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Beliefs of women concerning the severity and prevalence of bulimia nervosa

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Abstract *Background* Few studies have examined attitudes towards eating-disordered behaviour among women in the general population. *Methods* A vignette describing a fictional person meeting diagnostic criteria for bulimia nervosa (BN) was presented to a community sample of women aged 18–45. Respondents (n = 208) were asked a series of questions concerning the severity and prevalence of the problem described. *Results* Most respondents viewed BN as a distressing condition whose sufferers are deserving of sympathy. However, more than one-third of respondents had at some stage believed that it 'might not be too bad' to be like the person described in the vignette. Most respondents believed that the prevalence of the problem described among women in the community was likely to be between 10 % and 30 % (48.6 %) or between 30 % and 50 % (23.1 %). Individuals with a clinically significant eating disorder (n = 13, 6.3 %) were more likely to perceive the symptoms of BN as being acceptable, and its prevalence higher, than individuals with no eating disorder diagnosis. *Conclusions* Information concerning the medical and psychological sequelae of BN and other eating disorders might usefully be incorporated in prevention programmes. Prospective community-based research is required to elucidate the nature of the relationship between perceived acceptability of eating disorder symptoms and actual eating disorder psychopathology. Extension of the present research to examine the views of women in other cultures would also be of interest.

Key words mental health literacy – bulimia nervosa – acceptability – prevalence – prevention

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Introduction

Jorm et al. (1997) introduced the term 'mental health literacy' to refer to 'knowledge and beliefs about mental disorders which aid their recognition, management or prevention'. This definition has provided a platform for the systematic investigation of the views of the public concerning mental disorders, including the ability of individuals to recognize particular mental disorders, attitudes to individuals affected by mental disorders, beliefs as to the helpfulness of different interventions, and the perceived significance of various causes and risk factors (see Jorm 2000; Jorm et al. 2000, for reviews).

We have recently reported findings from a study of mental health literacy associated with eating-disordered behaviour (Mond et al. in press). Specifically, we reported that women in the general population were sceptical of the value of mental health specialists in the treatment of bulimia nervosa (BN), while being sympathetic towards the involvement of general practitioners (GPs) and counsellors. The use of self-help interventions, such as finding some new hobbies or just talking about the problem, was highly regarded, as was the use of vitamins and minerals, while respondents were ambivalent or antipathetic towards the use of anti-depressants. The findings also suggested that knowledge of the specific diagnosis of BN is poor among women in the community.

We were also interested to examine public attitudes

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towards individuals suffering from eating disorders. While the symptoms of anorexia nervosa (AN) and BN do not fit the dangerous/unpredictable stereotype typically associated with conditions such as schizophrenia, more subtle forms of discrimination might exist. In a recent survey of public attitudes towards various mental disorders, more than one-third of respondents thought that individuals with eating disorders could 'pull themselves together' and 'had only themselves to blame'. This was not the case for serious depression, where less than 20 % of respondents held such views (Crisp et al. 2000). Individuals' attitudes to eating disorder symptoms may also have implications for the development of eating disorder psychopathology. Vander Wal and Thelen (1997) found that college students' perceptions of the acceptability of bulimic symptoms predicted levels of actual bulimic symptomatology.

In the present paper, we report our findings concerning attitudes towards BN among women in the community, as well as women's beliefs concerning the prevalence of BN. We hypothesized that evidence of discrimination might be apparent in the perception of BN as a less than serious condition, and that evidence for the acceptability of bulimic symptoms might be apparent in a perception that it might not be 'all that bad' to experience those symptoms. It was also expected that women in the community would hold the view that BN is a common condition.

