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ORIGINAL ARTICLE

Help-seeking for body image problems among adolescents with eating disorders: findings from the *EveryBODY* study

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Abstract

Purpose Little is known regarding correlates of help-seeking for a body image problem in adolescents with an eating disorder. This study provides the first population-based investigation of help-seeking correlates among adolescents with an eating disorder.

Methods Australian adolescents ($N = 1002$, 75.5% female, mean age = 15.14, $SD = 1.40$) who met operational diagnostic criteria for an eating disorder completed a survey assessing help-seeking, and potential correlates of help-seeking (sex, age, body mass index, socio-economic status, migrant status, sexuality, eating disorder diagnosis, psychological distress, and quality of life).

Results Only 10.1% of participants reported having sought help. Bivariate analyses revealed that increased likelihood of help-seeking was associated with female sex, sexual minority status, being born outside Australia, older age, having a major eating disorder (compared to having an unspecified or other specified feeding or other eating disorder diagnosis), higher psychological distress, and reduced psychological and social functioning. Older age, being born outside of Australia, and having a major eating disorder were significant independent correlates of help-seeking.

Conclusions Very few adolescents with an eating disorder seek help for a body image problem. Promoting early, appropriate help-seeking among those who are younger and/or those with less well-known disorders may be particularly important.

Level of Evidence Level III, case-control analytic study.

Keywords Eating disorder · Adolescent · Help-seeking · Body image

Abbreviations

AN	Anorexia nervosa
BN	Bulimia nervosa
BED	Binge-eating disorder
AAN	Atypical anorexia nervosa
sBN	Subthreshold-bulimia nervosa
sBED	Subthreshold-binge eating disorder
PD	Purging disorder
NES	Night eating syndrome
OSFED	Other specified feeding and eating disorder
UFED	Unspecified feeding and eating disorder
DSM	Diagnostic and statistical manual
BMI	Body mass index

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Introduction

Body image concerns are a key etiological and diagnostic feature of eating disorders and, thus, help-seeking for body image concerns is an important proxy of help-seeking for eating disorders. Body image problems consistently rank among the primary concerns of Australian adolescents [1], and the social- and economic-associated costs of eating disorders are substantial [2, 3]. Despite at least moderately effective treatments available for various eating disorders, [4–6], less than one-third of adults with an eating disorder ever receive treatment [7]. In adolescent samples, help-seeking is even lower, with specific weight and eating disorder-related treatment received by only 27.5%, 21.5%, 11.4%, and 3.4% of those with anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED), and subthreshold BED (sBED), respectively [8].

Several studies have investigated correlates of help-seeking in adults with an eating disorder [7, 9], yet adolescent samples have been largely overlooked. Younger cohorts are of notable interest for eating disorder research because diagnostic onset often develops in adolescence [10] and has broad negative impacts on health and development [11], and earlier interventions can produce superior outcomes [12]. Studies are needed that differentiate the characteristics of adolescents who do and do not seek help for an eating disorder. This will inform interventions for early identification by the individual, their family, health professionals, and other care providers improving targeted referral and uptake of treatment, and decreasing the population burden of eating disorders [13].

A potential correlate of help-seeking is eating disorder diagnosis. Swanson, Crow [8] demonstrated that adolescents with AN or BN were more likely to receive treatment than those with BED, although statistical analyses were not conducted to test these differences. While some studies in adults also show that treatment is more common for AN [14] and BN [15], other studies have found effect of diagnostic subtype on help-seeking [16, 17].

All the above studies predate the fifth edition of the Diagnostic and Statistical Manual of Mental (DSM-5) diagnostic criteria [18]. As such, no data exist on help-seeking for "other specified" (OSFED including: atypical anorexia nervosa; AAN, subthreshold BN; sBN, subthreshold BED; sBED, purging disorder; PN, night eating syndrome; NES) and "unspecified" feeding or eating disorder (UFED), in adolescents or adults.

In a review of 31 studies examining demographic correlates of help-seeking in adults, help-seekers were more likely to be older, more educated, have a history of divorce, and nonethnic-minority than those who did not seek help [9]. Contrastingly, sex, body mass index (BMI), socio-economic status, and marital status were not strongly related to help-seeking. However, such comparisons have not yet been made in adolescent samples.

