminals. Secondly, obesity is widely believed to be genetically determined and therefore seen as untreatable and lastly ‘Fat is a feminist Issue’, Orbach highlighted the feminine
stereotype of thinness being symbolic with attractiveness. Whilst not addressing obesity, weight has become seen as a preoccupation for women and many campaigns have targeted women rather than the whole population. They note that a campaign to increase activity took place in 1997, but was not directed at those who were obese and would not have contributed to significant weight loss.

What is evident is that most initiatives to combat obesity and overweight are outside the NHS. There are a wide range of slimming clubs, books, fitness videos and slimming foods available. Many of which are promoted not by ‘scientific experts’ but by ‘celebrity icons’ many of whom claim to have achieved their perfect bodies by using the product they now sell. All these approaches have a considerable cost implication. The current fee for attending Weight Watchers is £4.75 per week. At meetings other products are available to buy and some of their daily diet examples include their own products available at supermarkets. The cost implications mean that for some individuals this is not a viable option.

Ripple effects

The amplification and attenuation of risk in relation to Obesity has had some ripple effects. The effects of these are not evident at this point in time. The directly affected person has had their visibility heightened but are presented as the victim of society rather than the perpetrator of the risk. However many of the approaches to their care still emphasise that they are responsible for their health. New initiatives such as health club and shopping prescriptions (BBC Health March 2003) place responsibility on the individual to change their lifestyle. The introduction of medical treatments does accommodate the medical model of disease. Research into possible treatments has led to developments in technology.
There have also been ripple effects in relation to local communities with the introduction of cycle routes and the growth in health facilities. This also reflects changes in society as a whole, with government initiatives for healthy schools, healthy workplaces and healthy neighbourhoods (DoH 2002). Although not all of these tackle obesity, a number of initiatives focus on diet and exercise. Kemshall (2002) criticises current Social policy as no longer aiming to alleviate the needs of an individual or aimed at the collective ‘good’. It is now about prevention of risk and displacement of risk management responsibilities on to the ‘entrepreneurial self’ who must exercise informed choice and self care to avoid risks.

The food industry has been the main area affected by the recent amplification of Obesity. All the main supermarket chains in Britain now have their own brands of low fat foods. In a response to concerns over children’s diets, many have developed child specific ranges that have been packaged to appeal to them e.g. Blue Parrot Café, Sainsbury’s. There have been criticisms of some of these products in relation to how healthy they are, with some products being low in fat but high in sugar and salt (BBC news 2003 8th April).

Stake holder groups have had to look at ways of dealing with obesity and overweight. The HoC report (2001) found that there was no national strategy for dealing with obesity in the NHS. 83% of Health authorities had identified Obesity as a public health risk but only 23% had implemented any measures to address the issue. Most health authorities state that existing plans for tackling coronary heart disease particularly healthy eating and exercise will contribute to weight loss. General practitioners also had no consistent approach. Up to 40% use available drugs as treatment but only a few had protocols to identify which patients were at risk of
becoming obese. Delivery of health promotion advice was also patchy. The report recommended national protocols to be established and risk assessment to be included as part of the National Service Framework for coronary heart disease.

Impacts

The HoC report and associated literature has resulted in a number of impacts. There is clear evidence of litigation with the suing of fast food chains and the compensation claim for injury during a plane flight. For fast food chains there was an initial financial loss and many have now introduced healthy options to their menus. Financial penalties for obese individuals in relation to travel by air were put forward in that they would have to pay for two seats.

The impact in relation to the increase or decrease in physical risk at present points to increase in that little change has yet occurred in the age groups most affected. Long-term decrease is expected through the focus on educating children.

Loss of confidence in institutions has not featured in relation to obesity. The production of expert ‘knowledges’ is still occurring. Giddens concept of truth remains important, but is under fire due to the proliferation of theories and contrasting information. The professional information brokers all present similar guidelines on how to modify diet and the need for increased exercise. Where confusion occurs is in the safety of different types of treatment. The Royal College of Physicians (April 2003) has produced guidelines for the use of anti obesity drugs due to concerns over possible health risks.

