

**A Description of Behaviour that may indicate
Crossover from Weight-Restored Anorexia Nervosa to
Bulimia Nervosa**

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ABSTRACT

TITLE: A Description of Behaviour that may indicate Crossover from Weight-Restored Anorexia Nervosa to Bulimia Nervosa.

INTRODUCTION: The course and outcome of eating disorders can be characterised by the degree of diagnostic crossover. Crossover is relatively common, with the crossover from Anorexia Nervosa (AN) to Bulimia Nervosa (BN) being the most prevalent. Crossover commonly occurs within the first 5 years of illness and is often observed when patients are progressing to partial or full recovery. No information regarding crossover in South African persons with eating disorders has been published, hence the purpose of this study.

MAIN OBJECTIVE: The main objective of the study was to describe the behaviour that may indicate crossover from weight-restored AN to BN in South African young adults. In order to achieve the main objective, anthropometric measurements and descriptive information regarding disordered eating patterns were obtained. Information regarding behaviour that may be associated with crossover from AN to BN or within AN sub-types was collected. In addition BN patients were assessed to determine whether they have a previous history of AN, which may further indicate crossover.

SUBJECTS AND METHODS: Participants were recruited from the student population of the University of the Free State and Bloemcare Psychiatric Clinic. Anthropometric measurements were taken by the researcher and one of two questionnaires (compiled by the researcher), depending on diagnosis, was completed during a semi-structured, one-to-one interview between the researcher and each participant. Questionnaires were coded by the researcher and analysed by the Department of Biostatistics (UFS).

RESULTS: Nine participants were recruited and included in the study. Five out of the nine participants were diagnosed with Anorexia Nervosa Restrictive type (ANR). These five participants had all crossed over to bulimic tendencies during and after the process of weight restoration. One of the five participants has crossed over to a current diagnosis of Anorexia Nervosa Binging and Purging type (ANBP). The five participants indicated that they engaged in inappropriate compensatory behaviour after a binge episode in order to prevent further weight gain or to lose weight. The most common inappropriate compensatory behaviour reported was self-induced vomiting. Two of the five participants indicated that they could currently be diagnosed with EDNOS because they had not completely recovered, whereas the other two participants indicated that they have fully recovered. The remaining four of the nine participants were diagnosed with BN. Two were currently diagnosed and the other two had previously been diagnosed with BN. Of the previously diagnosed BN participants, one participant had a history of ANR. The particular participant never fully recovered from the initial diagnosis and therefore crossed over from ANR to BN. The two previously diagnosed BN participants also indicated that they could be diagnosed with EDNOS at the time of the interview because they had not completely recovered. Overall the nine participants reported that they were still preoccupied with their weight at the time that the study was conducted. Seven of the nine participants indicated that they were more comfortable at a lower weight, whereas two participants indicated that they could not identify a weight at which they felt most comfortable.

CONCLUSIONS: The course and outcome of eating disorders is partially determined by the occurrence of crossover. Comparable to reviewed literature, despite the small sample crossover was observed from AN to bulimic tendencies. In addition, crossover occurred more commonly during the progression to partial or full recovery. With this in mind, further research should focus on whether crossover occurs as a result of the weight gain associated with recovery and whether the fear or anxiety thereof acts as a trigger. This knowledge may enable the multidisciplinary health care team to prevent crossover from occurring in patients during the recovery period.

KEY WORDS: crossover, eating disorders, anorexia nervosa, bulimia nervosa

OPSOMMING

TITEL: 'n Beskrywing van gedrag wat oorgang vanaf herstelde-gewig Anoreksia Nervosa na Bulimia Nervosa mag aandui.

INLEIDING: Die verloop en uitkoms van eetversteurings kan gekenmerk word deur die graad van diagnostiese oorgang. Oorgang tussen eetvesteurings is redelik algemeen, met die oorkruising van Anorexia Nervosa (AN) na Bulimia Nervosa (BN), die mees algemene. Oorgang kom algemeen voor binne die eerste 5 jaar van siekte en word dikwels waargeneem tydens pasiënte se vorderingsproses tot gedeeltelike of volle herstel. Geen inligting met betrekking tot die oorgang tussen eetversteurings in die Suid-Afrikaanse bevolking is beskikbaar nie, aldus die doel van hierdie studie.

DOELWITTE: Die hoofdoel van die studie onder Suid-Afrikaanse jong volwassenes was om die gedrag wat oorgang vanaf herstelde-gewig AN na BN mag aandui, te beskryf. Om die hoofdoelwit te bereik is antropometriese metings en beskrywende inligting ten opsigte van afwykende eetgewoontes verkry. Inligting ten opsigte van gedrag wat geassosieer word met oorgang vanaf AN na BN of tussen sub-tipes van AN is ingesamel. Daarbenewens is BN deelnemers ook geëvalueer om te bepaal of hulle 'n geskiedenis van AN het, wat 'n verdere aanduiding van oorgang mag wees.

DEELNEMERS EN METODEDES: Deelnemers was van die student bevolking van die Universiteit van die Vrystaat en Bloemcare Psigiatriese-Kliniek gewerf. Antropometriese metings was deur die navorser geneem. Vraelys 1 of Vraelys 2 (saamgestel deur die navorser), afhangende van diagnose is tydens 'n gedeeltelike-gestruktureerde, een-tot-een onderhoud tussen die navorser en die individuele deelnemer voltooi. Daarna is die vraelyste deur die navorser gekodeer en deur die Departement Biostatistiek (UV) ontleed.

RESULTATE: Altesaam is nege deelnemers gewerf en in die studie ingesluit. Vyf van die nege deelnemers was gediagnoseer met beperkende tipe AN. Hierdie vyf deelnemers het na bulimiese neigings oorkruis tydens en na die proses van gewigsherstel. Een van die vyf deelnemers het vanaf beperkende tipe AN na 'n huidige diagnose van ooreet-ledigings tipe AN oorkruis. Die vyf deelnemers het aangedui dat hulle in onvanpaste kompenserende gedrag na 'n ooreet-episode uitgeoefen het in 'n poging om verdere massatoename te voorkom of om massa te verloor. Die mees algemene onvanpaste kompenserende gedrag wat gerapporteer is, was self-geïnduseerde braking. Twee van die vyf deelnemers het aangedui dat hulle tans gediagnoseer kan word met Ongespesifiseerde Eetvesteurings omdat hulle nog nie heeltemal herstel het nie, terwyl die ander twee deelnemers ten volle herstel het. Die oorblywende vier van die nege deelnemers was gediagnoseer met BN. Twee is huidiglik en die ander twee was voorheen met BN gediagnoseer. Van die deelnemers wat voorheen gediagnoseer was met BN, het een deelnemer 'n geskiedenis van beperkende tipe AN. Die spesifieke deelnemer het nooit heeltemal herstel van die aanvanklike diagnose nie en daarom dui dit op 'n oorgang vanaf beperkende tipe AN na BN. Albei van die twee deelnemers wat voorheen gediagnoseer was met BN het ook aangedui dat hulle huidelik (ten tye van die onderhoud) gediagnoseer kan word met Ongespesifiseerde Eetvesteurings omdat hulle nog nie ten volle herstel het nie. Tydens die studie, het die nege deelnemers gerapporteer dat hulle nog behep is met hulle gewig. Sewe van die nege deelnemers het aangedui dat hulle meer gemaklik met 'n laer gewig sal voel, terwyl twee deelnemers nie 'n gewig kon identifiseer waarmee hulle gemaklik voel nie.