Psychosocial variables are also associated with help-seeking. Elevated psychological distress has been linked with greater help-seeking for adult women with various eating disorder diagnoses [17, 19]. Impairment in quality of life has also been shown to be positively related with treatment-seeking among adult women with bulimic eating disorders [19] and obese adults [20]. The relationship between psychological distress and quality of life, and help-seeking in adolescents remains unknown.

Body image and help-seeking assessment

"Mental health literacy" for eating disorders is poor in the community [21] and is expected to be especially poor for newer DSM-5 disorders including the OSFED syndromes, presenting a challenge for accurate assessments of help-seeking. Problematic aspects of eating disorders mental health literacy include, among other things, poor awareness and understanding of the signs and symptoms of different eating disorders among individuals affected, those with whom they interact, and health professionals [21]. In contrast, "body image" is a well-known and used term for Australian youth [1] and disturbance in body image is recognized as the central transdiagnostic feature across all eating disorders [22]. Thus, in the present study, asking adolescents about help-seeking for a body image problem was deemed the most sensitive approach to capturing help-seeking for an eating disorder among participants who met operational criteria for an eating disorder. This approach may also be superior to asking about "eating problems" or "weight problems" [8], which may be misinterpreted as other dietary disorders, such as allergies, or weight conditions, such as obesity.

Hypotheses

Thus, this study aimed to investigate the help-seeking behavior of adolescents with a DSM-5 eating disorder, including the prevalence of help-seeking for a body image problem by: (1) eating disorder diagnosis; and exploring (2) demographic (biological sex, age, BMI, socio-economic status, migrant status, sexuality) and psychological (eating disorder diagnosis, psychological distress, quality of life) correlates. Given the previous findings in adults [9], it was hypothesized that help-seeking would be generally low, and it would be proportionately lower for adolescents who were younger, and emigrants. Further, help-seeking was predicted to be higher for those with greater psychological distress, lower quality of life, and those with a major (AN, BN, BED), as opposed to OSFED or UFED, eating disorder.

Method

Participants and procedure

Data were used from the first wave of the EveryBODY Study, a longitudinal investigation of Australian adolescents' body image concerns and disordered eating behaviors. Analyses were conducted on 1002 adolescents who met criteria for having an eating disorder. The participants and procedure used for this sample have previously been described [23]. In brief, surveys were administered to secondary students at 13 schools (36% of approached schools) in the Sydney/Newcastle and Hunter region of New South Wales, Australia. Four of these schools were independent schools, and nine were government schools. There was a nationally representative amount of variance in the socio-educational advantage between these schools, as indicated by their scores on the Index of Community Socio-Educational Advantage (ICSEA; standardized $M = 1000$, $SD = 100$) [24]. Scores ranged from 909 to 1129 in this study ($M = 1035$, $SD = 60.91$).

All students at participating schools were invited to participate. A passive parental consent procedure was used, wherein parents/guardians could opt to have their adolescent not participate, prior to the study's commencement. Informed consent was obtained from all adolescents participating in the study and were given the survey to complete in class, which had previously been pilot tested to ensure that it could be easily understood by high school students and completed within the typical 50-min class. Ethics approval for the study was received from the University ethics committee, the Catholic Education Office, and the New South Wales Department of Education, and the study was conducted in accordance with the 1964 Declaration of Helsinki.

Measures

Eating disorder diagnosis

The procedure used to determine eating disorder diagnosis according to the DSM-5 criteria relied upon a self-report questionnaire, and has been described in detail previously [25]. Operationalization of the criteria is described in the supplementary file attached. Diagnoses were grouped into major ED diagnosis (AN, BN, BED), OSFED, or UFED. Additionally, the Weight and Shape Subscale from the Eating Disorder Examination Questionnaire [26] was included as a covariate to control for variation in the emphasis on body image across eating disorder diagnoses. Adequate internal consistency for this subscale was obtained in the present study (Cronbach's $\alpha = .94$).

Sociodemographic questions

Participants reported their school grade (to determine approximate age), biological sex, and height and weight (to calculate BMI and allocation to an age-specific percentile score). Participants indicated their country of birth and responses were categorized as "born in Australia" or "emigrant". Sexuality was coded as "heterosexual" if participants indicated being attracted to the opposite sex, or "sexual minority" if they indicated otherwise. Participants also indicated their postcode, which was converted into a socio-economic index for area (SEIFA) score (standardized $M = 1000$, $SD = 100$). This was used as a proxy for socio-economic status (SES), as provided by the Australian Bureau of Statistics [27].