Guidelines include limiting use, initially for twelve weeks, then continuing if over 5% weight loss is achieved. Provisos are attached as to how the individual should be monitored and other actions that need to be taken.
Regulatory actions are being implemented as is organisational change. There is a greater focus on risk assessment and the management of risk in health delivery. Boyne (2003) focuses on how risk is calculated and cites three approaches that he terms the “Calculative paradigm”.

1. Expression of all possible outcomes in terms of their probabilities.
2. Expression of particular future outcomes in terms of their statistical likelihood based on what has happened in lots of similar cases in the past.
3. Estimation of future events based on the widest range of experience, knowledge and care that can reasonably be expected to apply to the context in question.

The introduction of clear targets for reducing obesity in the National Service Framework will incorporate the above approaches.

WHO (2002 p149) provides a diagrammatic explanation for implementing risk prevention. (see p17) They emphasise that the decision making process is not linear. Action needs to take place in all four domains in order to be successful. At present monitoring interventions, both short and long term, needs to be addressed to establish efficacy.

Risk communication is already evident in the changes of regulation and consultation with the food industries. Risk assessment has calculated the effects of obesity but not in its own right. This still needs to be assessed.
Specific suggestions as to how to deal with obesity and its health risks have been presented.

Garrow and Summerbell (2002) following a comprehensive review of available research based on randomised control trials recommend a three-tier approach to the treatment of Obesity:

- **Level 1** self help groups supported by a health care professional. This would be suitable for those requiring weight maintenance or modest weight loss.
- **Level 2** Primary care doctor for those for whom level one is not working, or co-morbidity requires higher levels of assessment and monitoring.
Level 3 Specialist in a tertiary referral centre. Clients would move between the levels as appropriate and the levels would be supported by other initiatives in the community. This approach places emphasis on both health services and individuals to tackle the problems associated with obesity. It goes further in that it provides support in the local community and through peers. What is at issue is how the infrastructure would be funded and to what extent individuals may access services. Stigma attached to being overweight or obese may promote compliance. Resistance by existing private organisations could affect implementation or a two-tier system may develop.

Wilding (1997) supports a more medical orientated approach based on ‘web of causation’ criteria. He sees future treatment linked with present approaches as the way forward:

- Public Health measures must remain a priority
- New drugs with different modes of action will be developed
- Drugs may be used in combination.
- Surgery will be increasingly used for morbid obesity.
- Specific treatment may help those with known gene defects.

Most of the existing measures and proposals appear to reflect the concepts of ‘surveillance’ and ‘governmentality’ developed from the work of Foucault. Children are already measured within existing school health systems but elements of control over their eating are becoming more evident. Although healthy eating in schools is a laudable approach, if taken to extremes the amount of individual choice will become limited. Kemshall (2002) suggests that health promotion places more emphasis on
individual self-government but present social policy appears to emphasise
government intervention.

The recent publication of the government White Paper “Changing Health” (DoH
2004) can be seen to reflect the ripple effects in relation to obesity. The time lag
between the initial publication of the National Audit Report and the above White
Paper reflect how the process of Amplification can take a period of years before
measures may be put in place.

Conclusion

Risks in relation to health associated with obesity are clearly identified and, in
Britain, are increasing as the incidence of Obesity rises. The impact on different
generations is notable and raises anxiety over future health concerns. The present
Public Health response has tended to focus on individual incidences or the education
of children. One problem with this is that for the individual the problem has already
occurred and for children their evaluation and interpretation of the threat may relegate
the information given as irrelevant to themselves.
The existing emphasis of weight being a feminine issue has continued despite the
statistics reflecting that it is more of a problem for men. Even when men are targeted
often the women is expected to be the broker.