Subjects and methods

Design and participants

The survey was carried out as part of an epidemiological study of disability associated with community cases of eating disorders in the Australian Capital Territory (ACT) region of Australia (population 314.000), a highly urbanized area which includes the city of Canberra. At the first phase of the study, self-report questionnaires were delivered to a sample of 802 female ACT residents aged 18–45 years, selected at random from the Electoral Roll and stratified by age in 5-year bands. The questionnaire included measures of eating disorder psychopathology (EDE-Q) (Fairburn and Beglin 1994), general psychological distress (K-10) (Andrews and Slade 2001), impairment in role functioning (SF-12) (Ware et al. 1996), weight and height and socio-demographic information. Completed questionnaires were received, following reminder letters, from 495 individuals, which represented a response rate of 69.5 %, taking account of individuals who were no longer resident at the listed address (n = 90, 11.2 %) (Asch et al. 1997). The age distribution of respondents did not differ significantly from that of non-respondents ($\chi^2 = 7.32$, $p > 0.05$).

Individuals who returned a completed questionnaire and who indicated a willingness to be contacted by telephone at a future date (n = 308) were approached to participate in the second phase of the study, involving administration of a structured interview for the assessment of DSM-IV eating disorders (EDE) (Fairburn and Cooper 1993; APA 1994) and the mental health literacy survey. Interviews were completed with 208 individuals, representing a response rate of 67.5 % at the second phase. This is a conservative estimate of true response, since a substantial proportion of respondents (n = 37, 12 %) could not be contacted. The median interval between first and second phases was 315 days (mean = 303.2, sd = 57.4). Participants were not informed as to the specific content of the interview and interviewers were blind as to participants' results on the phase-one questionnaire.

Demographic characteristics of the interviewed sample are given in Table 1. Individuals interviewed were older (mean = 35.3 years vs. 32.1 years; t = 4.09, $p < 0.05$), more likely to be married (64.2 % vs. 51.9 %; $\chi^2 = 14.12$, $p < 0.01$), and more likely to have one or more children (66.2 % vs. 51.2 %, $\chi^2 = 12.80$, $p < 0.01$), than individuals not interviewed. The two groups did not differ with respect to any of the other demographic variables assessed, nor with respect to eating disorder psychopathology or body mass index (BMI, kg/m^2) (Garrow 1988). However, scores on the mental health subscale of the SF-12 were lower among individuals interviewed (indicating greater impairment in role functioning) than among individuals not interviewed (mean = 46.22 vs. 48.26; t = –2.15, $p < 0.05$).

The mental health literacy interview

The mental health literacy survey was administered at the start of the phase-two interview and was modelled on Jorm et al.'s (1997) protocol, with modifications by the authors (JM and PH) for the study of eating-disordered behaviour. A vignette describing a 19-year-old female who met DSM-IV criteria for bulimia nervosa was first read aloud by the interviewer. A prompt card was provided so that the respondent could follow the description as it was read and respondents were advised that they could refer back to the vignette at any time during the interview. Prompt cards showing the response options for each question subsequently asked were provided in the form of a booklet. While care was taken to ensure that full diagnostic criteria were satisfied by the person described in the vignette, an effort was also made to employ simple language and to avoid the use of medical terminology. The purging subtype of bulimia nervosa (i. e. involving the use of self-induced vomiting and/or laxatives as a means of weight control) was chosen in order to clearly distinguish the condition described from a sub-clinical disorder, which might be perceived as trivial. The vignette is given in Appendix A.

A series of questions followed in which respondents were asked to

Table 1 Demographic characteristics of the interviewed sample (n = 208)

	Mean (SD)
Age (years)	35.3 (8.5)
BMI (kg/m^2)	25.2 (5.4)
	Percentage (%)
Country of birth	
Australia	81.7
Other	17.3
First language	
English	90.4
Other	9.1
Marital status	
Married	62.0
Living as married	7.7
Single	19.7
Separated/divorced	6.7
Children (one or more)	65.9
Education (level completed)	
High school (year 12)	84.6
Trade/Tech Cert/Dip	23.0
Bachelor's degree	22.6
Postgraduate qualification	12.0
Employment status	
Employed full-time	43.8
Employed part-time/casually	41.8
Home duties	13.5
Studying full-time	11.5
Unemployed	1.9

give their opinions on a range of issues relating to the problem depicted in the vignette, including the 'main problem' of the person described, the helpfulness of various possible interventions for the problem, the likely prognosis with and without the treatment considered appropriate, the severity of the condition described and its prevalence among women in the general population. Findings relating to the perceived helpfulness of interventions and likely prognosis have been reported previously (Mond et al. in press).