GEVOLGTREKKING: Die verloop en uitkoms van eetversteurings word gedeeltelik deur die voorkoms van oorgang bepaal. In ooreenstemming met hersiende literatuur, tenspyte van die klein steekproefgrootte, was oorgang vanaf AN na neigings van bulimia gesien. Verder blyk dit dat oorgang meer algemeen voorkom tydens die vorderingsproses tot gedeeltelike of volle herstel. In aansluiting hiermee, behoort verdere navorsing te fokus op die voorkoms van oorgang as gevolg van die gewigstoename gedurende herstel en die gepaardgaande vrees of ang wat 'n sneller kan wees. Hierdie kennis kan die multi-dissiplinêre gesondheidspan in staat stel om oorgang gedurende die proses van herstel te voorkom.

SLEUTELWOORDE: oorgang, eetversteurings, anoreksia, bulimia

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LIST OF ABBREVIATIONS

AN	Anorexia Nervosa
ANR	Anorexia Nervosa Restrictive type
ANBP	Anorexia Nervosa Binge-purge type
BED	Binge Eating Disorder
BMI	Body Mass Index
BN	Bulimia Nervosa
cm	centimetre
DSM	Diagnostic and Statistical Manual of Mental Disorders
DSM-IV-TR	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision
DSM-V	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
EDNOS	Eating Disorder Not Otherwise Specified
kg	kilogram
LH	Luteinising Hormone
m ²	metres squared
N	Sample size
NIMH	National Institute of Mental Health
OCD	Obsessive Compulsive Disorder
%	Percentage
Q	Questionnaire
UFS	University of the Free State
UV	Universiteit van die Vrystaat
vs	versus

CHAPTER 1: INTRODUCTION AND PROBLEM STATEMENT

1.1 INTRODUCTION AND PROBLEM STATEMENT

Disordered eating patterns and attitudes are becoming more prevalent, even occurring amongst young children (Sue et al., 2006:528). Globally, the overall prevalence of Anorexia Nervosa (AN) and Bulimia Nervosa (BN) is on the rise. The lifetime prevalence of AN is approximately 0.3-3.7% mostly occurring in younger adolescents from industrialised countries, including South Africa, who desire or idealise a thin body type (Schebendach, 2008:564; and Gonzalez et al., 2007:614). In contrast, the prevalence of BN, mostly occurring among older adolescents and young women, (Hay, 2007:709) ranges between 1.2-4.2% (Gonzalez et al., 2007:614; and Schebendach & Reichart-Anderson, 2004:596). Over recent years, the eating disorder prevalence among males has risen (Gonzale et al., 2007:614).

The course and outcome of eating disorders may be characterised by the degree of diagnostic crossover (Tozzi et al., 2005: 732). When crossover does occur, crossover from AN to BN is most commonly observed (Monteleone et al., 2011:56). According to Gonzalez et al. (2007:614) 10-30% of patients crossover between anorexia and bulimia tendencies during the course of the illness. Peat et al. (2009:590) conducted a comprehensive literature review including studies that compared individuals with subtype diagnoses on clinical and outcome variables and research examining the frequency of diagnostic crossover. From this review, a significant progression from anorexia nervosa restrictive (ANR) type to anorexia nervosa binge-purging (ANBP) type, from both ANR and ANBP to BN, and from BN to AN, was observed (Peat et al., 2009:590). Monteleone et al. (2011:56) reported that 8-62% of patients in Italy with an initial diagnosis of ANR, develop binge-purging symptoms at some time during the course of the illness, and 21-54% of them meet the criteria for full-blown BN. Crossover from BN to AN is less common (0-7%). It appears that crossover takes place during the course of illness, with the majority of crossover occurring within the first five years of illness. The wide range of the prevalence of crossover and when it appears to take place, highlights the importance of further investigation into this phenomenon.

The outcome of AN is often characterised by relapse, remission and crossover to BN (Tozzi et al., 2005:732). AN bears a considerable mortality (Eckert, 2008:202) and according to Zandian et al. (2007:283) the chance of recovery from AN is less than 50% over 10 years. Studies report a mortality rate of up to 15%. Longer-term studies tend to show higher mortality rates. Generally the poor outcome of AN may be associated with the following factors: a greater length of illness; the presence of bulimia, vomiting and laxative abuse; more physical complaints; symptoms of depression and obsession and lower weight at discharge (Eckert, 2008:202). Sulbach-Andrae et al. (2009:701) demonstrated the short-term outcome of AN among adolescents in Germany by means of a prospective study. Patients were admitted for in-patient treatment and were followed up after one year. More than half of the patients observed had a poor outcome and that the body mass index (BMI) at diagnosis, psychiatric co-morbidity and purging behaviour were predictors of poor outcome.

Similarly, Walsh et al. (2006:2605) reported that 30-50% of patients in America require re-hospitalisation within one year of discharge, and attribute the poor prognosis of AN to the high rate of relapse following initial treatment. Sue et al. (2006:534) indicate that approximately 44% of individuals treated in America recover completely, 28% show weight gain, but remain underweight, and 24% have poor outcome. Approximately two thirds continue to have weight and body preoccupations, and 40% develop bulimic symptoms. Follow-up studies suggest that two thirds of AN patients will endure continual morbid food and weight preoccupation (Schebendach, 2008:583). Factors associated with crossover from AN to BN include a prior anxiety disorder, low self-directedness, childhood sexual abuse, high parental criticism and the process of recovery from AN. These predictive factors are informative for planning interventions (Tozzi et al., 2005:732, 734, 736). According to Sue et al. (2006:534) the outcome of AN is influenced by the reason for developing the disordered behaviour. These reasons may include the following: patients fear their impulses and want to attempt to prove they are able to regulate them; some act on competitiveness or out of a sense of achievement; others use these behaviours as a form of self-punishment or as a way to demonstrate control over an aspect of their life.

The typical bulimic patient's symptoms are present for 3-6 years before they seek help and with time, the frequency of symptoms often increase (Eckert, 2008:203). The prognosis for BN appears to be better than AN with regards to time to achieve recovery and the likelihood of full recovery (Eddy et al., 2007:S67).