Most risks need to be perceived as such by the population. Changes in attitude
or behaviour mainly occur when the individual or group identify with the threat. The
different explanations for why obesity occur also affects whether individuals consider
they need to change their behaviour or if events are beyond their control. Illich’s
concept of Iatrogenesis appears particularly relevant in this instance.
One factor that may influence public attitude is that the current statistics reflect that Britain has a problem and it can no longer be viewed as ‘other societies’ problems. With the advent of globalisation, it could be supposed that the public conscience would be influenced by the contrast between famine and plenty, yet children are told to eat up and not waste food.

Kasperson’s framework for amplification of risk, is useful to a point when examining how risks are interpreted and the various channels involved. The inter-relationship of the different components of the model presents some problems as does the concept of risk. As more information becomes known different impacts will occur. The calculation of risk is therefore always in a state of flux. The framework is useful in identifying a specific event and seems more applicable when applied to environmental events such as oil spills. The difficulty in assessing impacts is that often the risk events outcomes may not be evident for many years or facets of the framework may not be relevant. Risk perspectives that are poorly understood at present may become clearer as new technologies or different research is developed. As more information comes to light in relation to causation and treatment approaches there is increased possibility that what appears to be effective may have long-term health consequences. Little exploration has been carried out on the risks associated with patterns of weight loss and weight gain in individuals who follow commercial diet plans.

One of the difficulties with obesity as the risk factor is that amplification appears to be seasonal. Most the literature presented appears in the first three months of the year in order to counteract the perceived excesses of the Christmas and New Year period. Women’s magazines re introduce diet measures to enable the wearing of
bikinis on the beach in summer. Attenuation has led to focus on women as having the problem. Men need to become more of a focus in future interventions.

A second problem is that obesity and overweight is seen as a causative factor rather than a risk in its own right. By placing obesity within the National Standard Framework for heart disease many individuals will not identify with the advice given. Health care advice given by health professionals often follows diagnosis or screening for related disease. However this is now changing with the Department of Health’s publication of the White Paper “Choosing Health” (DoH 2004) which focuses on Obesity as a primary Health Risk.

Thirdly, Obesity and overweight is not new in British society. Attitudes have developed over centuries and may not be changed by the new statistics. The current policy of private sector lead on managing weight loss is cost effective for the government. School based initiatives rely on existing infra structures and a contained audience. Measures for adults are not as easily disseminated.

It is easy to be critical of what measures already exist to combat obesity but less easy to suggest possible ways forward. Wright et al’s research suggests that more emphasis need to be placed on underweight children as they face higher levels of health risk if they later become obese as adults. This could be done via the present school health system, or sure start programmes and through existing school meal services where appropriate.

The education in schools in relation to healthy eating needs to be continued but its effectiveness on later dietary patterns needs to be ascertained. This could be achieved through a longitudinal study of those children starting primary school education. However, this type of study is time consuming and costly. The tools used to measure
effectiveness need to take into account physical, psychological and social influences. This form of study can also be seen to continue ‘governmentality’ and surveillance.

It is the 50 to 65 year age group who have the highest prevalence levels. This age group may also be acting as agents in relation to health to younger generations. This is a difficult target population to reach and at present no screening for obesity and overweight is specifically in place. One option may be to introduce regular health checks from 45 years onwards with follow up clinics as suggested by Garrow and Summerbell. However this would be expensive and compliance may not be high as with other screening initiatives.

Obesity and overweight presents a number of challenges for health care. The rapid change in lifestyles in modern Britain, the impact of globalisation and the current pre-occupation with risk and its calculation all affect the measures that may be introduced. Further problems exist concerning agreement on causality and therefore effective prevention and treatment. At present, other risk factors tend to take precedence but as obesity is now being viewed as a problem in its own right funding for intervention will take place but it remains to be seen whether individuals will recognise the risk and take up the proposed initiatives.
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