In Jorm et al.'s studies (cf. Jorm et al. 1999), attitudes towards depression and schizophrenia were assessed with a series of questions in which respondents were asked to rate the likelihood of various long-term outcomes for the person described in the vignette, some positive (e. g. 'being a productive worker') and some negative (e. g. 'drinking too much'). In addressing attitudes relating to eating-disordered behaviour, it was considered more pertinent to focus on the perceived severity of the problem described in the vignette. Hence, respondents were asked the following questions: 'How distressing do you think it would be to have Kelly's problem?', 'How difficult do you think Kelly's problem would be to treat?' and 'How sympathetic would you be towards someone suffering from Kelly's problem?'. Response options for each of these questions were: 'not at all', 'a little', 'moderately', 'very' and 'extremely'. The perceived acceptability of bulimic symptoms was addressed with the question: 'Have you ever thought that it might not be too bad to be like Kelly, given that she has been able to lose a lot of weight?'. The phrase 'not too bad' conveys a weakly positive affirmation in colloquial usage. Response options for this question were: 'never thought it', 'rarely thought it', 'occasionally thought it', 'often thought it' and 'always thought it'.

For the question concerning prevalence, respondents were asked how many women aged 18–45 in the general community they thought might have Kelly's problem, with the following response options: 'very few women, less than 10 %', 'more than 10 %, but less than 30 %', 'more than 30 %, but less than 50 %', 'about 50 %', 'more than 50 %, but less than 70 %', 'more than 70 %, but less than 90 %' and 'most women, 90 % or more'. Interviewers were instructed to clarify that the question referred to current, as opposed to lifetime prevalence.

The interview ended with questions concerning respondents' personal experience of the problem described in the vignette, namely: 'Do you think that you might currently have a problem like Kelly's?', 'Do you think you have ever had a problem like Kelly's?' and 'Has anyone in your family or circle of friends ever had a problem like Kelly's?'.

The second question was not asked if the respondent answered 'yes' to the first question. Respondents who answered 'yes' to any of these questions were also asked to describe the problem concerned.

Statistical analysis

Data are presented as the percentage of respondents choosing particular options for each question. The effect on the distribution of responses to each question of socio-demographic characteristics (age and education), self-reported experience of the problem described, and current levels of eating disorder psychopathology were examined by means of Chi-Square tests. In view of the multiple comparisons, a significance level of 0.01 was adopted.

Results

Beliefs about severity

Most respondents believed that it would be either very distressing (54.8 %) or extremely distressing (36.1 %) to have a problem like Kelly's and that such a problem would be either moderately difficult (44.2 %) or very difficult (38.5 %) to treat. A further 9.6 % of respondents believed that the problem would be extremely difficult to treat. Most respondents indicated that they would be sympathetic towards someone suffering from Kelly's problem, either moderately sympathetic (24.5 %), very sympathetic (54.8 %) or extremely sympathetic (17.8 %). A majority of respondents (64.4 %) reported that they had never thought that it 'might not be too bad' to be like Kelly. A significant minority of respondents (21.6 %) reported that they had rarely thought this, while 10.6 % of respondents indicated that they had occasionally thought this. Few respondents (3.4 %) indicated that they had often had this thought and there were no respondents who reported that they had always thought this.

Beliefs about prevalence

When asked about the prevalence of the problem described among women in the general community, the modal response was 'more than 10 %, but less than 30 %', chosen by 48.6 % of respondents. A further 23.1 % of respondents chose 'more than 30 %, but less than 50 %', while 'about 50 %' and 'between 50 % and 70 %' were chosen by 8.2 % of respondents and 8.7 % of respondents, respectively. Approximately 10 % of respondents believed that less than 10 % of women might have Kelly's problem, while few respondents (1.9 %) believed that more than 70 % of women might have Kelly's problem. The data are summarized in Fig. 1.