BN, seems to have a relapsing course (Eckert, 2008:203), however the crossover from BN to AN occurs to a lesser degree (Monteleone et al., 2011:56). According to Hay (2007:711) 50% of BN patients have a positive outcome, and are symptom-free, which has been indicated by 5 year or longer follow-up studies. A 10 year follow-up study in women initially diagnosed with BN reported a positive outcome with 70% in either full or partial remission, 11% still meeting the full BN criteria, 0.6% still meeting the AN criteria and 18.5% still meeting the “eating disorder not otherwise specified” (EDNOS) criteria (Sue et al., 2006:536). Relapse rates for BN patients ranging between 30-80% have been reported (Schebendach, 2008:583). Suggested predictors of poor outcome include substance abuse disorder, childhood obesity, personality disorders, longer duration before treatment and a high degree of severity of bulimic symptoms, especially vomiting (Eckert, 2008:203; Hay, 2007:711; and Sue et al., 2006:536).

In addition, a 7 year follow-up study including 216 women, diagnosed with either AN or BN conducted by Eddy et al. (2008:248) in America demonstrated that:

- Up to three-quarters of the woman initially diagnosed with AN experienced diagnostic crossover;
- Approximately half crossed over between AN subtypes; and
- One third crossed over to BN, mostly from ANBP, and half of these crossed over during the course of progression to partial or full recovery, and the other half were likely to crossover back to AN (Eddy et al., 2008:248).

Longitudinal data collected by Eddy et al. (2007:S70) demonstrated that women with BN having a history of AN were more likely to crossover back to AN and less likely to achieve full recovery in comparison to BN women without a history of AN. Thus a history of AN may present as an important prognostic indicator for BN. In addition, these authors further suggest that it is possible that women with BN have never really recovered from their initial eating disorder of AN, or possibly the transition from ANBP to BN in particular, may not necessarily represent a change in disorder, but a change in the phase of illness. Moreover, these authors proposed that further studies should explore whether a history of AN influences the course and outcome of BN.

The high rate of diagnostic crossover may reflect problems with the validity of the current diagnostic criteria, thereby limiting its utility. However Eddy *et al.* (2008:248) support the validity distinctiveness of the diagnostic criteria for AN and BN and the relevance of noting a lifetime history of AN in individuals. Nevertheless, the research findings provide less support for the current AN sub-typing system, because it suggests that both subtypes may be different phases in the course of illness, and not distinctive disorders (Eddy *et al.*, 2008:248). Similarly Peat *et al.* (2009:593) confirm a lack of predictive validity for AN subtypes. Eddy *et al.* (2008:249) recommend that careful examination of the current diagnostic criteria is essential in preparation for the next version of the Diagnostic and Statistical Manual of Mental Disorders (DSM).

In summary, the literature for treatment intervention for AN and BN is limited, due to the many obstacles, including: low base rate, low population prevalence in a single location, patient non-compliance, high drop-out rates, research methodology and design limitations that hinder the development and implementation of treatments (Chavez & Insel, 2007:161). Even the most effective intervention for BN fails to help a large number of patients (Wilson *et al.*, 2007:199).

Despite the problems associated with the diagnostic scheme, the high rate of diagnostic crossover, poor outcome and limited evidence for treatment efficacy of AN and BN is significant. This substantiates the necessity to identify the behaviour that may indicate crossover within a South African community, considering that no studies have been undertaken in South Africa. The study may strengthen the current knowledge and identify, highlight or support areas that require intervention.

To the knowledge of the researcher, no studies regarding the prevalence of crossover within AN subtypes or from AN to BN and *vice versa*, have been conducted within South Africa. Hence, the findings of this research may establish prevalence data and strengthen the need for appropriate intervention for prevention and recovery.

1.2 OBJECTIVES

The main objective of the study was to describe the behaviour that may indicate crossover from weight-restored AN to BN in South African young adults. In order to achieve the main aim, it was necessary to determine the following sub-objectives:

- To determine current anthropometry including weight and height to determine body mass index (BMI);
- To obtain descriptive information pertaining to disordered eating patterns;
- To determine behaviour that may be associated with crossover within the restrictive and binge-purging subtypes in individuals who currently have AN, or to BN;
- To determine behaviour that may be associated with crossover within the restrictive and binge-purging subtypes in weight-restored AN individuals or to BN; and
- To determine if currently diagnosed BN individuals have a previous history of AN.

1.3 OUTLINE OF THE DISSERTATION

Chapter one includes the motivation for the study and a description of the problem. The main aim and objectives of the study as well as an outline of the dissertation are also given.

A literature review in support of the study is provided in chapter two.

Chapter three includes a description of the methodology including study design, sample selection, measurements, the validity and reliability thereof, pilot study, and statistical analysis. In addition, the financial and ethical aspects, as well as time constraints and budget are discussed.

The results of the study, followed by a discussion thereof, are included in chapter four.

Lastly, in chapter five conclusions and recommendations are provided.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In chapter 1, AN, BN, and crossover between eating disorders and subtypes as an outcome of eating disorders have been discussed in detail. In chapter 2, the literature review will review definitions related to eating disorders, the prevalence of both AN and BN, criteria used for diagnosis, and possible diagnostic confusion that is experienced. In addition common distinguishing features, the pathophysiology of AN and BN, physical and medical complications experienced, treatment (including the goals thereof), and the role of the dietician, will be reviewed.

2.2 DEFINITIONS

According to Eckert (2008:195), an eating disorder can be defined as “a constant disturbed eating behaviour, and/or the need to control weight that consequently impairs social function or physical health considerably”.

The major eating disorders, AN and BN have been in existence for the past two millennia (Halmi, 2009:163). AN and BN are the two best characterised eating disorders according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR), and patients that do not meet the full diagnostic criteria may be diagnosed as EDNOS (Hay, 2007:709). Although AN, BN, and EDNOS have disorder-specific and overlapping features, the key symptoms for all are weight preoccupation, the importance of body shape and size; peculiar attitudes towards eating and weight, and the associated anxieties including the fear of weight gain or the inability to control weight and eating behaviour (Eckert, 2008:195; Hay, 2007:709; and Schebendach & Reichart-Anderson, 2004:595).

In particular, AN is characterised by the obsessive quest for extreme thinness, voluntary starvation and consequent emaciation, whereas BN is characterised by recurrent episodes of binge eating; which is a powerful urge to consume large amounts of food over a short time, followed by inappropriate compensatory methods to prevent the weight gain (Eckert, 2008:195; Berkman *et al.*, 2007:293; and Schebendach & Reichart-Anderson, 2004:596). Contrary to AN, BN patients are usually within normal body weight range, slightly under- or overweight (Schebendach & Reichart-Anderson, 2004:596).

Concerning AN, weight loss provides a sense of extra-ordinary achievement, pride and self-discipline, while weight gain is perceived as a loss of self-control. BN patients appear to be frustrated with their inability to attain an underweight state (and with the fact that they are aware of their disordered eating patterns). They feel a loss of control during the binge episode and extreme guilt for the occurrence of the binge and purge behaviour (Wilson et al., 2007:199; Sue et al., 2006:534; and Schebendach & Reichart-Anderson, 2004:596).