Help-seeking

Participants responded to a dichotomous yes/no question, "Have you ever seen a health professional about a body image problem?", with those answering "yes" categorized as help-seekers, and those answering "no" as non-help-seekers. This wording was designed to be sensitive to eating disorder-related help-seeking while also being appropriate for an adolescent sample (many of whom fail to recognize their experience as an eating disorder). This included reviews of previous questions and their limitations [19, 28, 29], and pilot testing to ensure comprehension by an adolescent sample. Participants who responded "yes" then indicated from whom they had received help including: "GP/doctor", "dietitian/nutritionist", "therapist", "psychiatrist", "pediatrician (child doctor)", "hospital", or "other".

Psychological distress (K10)

The Kessler Psychological Distress Scale [K10; [30] measured psychological distress in the past four weeks. Participants responded to 10 items describing how often they felt a certain way (e.g., Tired out for no good reason) on a 5-point Likert scale (1 = None of the time to 5 = All of the time). Scores were summed, with higher total scores indicating higher distress. The K10 has been used to measure distress in previous population-based studies of adolescents in Australia [31]. Adequate internal consistency for the scale has been demonstrated previously [30] and in the present study (Cronbach's $\alpha = .92$).

Quality of life (PedsQL)

The physical functioning (5 items), psychological functioning (4 items), and social functioning (3 items) subscales of the Pediatric Quality of Life Scale SF15 [PedsQL SF15; [32] were used to assess quality of life. Participants rated each

item on a 5-point Likert scale (0 = Never to 4 = Always). Scores are reversed and transformed to a scale from 0 to 100 by averaging each relevant item, with higher scores indicating higher functioning. Adequate reliability and validity have been demonstrated in adolescent samples [32, 33], and in the present study (physical functioning, Cronbach's $\alpha = .88$; emotional functioning, Cronbach's $\alpha = .87$; social functioning, Cronbach's $\alpha = .84$).

Data analysis

Analyses were conducted using SPSS version 24. The percentage of participants who had received treatment was calculated, as well as the type of health professional they had accessed. Univariate and multivariate analyses used data weighted based on the correspondent sampling process and reweighted to the population distribution of gender in the 2016 Australian Census. Each male was worth 1.08 participants, and each female worth 0.93. As there were more females in the current sample, the weighted number of participants was 968. Univariate analyses comparing those who had and had not sought help were calculated using percentages and Chi square tests for categorical variables (sex, sexuality, migrant status, eating disorder diagnosis, grade), and means, standard deviations and independent *t* tests for continuous variables (BMI percentile, SES, psychological distress, physical function, psychological function, social function). Multivariate binary logistic regression was used to assess the relationships between these correlates (biological sex, sexuality, grade, BMI percentile, SES, migrant status, eating disorder diagnosis, psychological distress, physical function, psychological function, social function) and help-seeking, controlling for weight and shape concerns.

Results

Approximately, 70% of students participated in the study ($N = 5191$). Of these, 39 were excluded due to excessive missing data (more than 90% missing), 79 due to non-serious responses, and one due to withdrawn consent, leaving a total of 5072 students. Analyses were conducted on 1002 of these participants (75.5% female, mean age = 15.14, $SD = 1.40$) who met criteria for having a major eating disorder, OSFED, or UFED according to the DSM-5. This prevalence rate is commensurate with other adolescent prevalence studies that take into account the full spectrum of clinical and subclinical eating disorders [e.g., 21% in [34].

Only 10.1% of adolescents who met criteria for any eating disorder reported having ever sought help for a body image problem. Help-seeking by diagnostic category is presented in Table 1. Low rates of help-seeking were observed across diagnoses (0.0%–18.2%), but were particularly low for BED, sBED, NES, and UFED. Although those with AN and BN appeared to be more likely to seek help than those with BED, these differences were not statistically significant, $\chi^2(2, N = 280) = 1.08$, $p = .582$. However, those with a major eating disorder (AN, BN, or BED) were significantly more likely to seek help than those with either UFED or OSFED, $\chi^2(2, N = 968) = 7.71$, $p = .021$, Cramer's $V = 0.09$.

As seen in Table 2, most adolescents who did seek help accessed general practitioners/doctors, with less receiving specialist care from psychiatrists or therapists.