Personal experience of the problem described

There were 12 respondents (5.8 %) who believed that they might currently have a problem such as the one described. Binge eating, dieting, over-exercising and preoccupation with weight or shape were commonly mentioned by individuals in this subgroup, while there was no mention of the use of vomiting or laxatives, nor of the terms 'anorexia' or 'bulimia'. Forty respondents (20.4 %) indicated that they had experienced a problem like Kelly's in the past. Anorexia was mentioned by two respondents, bulimia by a further three respondents. Various combinations of component eating disorder behav-

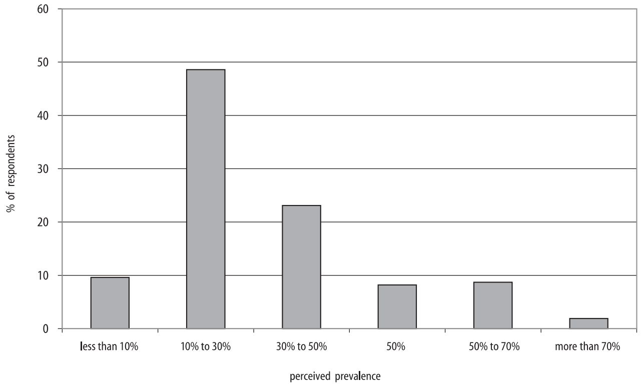

Fig. 1 Perceived prevalence of 'Kelly's problem': percentage of respondents endorsing each option

iours, including binge eating, use of vomiting and/or laxatives, restrictive eating, over-exercising and preoccupation with weight or shape, were mentioned by the remaining respondents. There were 116 respondents (55.8 %) who indicated that they were aware of someone with a problem like Kelly's among their family or circle of friends. Anorexia was mentioned by 18 respondents, bulimia by 14 respondents, 'anorexia and bulimia' by a further five respondents.

Factors affecting responses to particular questions

Age and education

There were no differences in responses to any question between younger (18–32 years, mean = 24.0, sd = 4.2, n = 65) and older (33–45 years, mean = 40.5 years, sd = 3.6, n = 142) respondents, nor between respondents who had commenced or completed an undergraduate diploma, bachelors degree or higher degree (n = 104) and those who had not undertaken tertiary studies (n = 103).

Personal experience of the problem described

Respondents who indicated that they were aware of someone in their family or circle of friends having experienced a problem like Kelly's were more likely to be extremely sympathetic to someone suffering from the problem described (24.3 % vs. 8.8 %; $\chi^2 = 14.89$, $p < 0.01$). Respondents who believed that they might currently have a problem like Kelly's (n = 12) or that they had had a problem like Kelly's in the past were more likely to have occasionally (18.4 % vs. 8.3 %) or often (10.2 % vs. 1.3 %) thought that it 'might not be too bad' to be like Kelly ($\chi^2 = 16.98$, $p < 0.01$), and more likely to believe that 50 % or more of women aged 18–45 in the general community might have Kelly's problem (30.6 % vs. 14.6 %) ($\chi^2 = 17.50$, $p < 0.01$) than respondents who did not report such experience.