2.3 PREVALENCE

Disordered eating patterns and attitudes are becoming more prevalent, even occurring amongst children (Sue et al., 2006:528). The overall prevalence of AN and BN is on the rise. The lifetime prevalence of AN is approximately 0.3-3.7% mostly occurring in younger adolescents from industrialised countries, including South Africa, that embrace and idealise a thin body type (Schebendach, 2008:564; Gonzalez et al., 2007:614; and Schebendach & Reichart-Anderson, 2004:596). The prevalence of BN, mostly occurring among older adolescents and young women (Hay, 2007:709), ranges between 1.2-4.2% (Gonzalez et al., 2007:614; and Schebendach & Reichart-Anderson, 2004:596).

2.4 DIAGNOSIS

The main characteristics of AN include the refusal to maintain a body weight at or above 85% of expected body weight for age and height; having an intense fear of gaining weight, a body image distortion and in pubescent females the absence of at least three consecutive menstrual cycles (Wilfley et al., 2007:S125; and Schebendach & Reichart-Anderson, 2004: 596). The weight loss is accomplished by either restricting food intake or engaging regularly in binge eating and/or purging behaviour (Sue et al., 2006:531; and Schebendach & Reichart-Anderson, 2004:596). Most anorectics continue to believe they are overweight, when they are clearly emaciated. On the other hand, others may acknowledge that they are thin, but may highlight specific body areas that are “too fat” (Sue et al., 2006:531).

The main characteristics of BN include recurrent episodes of binge eating with inappropriate compensatory behaviour. This behaviour can be classified into purging and non-purging behaviour. Table 1 illustrates the definitions and diagnostic criteria applicable to AN and BN more clearly. Binge eating may be defined as consuming an atypical amount of food in a short period of time, and simultaneously experiencing a loss of control over eating during the episode. The consequence of binge eating is controlled through self-induced vomiting or laxative use, which in turn brings about a sense of relief from the physical discomfort and from the fear of gaining weight (Sue et al., 2006:534; and Schebendach & Reichart-Anderson, 2004:596).

AN and BN may be diagnosed according to the DSM-IV-TR criteria, illustrated in Table 1, which was published by the American Psychiatric Association. However potential sources of diagnostic confusion as illustrated in Table 2, are of concern. Thus, in order to improve the validity of diagnoses, the revision of the diagnostic criteria towards the current development of Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) has been recommended (Wilfley et al., 2007; and Hsu, 2005:72).

Table 1. DSM-IV-TR diagnostic criteria of AN, BN and EDNOS

(Setnick, 2011:7; Schebendach, 2008:565, Box22-1; Gonzalez *et al.*, 2007:615, Table 1 and Table 2; and Sue *et al.*, 2006:529, Figure 16.1)

<p>Anorexia Nervosa</p> <ul style="list-style-type: none"> ▪ The individual refuses to maintain body weight at or above a minimally normal weight for age and height (that is weight loss, or failure to achieve expected weight gain during period of growth leading to body weight less than 85% expected). ▪ The individual has an intense fear of gaining weight or becoming fat, even though she or he is currently underweight ▪ The individual’s body weight or shape is experienced in a disturbed manner, or denies the seriousness of the current low body weight, self evaluation is unreasonably influenced by body shape and weight ▪ The prevalence of amenorrhoea (the absence of at least three consecutive menstrual cycles) in postmenarcheal females ▪ Subtypes include: <ol style="list-style-type: none"> 1. <i>Binge eating/purging type</i>. During the current episode of AN, the individual has regularly engaged in binge eating and/or purging behaviour (self-induced vomiting or the misuse of laxatives, diuretics or enemas) 2. <i>Restricting type</i>. During the current episode of AN, the individual has not regularly engaged in binge eating and/or purging behaviour
<p>Bulimia Nervosa</p> <ul style="list-style-type: none"> ▪ The individual experiences recurrent episodes of binge eating characterised by both of the following: <ol style="list-style-type: none"> 1. Eating, in a discrete period (e.g. within any 2-hr period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances. 2. A sense of lack of control over eating during the binge episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating) ▪ The individual engages in recurrent inappropriate compensatory behaviour in order to prevent weight gain such as self induced vomiting; misuse of laxatives, diuretics, enemas or other medication; fasting; or excessive exercise ▪ Binge eating and inappropriate compensatory behaviours both occur on average, at least twice a week for at least 3 months ▪ Self evaluation is unreasonably influenced by body shape and weight ▪ The disturbance does not occur exclusively during episodes of AN ▪ Subtypes include: <ol style="list-style-type: none"> 1. <i>Purging type</i>. During the current episode of BN, the individual has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics or enemas 2. <i>Non-purging type</i>. During the current episode of BN, the individual has used other compensatory behaviours, such as fasting or excessive exercise, but has not regularly engaged in self induced vomiting or the misuse of laxatives, diuretics or enemas

EDNOS

For eating disorders that do not meet the full criteria for any specific disorder. Examples are given below:

- For females, all the criteria for AN are met, except that the individual has a regular menstrual cycle.
- All the criteria for AN are met except that the individual's current weight is within the normal range, despite weight that is lost.
- All the criteria for BN are met except the frequency of binge eating and inappropriate compensatory behaviour occurs less than twice a week for a period of less than 3 months.
- Individual is of normal body weight, regularly engages in inappropriate compensatory behaviour after eating small amounts of food (e.g. self-induces vomiting after consuming 2 cookies).
- Repeatedly chewing and spitting out, (not swallowing) large amounts of food.
- Binge eating disorder: the occurrence of recurrent binge eating episodes with the absence of a regular use of inappropriate compensatory behaviours characteristic of BN.

Table 2. Potential sources of diagnostic confusion

(Peat et al., 2009:S125; Wilfley et al., 2007:S125; and Hsu, 2005:72)

Anorexia Nervosa
<ul style="list-style-type: none">• The cut off point at 85% of expected body weight is not empirically validated and has been criticised as arbitrary, non-predictive for outcome and insensitive to age, gender, frame size and ethnicity;• No minimum time period for “low weight” maintenance is specified;• Currently the full diagnosis of AN requires amenorrhoea, for 3 months, however this is not applicable to males or prepubescent girls;• “Weight phobia” may not always be present in anorexia nervosa patients who otherwise meet the overall criteria;• How “regularly engaged” is not clearly defined and no cut-off points are offered;• The speculation that the subtypes restrictive and binge-purge are not distinct conditions, relating to the evidence of crossover but that the binge-purge subtype indicates a more severe advanced form of AN; and• What period of time must elapse before the subtype may be considered to have changed.
Bulimia Nervosa
<ul style="list-style-type: none">• Part of the definition of binge eating:<ul style="list-style-type: none">▪ The “short period of time” is not empirically based and the lack of evidence suggesting that the distinction between shorter or longer binge episode has clinical value▪ The “large amount” has been a challenge to put to use and the studies investigating the binge size have yielded conflicting results;• The cut-off points for bingeing and compensatory behaviours occurring at a minimum of twice a week, for three months are not evidence based; and• The compensatory behaviour has been sub-typed to purging and non-purging behaviour. However there is practically no data supporting the validity of the subtypes. Other methods of sub-typing have been recommended, although additional empirical data to determine which method is most valid is required.