Bivariate correlates with help-seeking

As seen in Table 3, univariate analyses demonstrated that those who did seek help were more likely to be female, non-heterosexual, emigrants, and in a higher grade. They also

Table 1 Help-seeking by eating disorder diagnosis

Eating disorder diagnosis	Number of participants with diagnosis	Number (%) of adolescents reporting help-seeking for a body image problem
Anorexia nervosa	32	5 (15.6)
Bulimia nervosa	215	30 (14.0)
Binge eating disorder	47	4 (8.5)
Atypical anorexia nervosa	137	25 (18.2)
Subthreshold bulimia nervosa	183	21 (11.5)
Subthreshold binge eating disorder	24	0 (0.0)
Purging disorder	152	20 (13.2)
Night eating syndrome	170	13 (7.6)
Major eating disorder	294	39 (13.3)
Other specified feeding or eating disorder	554	55 (9.9)
Unspecified feeding or eating disorder	154	7 (4.5)
Any eating disorder	1002	101 (10.1)

Table 2 Number (%) of participants with eating disorders seeking help for a body image problem from different health professionals

Health professional	*N* (%)
GP/doctor	74 (7.4)
Dietitian/nutritionist	28 (2.8)
Therapist	31 (3.1)
Psychiatrist	28 (2.8)
Paediatrician	8 (0.8)
Hospital	18 (1.8)
Other	12 (1.2)

were more likely to report greater psychological distress, and greater psychological and social functional impairment.

Multivariate correlates with help-seeking

A multivariate logistic regression analysis was used to determine which of these variables were uniquely associated with help-seeking, controlling for other factors (Table 4). The overall model was significant, χ^2 (16, N = 902) = 39.15, p = .001. Migrant status, school grade, and eating disorder diagnosis emerged as significant independent correlates. Participants who were born outside of Australia (compared to those born in Australia), in grade 11 (compared to those in grade 7), with a major eating disorder (compared to those with UFED, but not OSFED), and those with higher psychological distress were more likely to report having sought help for a body image problem. Help-seeking was not significantly associated with sex, sexuality, BMI percentile, SES, psychological distress, or quality of life.

Discussion

The present study aimed to elucidate the demographic and psychological correlates of help-seeking for a body image problem among adolescents with a DSM-5 eating disorder. Help-seeking for this concern was generally low in this population, and particularly low among those who were

Table 3 Comparisons of participants who had and had not sought help for a body image problem using Chi squared tests and independent *t* tests

	Sought help N = 96	Have not sought help N = 871		
	%		χ^2 (*df*, *N*)	Cramer's *V*
Sex			**3.93* (1, *N* = 967)**	**0.06**
Male	6.8	93.2		
Female	11.1	88.9		
Sexual Orientation			**7.08** (1, *N* = 949)**	**0.09**
Heterosexual	8.3	91.7		
Sexual minority	14.2	85.8		
Country of Origin			**5.08* (1, *N* = 968)**	**0.07**
Emigrant	16.9	83.1		
Non-migrant	9.3	90.7		
School Grade			**12.24* (5, *N* = 971)**	**0.11**
Grade 7[a]	3.9	96.1		
Grade 8[b, c]	11.0	89.0		
Grade 9[b, c]	10.2	89.8		
Grade 10[a, c]	8.6	91.4		
Grade 11[b]	15.8	84.2		
Grade 12[b, c]	12.9	87.1		
	Mean (SD)		*t* (N)	Cohen's *d*
BMI percentile	66.18 (29.78)	62.11 (29.53)	1.28 (967)	*d* = 0.14
SES	988.28 (35.56)	986.16 (41.98)	0.47 (954)	*d* = 0.05
Psychological distress	**34.18 (10.20)**	**29.80 (10.33)**	**3.92*** (945)**	***d* = 0.43**
Physical functioning	72.82 (28.48)	77.47 (23.28)	− 1.72 (895)	*d* = 0.18
Psychological functioning	**47.50 (30.10)**	**53.97 (27.81)**	**− 2.04* (895)**	***d* = 0.22**
Social functioning	**58.07 (31.37)**	**66.24 (28.45)**	**− 2.51* (895)**	***d* = 0.27**

*N*s and analyses presented are weighted based on the gender population distribution in the 2016 Australian Census. Categories with the same subscript letter do not differ from each other at the .05 level