Eating disorder psychopathology

A total of 13 participants (6.3 %) met the study criteria for a clinically significant eating disorder based on the second-phase interview. There were no cases of AN or BN purging type. One individual met DSM-IV criteria BN non-purging subtype, while the remaining 12 cases met criteria for an "eating disorder not otherwise specified" (EDNOS), including two individuals who met criteria for binge eating disorder (BED). The mean age of cases (n = 13) was 30.2 years (sd = 10.2), compared to a mean of 35.7 years (sd = 8.3) for non-cases (n = 195) ($z = -1.65$, $p > 0.05$). The mean body mass index (BMI, kg/m^2) of cases was 26.4 (sd = 4.3) compared to a mean of 26.2 (sd = 5.9) for non-cases ($z = -0.66$, $p > 0.05$). Cases were more likely to have reported occasionally (30.8 % vs. 9.2 %) or often (15.4 % vs. 2.6 %) ($\chi^2 = 13.75$, $p < 0.01$) thinking that it 'might not be too bad' to be like Kelly, and were more likely to believe that the prevalence of the problem described was 'more than 30 % and less than 50 %' (53.8 % vs. 21 %) or 'more than 90 %' (23.1 % vs. 0 %) ($\chi^2 = 56.38$, $p < 0.001$), than non-cases. There were no differences between groups in responses to the remaining questions.

Discussion

In addressing the attitudes of the public towards BN, we chose to focus on women's perceptions of the severity and acceptability of bulimic symptomatology. It was thought that evidence of discrimination towards individuals suffering from BN might be apparent in a perception of the disorder as a less than serious condition. However, there was no evidence for such beliefs among respondents in the present study. To the contrary, the findings of the present study indicate that most women view BN as a serious and disabling condition that is difficult to treat, and whose sufferers are deserving of sympathy. Nevertheless, a significant minority of respondents had at some stage believed that it 'might not be too bad' to be like the person described in the vignette and most respondents believed that BN is common among women in the general population.

Given that the occurrence of episodes of binge eating, self-induced vomiting and laxative misuse, as well as social isolation, were mentioned in the vignette, it is of some concern that more than one-third of respondents had at some stage believed that it 'might not be too bad' to be like the person described. Further, individuals who reported that they might currently have a problem such as the one described – and those with an actual eating disorder diagnosis – were more likely to have occasionally or often entertained this notion. These findings suggest that information concerning the medical and psychological sequelae of BN and other eating disorders may usefully be included in primary and/or secondary prevention programmes (Pearson et al. 2002). It is possible that the perception of bulimic behaviours as being tolerable, or even desirable, may place the individual at greater risk for the development of BN. Alternatively, individuals endorsing higher levels of bulimic symptomatology may adjust their attitudes, perceiving bulimic symptoms to be more acceptable, in order to alleviate dissonance between attitudes and behaviours (Vander Wal and Thelen 1997).

The fact that the person described in our vignette was 'within the normal weight range' and 'slightly overweight as an adolescent' may explain why the attitudes of respondents in the present study were less negative than those of respondents in Crisp et al.'s (2000) study, in which a case of AN was depicted. Anecdotal reports suggest that 'competition for thinness' is common in clinical samples of eating disorder patients, among individuals participating in sports where body weight and shape are strictly controlled, such as ballet, and among women in the general population (Gordon 2000). Indeed, it has been suggested that prevention programmes which incorporate presentations by slender and apparently healthy recovered patients may unwittingly do more harm than good (Mann et al. 1997). Replication of the present study using a vignette of AN would, therefore, be of interest.

If women in the general population believe that bulimia nervosa is a serious and disabling condition, they also believe that it is a common condition. Close to half of the respondents believed that the (point) prevalence of the problem described among women in the community was likely to be in the order of 10 %–30 %, while a significant minority (23.1 %) of respondents believed that the prevalence was likely to be between 30 % and 50 %. While such responses might have been expected had a sub-clinical disorder been depicted in the vignette, or if the problem was perceived in this way, this was not the case. Most respondents viewed the problem described as distressing and difficult to treat and there was no association between responses to these questions and perceptions of prevalence.