Although the current classification system has its limitations, Wilfley et al. (2007:S128) state that it is not likely that it will be replaced by a considerably different system, but rather by the next version of the DSM.

2.5 PATHOPHYSIOLOGY

According to Eckert (2008:195) very little is known about the specific pathophysiology of AN and BN. Consequently the therapeutic approach for treating eating disorders has been borrowed from other disorder approaches (Chavez & Insel, 2007:164). It is generally accepted that the aetiological factors of the eating disorders, AN and BN, include the combination of:

- *Psychological factors* - Body image dissatisfaction; low self esteem; premorbid AN or Obsessive Compulsive Disorder (OCD); childhood sexual abuse;
- *Gender* – parental attitudes; behaviour; comments regarding appearance and eating-disordered mothers;
- *Social and cultural factors* – referring to the shift in cultural standards for beauty; peer pressure; mass media, magazines, television and toys with unrealistic body images; and
- *Biological factors* – including dieting; childhood overweight or obesity (Eckert, 2008:195; Gonzalez et al., 2007:614; and Sue et al., 2006:537).

More specifically, adolescents with AN are commonly perfectionists, high-achievers, often involved in numerous extracurricular activities, have internalising coping styles, obsessive behaviours and often present with co-morbid mood symptoms, most commonly depression, and OCD (Eckert, 2008:195; and Gonzalez et al., 2007:614). Another identified risk factor includes prematurity and smallness for gestational age (Berkman et al., 2007:293). The family situation appears to include conflict avoidance, excessive enmeshment with either parent, or rigid or overprotective parenting (Gonzalez et al., 2007:615).

Specifically to BN, common predisposing factors may include: female gender; western background; at risk occupations such as ballet; a family history of an eating disorder including obesity or mood disorder; low self-esteem; perfectionism; self and familial dieting; and early menarche. Most common co-morbidities include depression, anxiety disorders for example OCD, substance abuse (drugs and alcohol) or sexual promiscuity. Other mood disorders and impulse control disorders such as acting out behaviour, including stealing and bullying, may also occur (Eckert, 2008:196; Hay, 2007:711 and Gonzalez et al., 2007:615).

According to the National Institute of Mental Health (NIMH), research efforts are driven by the need to identify the underlying pathophysiology of eating disorders. The lack of identification consequently limits appropriate treatment intervention significantly. Recently, however, mental disorders, including eating disorders, have been presumed to be a brain disorder. This recognition may possibly present with opportunities to approach the pathophysiology of eating disorders with tools of modern neuroscience and observational and behavioural tools of psychology. In addition, the current revolution in genomics may present research opportunities at the level of genes, cells, systems and behaviour. This may lead to a greater understanding of the pathophysiology of eating disorders, which is critical for developing effective treatments and preventative strategies (Chavez & Insel, 2007:164).

2.6 DISTINGUISHING FEATURES

According to Eckert (2008:201); Gonzalez *et al.* (2007:615); and Sue *et al.* (2006:531), common distinguishing features of AN include:

- It begins with a simple diet in response to real or imagined overweight;
- A sudden altered relationship to food and social isolation develops;
- Deranged eating behaviours: skipping meals; hiding of food; reduced portion size or leaving food on plate when normal portion sizes are dished; cutting food into tiny pieces and playing with food on the plate;
- The anorectic is usually unaware of her extreme thinness, and continues to feel fat, thus loses more weight; AN sufferers may deny the extreme emaciation and its abnormality;
- Most anorexics think constantly about food, collect recipes or engage in food preparation for others;
- When and if anorectics overeat, some will vomit, use laxatives or engage in strenuous exercise to control their weight; and
- Menses cessation may be observed.

According to Eckert (2008:202); Hay (2007:709); Gonzalez et al. (2007:615); and Sue et al. (2006:534), common distinguishing features of BN include:

- The weight fluctuation without necessarily being underweight;
- The disordered eating behaviour is usually secretive, however parents may become suspect, when food “disappears”;
- The tendency to restrict food intake during the day, and bingeing takes place during the afternoon, or evening;
- The Bulimics ability to identify “safe” and “unsafe” foods that may and may not result in a binge. Unsafe foods usually include most high energy and fatty foods;
- The commitment to excessive exercising, restrictive dieting, or fasting may be observed, with the non-purging type;
- Those who induce vomiting, may complain of epigastric pain, and enamel erosion or sensitivity to hot and cold foods may be observed; and
- Menses is usually not absent, but may be irregular.

2.7 PHYSICAL AND MEDICAL COMPLICATIONS

Common physical and medical complications observed in AN and BN are listed in Table 3. Patients with AN, accompanied by the severe weight loss, may present with cardiac arrhythmias, low blood pressure and bradycardia (Eckert, 2008:203; and Sue et al., 2006:532). The heart may also be damaged and weakened, as the body may use it as a protein source during starvation. They may be lethargic, have electrolyte imbalances, dry skin, brittle hair, lanugo, hypertrophy of the parotid glands (from purging) and experience hypothermia. Amenorrhoea associated with low weight is also present. Irreversible osteoporosis, vertebra contraction or stress fractures may additionally present as complications. Prepubertal patients may experience growth arrest and stunting (Eckert, 2008:203; Gonzalez et al., 2007:615-616; Hay, 2007:616; and Sue et al., 2006:532). The gastric complications listed in Table 3 for AN occur secondary to starvation (Schebendach, 2008:569).