*p < .05, **p < .01, ***p < .001

Table 4 Multivariate analysis of variables associated with seeking help from a health profession about a body image problem

Associates (reference category)	Odds ratio of seeking help (95% CI)	Wald Chi square
Sex (male)	1.13 (0.58–2.21)	0.13
Sexuality (heterosexual)	1.52 (0.92–2.51)	2.62
BMI percentile	1.00 (0.99–1.01)	0.27
SES score	1.00 (0.99–1.01)	0.00
Emigrant (born in Australia)	**2.60 (1.31–5.14)**	**7.48**
Grade 8 (grade 7)	2.85 (0.99–8.16)	3.79
Grade 9 (grade 7)	2.60 (0.92–7.35)	3.25
Grade 10 (grade 7)	2.48 (0.89–6.90)	3.04
Grade 11 (grade 7)	**3.59 (1.17–11.01)**	**4.99**
Grade 12 (grade 7)	3.81 (0.79–18.47)	2.76
Psychological distress	1.03 (0.99–1.06)	2.72
Physical functioning	1.00 (0.99–1.01)	0.01
Psychological functioning	1.01 (1.00–1.03)	3.09
Social functioning	0.99 (0.98–1.00)	1.99
UFED (major eating disorder diagnosis)	**0.37 (0.16–0.88)**	**5.06**
OSFED (major eating disorder diagnosis)	1.03 (0.62–1.73)	0.02
Weight and shape concerns	**1.39 (1.12–1.72)**	**8.82**

Bold values indicate significant effects at $p < .05$. Analysis was conducted, weighted based on the gender population distribution in the 2016 Australian Census. $n = 902$

younger, not born overseas, and with a diagnosis other than AN, BN, or BED.

As predicted, overall help-seeking by adolescents with an eating disorder was low (10%) and lower than that reported generally for adults [17–31%; [7] and adolescents in the USA, specifically for AN (16.7% vs. 27.5%), BN (13.7% vs. 21.5%), BED (8.9% vs. 11.4%), and sBED (0.0% vs. 3.4%) [8]. Australia and the USA differ in the availability of healthcare access, both practically (e.g., accessibility to local specialized care) and financially (e.g., differences in Medicare and private health insurance) which may account, in part, for this difference. Additionally, DSM-5 criteria for eating disorder diagnoses were employed in the present study, whilst the stricter DSM-IV criteria were employed by Swanson, Crow [8]. Thus, eating disorder cases may have been less severe in the present study and associated with lesser likelihood to seek help.

In the current study, participants with AN and BN were not significantly more likely to seek help than those with BED, consistent with studies in adults [16]. This is inconsistent with other studies in adults, indicating greater uptake of treatment among adults with AN or BN [14, 15].

Participants with a major eating disorder (AN, BN, or BED) were more likely to seek help than those diagnosed with UFED, but unexpectedly, not OSFED. Given the low treatment rates for adolescents with sBED reported by Swanson, Crow [8], it was expected that we would also find help-seeking to be lower among adolescents with any OSFED syndromes. While this remained true for sBED (for which no participants reported accessing treatment) and NES, help-seeking among adolescents who met criteria for AAN and sBN was as likely to seek help as adolescents with full syndrome AN and BN.

As predicted, bivariate analyses revealed that greater psychological distress and poorer social and psychological functioning were associated with greater help-seeking among participants, consistent with previous research in adults [19, 20]. Psychological distress seemed to be a more relevant correlate with close to a medium effect size, compared with the small effect sizes associated with functional impairment. In multivariate analyses however, none of these were independently associated with help-seeking, suggesting that the level of eating disorder psychopathology appears to be more relevant for help-seeking than the associated self-perceived distress or impairment.

With regard to demographic variables, female sex, minority sexual status, being born outside Australia, and being older were associated with increased likelihood of help-seeking in bivariate analyses. In multivariate analyses, only being older and being born outside Australia were independently associated with help-seeking. The finding that help-seeking was not uniquely associated with sex, sexuality, BMI percentile, or socio-economic status is consistent with findings in adults [9]. By contrast, our finding that adolescents born outside Australia were 2.60 more likely to seek help for a body image problem than those born in Australia appears at odds with research in adults in the USA in which ethnic minority individuals were less likely to seek help [9]. Should the current finding be replicated, several interpretations of this discrepancy might be given, including age-related differences

and differences in the socio-economic profiles of emigrants in Australia and the USA.