Findings from an earlier Australian study suggested that women in the community perceived bulimic eating disorder behaviours, such as 'chewing food and spitting it out' and self-induced vomiting, to be both uncommon and abnormal, while attitudinal dimensions of eating disorder psychopathology, such as preoccupation with weight and shape, were judged to be both common and normal by most respondents (Huon et al. 1988). While the perceived acceptability of specific behaviours was not addressed in the present study, it is possible that the perceived prevalence of more extreme weight control behaviours increased following the rise in cases of BN presenting to services during the late 1970s and early 1980s and the increased media attention associated with this development. The finding that estimates of the prevalence of the problem described were higher among individuals with a current eating disorder diagnosis may reflect a 'false consensus effect', whereby individuals who engage in a particular behaviour estimate that behaviour to be more prevalent than people who do not engage in it (Brabender and Deutsch 1992, in Vander Wal and Thelen 1997).

In contrast to the perception of prevalence, epidemiological studies have consistently found that the point prevalence of BN among young adult women is in the order of 1 % (Hoek 2002). However, it is generally accepted that individuals with mental disorders are over-represented among those declining participation in general population surveys (Henderson 2000) and there is some evidence that this is the case in epidemiological studies of eating-disordered behaviour (King 1989; Beglin and Fairburn 1992). The truth probably lies somewhere between the perception and the evidence. In the present study, 5.8 % of respondents reported current personal experience of the problem described, while 6.3 % of respondents met criteria for a clinically significant eating disorder. These figures accord with estimates of the prevalence of partial-syndrome eating disorders in the general population (Patton and Schmukler 1995). The finding that some 20 % of participants indicated experience with a problem such as the one described at some point in their lives may reflect an epidemiological reality that many young adult women pass through a phase of bulimic symptoms. The clinical significance of these symptoms is unclear (Hay et al. 1998).

Methodological limitations inherent in the mental health literacy paradigm should be noted. In particular, use of a forced-choice paradigm is inevitably associated with the loss of information. In our previous study, some respondents protested that it was difficult to choose only one option on certain questions and a few refused to do so. Also, responses to the question concerning prevalence may have been affected by a tendency to avoid the most extreme options. Finally, the use of an all-female sample may have been conducive to an effect of 'social desirability' on responses. For example, respondents may have been inclined to overstate levels of sympathy for the person described. However, previous studies using large samples have found little effect of either age or gender on responses to similar questions (Jorm et al. 1999; Crisp et al. 2000).

In conclusion, it appears that most women in the general population view BN as a serious and disabling condition whose sufferers are deserving of sympathy. However, the perceived acceptability of bulimic symptoms among some women is of concern and suggests that information concerning the medical and psychological sequelae of eating disorders might usefully be incorporated in prevention programmes. Prospective community-based research addressing the relationship between attitudes toward eating-disordered behaviour and actual eating disorder symptoms would be of interest in this regard. Research addressing attitudes to eating-disordered behaviour in other cultures would also be of interest. Anecdotal reports, and some epidemiological evidence, suggest that the prevalence of eating disorders has increased markedly in certain Asian countries, such as Singapore and Hong Kong, in recent years (Lee and Katzman 2002). However, little is known about the public's perception of eating-disordered behaviour in these cultures.

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Appendix A: The vignette used in the mental health literacy interview

Kelly is a 19-year-old second-year arts student. Although mildly overweight as an adolescent, Kelly's current weight is within the normal range for her age and height. However, she thinks she is overweight. Upon starting university, Kelly joined a fitness programme at the gym and also started running regularly. Through these efforts, she gradually began to lose weight. Kelly then started to "diet", avoiding all fatty foods, not eating between meals, and trying to eat set portions of "healthy foods", mainly fruit and vegetables and bread or rice, each day. Kelly also continued with the exercise programme, losing several more kilograms. However, she has found it difficult to maintain the weight loss and for the past 18 months her weight has been continually fluctuating, sometimes by as much as 5 kilograms within a few weeks. Kelly has also found it difficult to control her eating. While able to restrict her dietary intake during the day, at night she is often unable to stop eating, bingeing on, for example, a loaf of bread and several pieces of fruit. To counteract the effects of this bingeing, Kelly takes laxative tablets. On other occasions, she vomits after overeating. Because of her strict routines of eating and exercising, Kelly has become socially isolated.

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