Table 3. Common physical and medical complications of Anorexia and Bulimia Nervosa

(Setnick, 2011:56-63, 101-102; Eckert, 2008:204; Schebendach, 2008:570; and Gonzalez *et al.*, 2007:616-617)

Category	AN	BN
Haematologic	Leukopenia (↓ White blood cells) Thrombocytopenia Bone marrow hypocellularity ↓ Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels Mild anaemia ↓ Albumin (malnutrition)	
Renal	↑ Blood urea nitrogen (BUN) – dehydration ↓ Glomerular filtration rate (GFR) Ketonuria	↑ BUN – dehydration Ketonuria
Metabolism	Hypercholesterolemia ↑ carotene, vitamin B12 ↓ plasma zinc ↑ serum ferritin (consistent with the reduction of intravascular space and sequestration of iron from red cells into storage)	
Gastrointestinal	Delayed gastric emptying Intestinal atony ↓ gastric secretion Abnormal liver function tests Gallstones Pancreatitis Constipation	Delayed gastric emptying Intestinal atony Salivary gland swelling ↑ Amylase Gallstones Pancreatitis Constipation
Cardiovascular	Arrhythmia, bradycardia Altered circulatory dynamics Hypotension Oedema	Hypokalemic related changes Dysrhythmia Hypotension
Dental	Dental caries Enamel erosion	Dental caries Enamel erosion Oesophageal tears/ruptures

Skeletal	Demineralisation Stress fractures Delayed bone age	
Fluid and electrolyte	Dehydration Alkalosis Hypochloremia Hypokalaemia	Dehydration Alkalosis Hypochloremia Hypokalaemia
Central Nervous System (CNS)	Non specific Electroencephalogram (EEG) CT/MRI: Enlarged ventricles ↓ gray and white matter Seizures Changes in blood flow (peripheral neuropathy)	Non specific (EEG) CT/MRI: ↓ cerebral blood flow Seizures
Gonadal steroids	↓ Follicle-stimulating hormone (FSH) and LH Impaired response to Luteinising hormone-releasing hormone (LHRH) Immature LH pattern ↓ urinary gonadotropins ↓ urinary oestrogens Abnormal oestrogen metabolism	May be hypo-oestrogenic
Thyroid	↓ T ₃ levels (related to the hypothalamic-pituitary-gonadal axis hormones, which are suppressed with low oestrogen, LH and FSH, which in turn reflects the body's response to conserve energy by reducing basal metabolic rate. ↑ rT ₃ levels Impaired thyrotropin releasing hormone (TRH) responsiveness	Impaired TRH responsiveness
Growth Hormone	↑ Basal growth hormone level Growth retardation and short stature	Pathological responsiveness to provocative stimuli
Glucose	Abnormal glucose tolerance test Fasting hypoglycaemia	
Adrenal	↑ cortisol Altered cortisol metabolism and secretion Dexamethasone test positive	Dexamethasone test positive

These physical and medical complications mostly occur secondary to the compromised nutritional state (protein energy malnutrition) and abnormal eating habits (Eckert, 2008:203; and Gonzalez et al., 2007:616). Most complications, except the possible reduced bone density, may resolve with weight restoration, improved eating habits and nutrition. However, some patients do not regain their menses with weight gain, which may be possibly associated with an immature luteinising hormone (LH) pattern that does not return to normal (Eckert, 2008:203).

BN patients appear to be less medically compromised, considering the list of common physical and medical complications observed in patients with AN and BN as can be seen in Table 3.. Regarding the inappropriate compensatory behaviours, vomiting may cause tooth enamel erosion, swollen parotid glands (causing a puffy face), and calluses over the knuckles (Russell's sign). Vomiting may also result in dehydration (electrolyte abnormalities), in particular lowered potassium levels (hypokalaemia), which may weaken the heart, cause arrhythmia and cardiac arrest. The most common presentation is alkalosis manifested by elevated blood levels of bicarbonate, which is sometimes accompanied by hypokalaemia and hypochloremia. In addition raised serum amylase is observed. Oligomenorrhoea is present. Laxative abuse may lead to dehydration, increased levels of serum aldosterone and vasopressin, rectal bleeding, intestinal atony, and abdominal cramps. Less common, gastro-intestinal disturbances that may occur include: oesophagitis, and gastric and rectal irritation (Eckert, 2008:203; Schebendach, 2008:570; Gonzalez et al., 2007:615-616; Hay, 2007:616; and Sue et al., 2006:532).

2.8 TREATMENT

In this section related to treatment the goals of treatment such as weight restoration, the normalisation of attitude and eating patterns, the correction of complications and co-morbidities and weight maintenance are discussed. In addition, treatment interventions including the role of the dietician, pharmacological and psychosocial (Cognitive Behavioural Therapy, Interpersonal Therapy and Motivational Interviewing) interventions and self-help are discussed.

2.8.1 TREATMENT GOALS

The management of patients with eating disorders is best performed by a multidisciplinary team including a dietician, physician and psychotherapist experienced in this particular field (Schebendach & Reichart-Anderson, 2004:547). The treatment needs differ from person to person and the course of the illness may even change over time, thus the treatment goals should be clearly formulated and revised (Hsu, 2005:75).

2.8.1.1 WEIGHT RESTORATION

Restoration of weight is an essential goal, particularly when treating an emaciated patient. Improving the patient's nutritional status is not only lifesaving but may also improve the co-morbid mental state (Hsu, 2005:75). A structured diet, gradually increasing energy intake to avoid stomach dilatation and circulation overload, should be prescribed (Eckert, 2008:205). Lund *et al.* (2009:304) report that rates of 0.8 kilogram (kg) or more weight gain per week is significantly associated with a lower likelihood of experiencing a clinical worsening in eating disorder symptoms. In addition, Lund *et al.* (2009:305) also report that the rate of weight gain is comparable to the American Psychiatric Association guideline of 0.9-1.4 kg per week. Even though no causal relationship is exerted, a lower rate of weight gain may be used as a marker to identify patients at risk of poor outcome.

For BN patients, the focus is weight stabilisation and the need for encouragement to maintain an appropriate weight (Schebendach & Reichart-Anderson, 2004:610).

However overall weight gain or loss during the recovery process does not follow a particular pattern. It is unpredictable and can be very frustrating for the patient, family and therapist. It is important to consider that body weight changes are also a consequence of eating over time and moving towards recovery requires more focus on healthy eating with less emphasis on the weight fluctuation (Setnick, 2011:155-156).

2.8.1.2 NORMALISATION OF ATTITUDE

In collaboration with the restoration of the patient's nutritional status, it is essential to address the patient's persistent drive for thinness, lack of confidence, misguided strive for individuality and specialness and to help individuals with BN to gain a sense of self control and enable them to modify eating when needed without experiencing intense feelings of guilt or wrongdoing. In addition, treatment should focus on enabling individuals to separate feelings of self-worth from nutritional intake (Setnick, 2011:105; Sue et al., 2006:547; and Hsu, 2005:75).

According to Hsu (2005:78), the goals of therapy for AN that the therapist should ascertain include:

- Helping the patient get in touch with their own feelings and emotions; to identify and articulate them;
- Identify dysfunctional thought patterns, usually expressed as fear of gaining weight or fat and guilt regarding eating food; and
- To assist the patient to solve problems, thus enabling the patient to decide what action to take when experiencing the feeling of disagreement and indecisiveness.

2.8.1.3 NORMALISATION OF EATING PATTERN

Healthy eating is the foundation of eating disorder recovery (Setnick, 2011:105). The eating pattern should be assessed regarding variety, balance and nutritional adequacy. By recommending an increase in variety and amount of food eaten, the rigidity and painful restriction of "safe" foods set by the anorexic patient, can be reduced. With regards to the BN patient, the goal is to replace the dysfunctional eating or dieting with a regular, flexible eating pattern consisting of three balanced meals and snacks daily (Wilson et al., 2007:204; Sue et al., 2006:547; and Hsu, 2005:76).