Implications

Approximately, 6% of adolescents met criteria for a major eating disorder in the EveryBODY Study, and 1 in 5 adolescents met criteria for any type of eating disorder (including OSFED and UFED). Despite this, and despite the generally high levels of distress reported by this sample, only 1 in 10 of these adolescents had ever sought help for a body image problem. These results are concerning, given the importance of early uptake for treatment outcomes [12]. Efforts to increase early, appropriate help-seeking among young people with eating disorders may be especially important for the behaviors that fall outside of the "well-known" major eating disorder diagnoses.

Adolescents meeting criteria for a major eating disorder diagnosis were almost three times as likely to seek help than those with UFED, even when controlling for psychological distress, quality of life, and weight and shape concerns, indicating differences between these diagnoses that influence help-seeking, beyond severity and body image concerns. It is likely that reduced mental health literacy, including self-identification, is key for these "other" and "unspecified" disorders [13, 21, 28, 35]. Major eating disorder diagnoses are characterized by behaviors which align with the stereotyped view of eating disorders [13], which might be more readily recognized as problematic by adolescents, as well as peers and care givers. For example, purging behaviors have consistently been found to be associated with self-identification and help-seeking in adolescents and young adult women [21, 28]. The role of self-identification is an area for future research, such as targeted awareness interventions for parents, schools, healthcare providers and adolescents.

While moderately effective treatments do exist for at least some eating disorders (e.g., AN, BN, BED), recent meta-analyses reveal that, for many, behavioral changes are not sustained beyond the end of treatment [6, 36, 37]. Hence, treatment efforts need to be accompanied by efforts at other key points on the spectrum of public health interventions; namely, health promotion, prevention, and early intervention [13, 35].

Limitations

Although there are a number of strengths to the current study, it should be noted when interpreting these findings, that help-seeking for "a body image problem" rather than for an eating disorder per se was assessed. This non-technical term will likely have improved sensitivity; however, the fact remains that despite weight/shape concerns being considered a core transdiagnostic etiological feature [22], not all eating disorder diagnoses include reference to a body image problem among their diagnostic criteria [18]. This variation was controlled for by the inclusion of weight and shape concerns as a covariate in the multivariate analysis. Nevertheless, it is possible that some participants who had sought help for an eating disorder, not considering their problem to be one of body image, answered in the negative to the item concerned. Further, we chose to assess help-seeking rather than "treatment received" for an eating disorder. This step likewise was taken because if "treatment received" had been assessed the number of participants reporting having received treatment for an eating disorder (or body image problem) would likely have been too low to permit meaningful analysis of the correlates of this outcome [17]. Information concerning the type of treatment received among those participants who did receive treatment would nevertheless be of interest. Additionally, as is typically the case in epidemiological studies, eating disorder diagnoses were assigned on the basis of self-report rather than interview assessment.

Conclusion

Help-seeking for a body image problem is uncommon among adolescents with eating disorders, younger individuals and those with less well-known conditions in particular. The findings indicate the need for efforts to improve treatment outcomes to be accompanied by efforts to improve early, appropriate help-seeking where this is needed.

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Data sharing The datasets generated during and/or analyzed during the current study are not publicly available due to ethical constraints, but are available from the corresponding author on reasonable request.

Compliance with ethical standards

Conflict of interest Professor Hay receives/has received sessional fees and lecture fees from the Australian Medical Council, Therapeutic Guidelines publication, and New South Wales Institute of Psychiatry and royalties/honoraria from Hogrefe and Huber, McGraw Hill Education, and Blackwell Scientific Publications, Biomed Central and PlosMedicine and she has received research grants from the NHMRC and ARC. She is Deputy Chair of the National Eating Disorders Collaboration Steering Committee in Australia (2012–) and Member of the ICD-11 Working Group for Eating Disorders (2012–) and was Chair Clinical Practice Guidelines Project Working Group (Eating Disorders) of RANZCP (2012–2015). She has consulted for and prepared a report

under contract for Shire Pharmaceuticals in regards to Binge Eating Disorder (July 2017). All views in this paper are her own.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee (Macquarie University Human Research Ethics Committee: 5201918887701) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all adolescents participating in the study. A passive consent procedure was used for parents, wherein parents/guardians could opt to have their adolescent not participate, prior to the study's commencement.

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