2.8.1.4 CORRECTION OF COMPLICATIONS AND CO-MORBIDITIES

Physical complications to be rectified may include: dehydration, hypokalaemia, gastrointestinal problems and osteoporosis. In addition, the co-morbidities to be addressed may include depression, anxiety or obsessive-compulsive symptoms (Sue et al., 2006:547; and Hsu, 2005:76).

2.8.1.5 WEIGHT MAINTENANCE

A challenging and major goal of continuation treatment is maintaining the appropriate weight that the patient has gained. Patients are individuals and treatment goals may necessitate modification. In some AN patients, an attempt to restore weight may precipitate depression, and even suicide. Thus, clinical expertise and insight is required to help patients to adapt (Hsu, 2005:76).

For BN patients, maintaining a stable weight can be achieved by following a weight-maintenance eating pattern. Attempts to lose weight may significantly increase their risk of disordered eating behaviour. Therefore they need encouragement to follow a weight maintenance regimen instead of a weight loss regimen (Schebendach & Reichart-Anderson, 2004:610).

2.8.2 TREATMENT INTERVENTIONS

The literature for treatment intervention for AN and BN is limited, due to the many obstacles, including: low base rate, low population prevalence in a single location, patient non-compliance, high drop-out rates, research methodology, and design limitations etc. that hinder the development and implementation of treatments (Chavez & Insel, 2007:161). Even the most effective intervention for BN fails to help a large number of patients (Wilson et al., 2007:199). Thus large, collaborative, multisite randomised clinical trials are needed to address these obstacles, which in turn may facilitate the development of new approaches or enable the assessment of the effectiveness of standard approaches within the clinical setting (Chavez & Insel, 2007:161).

2.8.2.1 THE ROLE OF THE DIETICIAN

A dietician is an integral team member of the competent and experienced group of clinicians who are to implement a practical and reasonable intervention. Nutritional rehabilitation should include a nutritional assessment, diet therapy and nutrition education. Refer to Table 4 for relevant nutrition education topics (Schebendach, 2008:584).

Table 4. Topics for nutrition education relating to nutritional rehabilitation

(Setnick, 2011:148-149; and Schebendach, 2008:584, Box 22-9)

1. The impact of malnutrition on growth and development
2. The impact of malnutrition on behaviour
3. Set-point theory
4. Metabolic adaptation to dieting
5. Restrained eating and loss of control
6. Causes of bingeing and purging
7. What does weight gain mean?
 - a. Glycogen storage
 - b. Fluid balance
 - c. Lean body mass
 - d. Adipose tissue
8. The impact of exercise on energy expenditure
9. The ineffectiveness of self-induced vomiting, laxatives, and diuretics in long term weight control
10. Portion control focusing on adequacy and moderation
11. Food exchange system
12. Social and holiday dining
13. Food Guide Pyramid including balance and variety
14. Nutrient density
15. Hunger and satiety cues
16. Interpreting food labels
17. Nutrition misinformation (educating individuals that foods are not inherently good or bad)

A dietician should determine the target weight and weekly weight gain “goal” for AN patients, and educate patients regarding the importance of a healthy body weight and bone mass. The dietician determines the initial refeeding regime (with gradual increments) including the energy prescription (possible including tube feeding and nutritional supplements) and the distribution of macronutrients. Patients express multiple food aversions, most commonly of fat, thus hidden sources of fat are usually tolerated better. In addition, the dietician should monitor meals eaten, weight gain, and provide continual support and encouragement to assist patients to get through the difficult times and setback (Sue et al., 2006:547; and Schebendach & Reichart-Anderson, 2004:609).

The primary goal for BN is weight stabilisation. It is essential to avoid weight loss diets, until the eating patterns and weight have stabilised. The dietician must provide an energy prescribed weight maintenance regimen and the patient needs continual encouragement to maintain weight instead of attempting to lose weight. The weight maintenance regimen should consist of a balance of macronutrients, sufficient carbohydrate to prevent cravings, and sufficient protein and fat to promote satiety. In addition, eating three balanced meals and snacks a day may break up the pattern of disordered eating (Sue et al., 2006:547; and Schebendach & Reichart-Anderson, 2004:610).

Adequacy of micronutrients and variety for both AN and BN patients should be determined, and if adequacy is not met, a multivitamin-mineral supplement may be prescribed initially (Schebendach & Reichart-Anderson, 2004:610).

It is essential that the dietician educates the family regarding the disorder and works in collaboration with the family to determine appropriate meal plans for weight gain and maintenance (Eckert, 2008:205; and Hsu, 2005:77).

Additionally, the dietician should discuss the details regarding food preparation focusing on topics such as “who will do the cooking and the way the food is prepared” and which mealtimes are eaten together. Once the patient’s weight has stabilised, and is eating satisfactory, family sessions should focus more on general topics, thoughts, feelings and conflict resolution and thus move attention away from food and weight issues (Hsu, 2005:79).

2.8.2.2 PHARMACOLOGICAL INTERVENTION

Medication used to treat AN and BN include antidepressants, antipsychotics, opiate antagonists and mood stabilisers and antidepressants, antiemetics and anticonvulsants respectively. Presently, no medication has been established to be clearly effective for restoring weight during the acute phases of AN, and results are mixed regarding the effectiveness of medication to prevent relapse in weight-restored AN patients (Chavez & Insel, 2007:160). Extensive research demonstrates that, Fluoxetine, an antidepressant, does not demonstrate any benefit in the treatment of patients with AN (Walsh et al., 2006:2605). In contrast, it appears to be effective in treating BN, by reducing the frequency of bingeing and purging behaviour, the rate of short-term relapse and by improving eating-related attitudes. Some literature demonstrates that pharmacological intervention may reduce co-morbidities related to AN, whereas Fluoxetine demonstrates mixed results for treating the anxiety and depression in BN patients (Chavez & Insel, 2007:161-162).

2.8.2.3 PSYCHOSOCIAL INTERVENTIONS

Individual psychotherapy should aim at correcting cognitive errors of thinking, promoting independence, accepting responsibility, improving psychosocial skill shortcomings, and promoting a positive self-concept (Eckert, 2008:206). Of the various psychotherapies used to treat adolescent AN, family-based interventions have been demonstrated to be most effective in leading to meaningful weight gain and improvements in eating and mood disorders, but it is still premature to conclude that it is the ideal treatment for adolescents (Chavez & Insel, 2007:161; and Hsu, 2005:79). Other approaches may include Cognitive Behavioural Therapy and Interpersonal Therapy where Cognitive Behavioural Therapy appears to demonstrate a reduced risk of relapse amongst adults post hospitalisation. Nevertheless, there has been no single psychotherapeutic intervention demonstrating a clear improvement for treating adults with AN (Chavez & Insel, 2007:161).

Cognitive Behavioural Therapy is based on the belief that behaviours are caused by feelings, which in turn are caused by thoughts. Therefore Cognitive Behavioural Therapy can help patients recognise that eating disorders are associated with thoughts about food and not by food itself (Setnick, 2011:173-174). Cognitive Behavioural Therapy, tailored specifically for treating BN, has repeatedly been shown to be effective or the treatment of choice for BN (Eckert, 2008:206; Chavez & Insel, 2007:162; and Wilson *et al.*, 2007:204). Cognitive Behavioural Therapy is designed to enhance BN patient's motivation for change and focuses on restructuring the maladaptive behaviours and associated thinking that encourages and maintains the disorder. Therefore Cognitive Behavioural Therapy attempts to reduce the unnecessary concern with body shape and weight and prevent relapse (Eckert, 2008:206; and Wilson *et al.*, 2007:204). Cognitive Behavioural Therapy demonstrates the most clinical efficacy in reducing many primary features such as binge eating, purging, and other attitude related changes associated with BN. Some studies have reported an added benefit of the combined intervention including Cognitive Behavioural Therapy and fluoxetine (Chavez & Insel, 2007:162).

Interpersonal Therapy shows promise as a treatment alternative, but takes longer to bring about symptom change than Cognitive Behavioural Therapy (Treasure *et al.*, 2010:588). However, many BN patients do not respond to these treatments, thus indicating the need for individualised care intervention (Chavez & Insel, 2007:162).

In general, the success of many counselling techniques is dependent on the willingness of the patient to recover or change. Motivational Interviewing is a counselling technique that uses the stages of change model illustrated in Table 5 as an intervention for the management of eating disorders. The technique assesses the patient's level of motivation to change and helps him or her make the shift from the precontemplative, contemplative and preparation stages to the action stage (Setnick, 2011:169). When compared to AN patients, BN patients are generally more receptive and less resistant to nutrition counselling and are less likely to appear in the precontemplation stage of change (Schebendach, 2008:581-582). During the process of recovery, the patient is also required to develop coping skills in order to change the disordered eating pattern to a healthy eating pattern and to manage the stress of recovery itself (Setnick, 2011:172-173).

Table 5. Counseling strategies: stages of change

(Schebendach, 2008:581-582)

Stages of change	Counseling strategies
Precontemplation	<ul style="list-style-type: none"> • Establish rapport • Assess nutrition knowledge, beliefs and attitudes • Review food likes/dislikes, safe/unsafe foods, forbidden foods and reasons therefore, binge/purge foods • Assess anthropometric, physical, and metabolic status • Assess level of motivation • Assess the costs and benefits of current status versus (vs) the costs and benefits of change
Contemplation	<ul style="list-style-type: none"> • Identify and prioritise behaviours to change • Identify possible barriers to change • Identify coping mechanisms • Identify support structure • Introduce and discuss self-monitoring tools: foods and behaviour records • Continue the motivational interviewing technique (express empathy; develop discrepancy; roll with resistance; and support self-efficacy)
Preparation	<ul style="list-style-type: none"> • Implement nutrition focused Cognitive Behavioural Therapy • Implement the food and behaviour records • Determine possible alternate behaviours to inappropriate compensatory behaviour
Action	<ul style="list-style-type: none"> • Develop a healthy eating plan • Reinforce positive decision making, self-confidence and self-efficacy • Encourage positive self-rewarding behaviours • Develop strategies to cope with impulsive behaviours, high risk circumstances and “slip-ups” • Continue Cognitive Behavioural Therapy and self-monitoring
Maintenance/relapse	<ul style="list-style-type: none"> • Manage high risk circumstances • Continue the encouragement of positive self-rewarding behaviours • Reinforce coping skills and impulse control techniques • Reinforce relapse prevention techniques • Identify and schedule follow-up sessions needed for maintenance or for reinforcement of positive changes made in eating behaviour and nutritional status

2.8.2.4 SELF-HELP

Self-help approaches, e.g. books about weight and eating problems, have become increasingly popular and appear to be of use as a first step approach (Hay, 2007:711). Self-help interventions based on Cognitive Behavioural Therapy guidelines provide possible ways of spreading this treatment approach more broadly. Guided self-help is a combination of a self-help manual and brief therapy sessions administered by health care providers at various levels of expertise. Studies of self-help have reported mixed results, however such intervention has appeared to be effective with a subset of BN patients (Wilson et al., 2007:207).

However overall, pure self-help approaches are less effective than guided self-help or full therapy with a trained therapist. Self-help approaches are useful for an initial approach, especially in areas where access to a therapist is limited. It appears that patients prefer having contact with a therapist even if the therapist is at the end of the telephone line or video conference call (Hay, 2007:711).

2.9 CONCLUSION

In conclusion, due to the poor prognosis of patients with eating disorders and serious complications of these conditions, the high rate of crossover and the poor outcome of patients with AN and BN, requires additional research. This will further assist in determining the aetiological factors, which in turn will be informative for the development of effective individualised intervention programmes. In addition, risk factors predisposing to relapse and “so called” recovering AN patients to crossover within AN subtypes or to full blown BN and *vice versa* will provide important information for the design and development of intervention programmes aimed at preventing crossover and relapse.

CHAPTER 3: METHODOLOGY

3.1 INTRODUCTION

A description of the methods and techniques applied in the study are discussed in chapter three. Firstly the study design and sample selection including the participant inclusion criteria and the means of recruitment (advertisement) are described. Secondly the measurements including the operational definitions, the techniques used to obtain information, the procedures, and the validity and reliability of the techniques are discussed. Thirdly a summary of the pilot study is included. To conclude chapter three, a description of the statistical analysis and the ethical considerations are discussed.

3.2 STUDY DESIGN

A descriptive cross sectional study was conducted.

3.3 SAMPLE RECRUITMENT AND SELECTION

Due to the lower occurrence rate of eating disorders amongst males, only females were included for the purpose of this study. Females, between the ages 18-30 years (young adults), previously or currently diagnosed according to the DSM-IV-TR diagnostic criteria (See Table 1) with AN or BN were recruited from the student population of the University of the Free State and from in- and out-patients treated at Bloemcare Psychiatric Clinic. The age group selected would allow for currently and previously diagnosed females to be included in the study due to the commencement of eating disorders also during the adolescent years. The recruitment of participants at the University took place by advertising in the residences, in the town hostel gazettes and at Kopsie Health. The recruitment of participants at Bloemcare Psychiatric Clinic took place by means of an advertisement placed in the wards and consulting rooms. In addition psychiatrists and nursing staff assisted with the recruitment process by informing prospective patients regarding the research study. In addition, to increase the response rate, willing participants were entered into a lucky draw to win an iPod.

Nine participants were included in the study. This number of participants was obtained as a result of practical reasons that included a low level of willingness to participate in a study of this nature, the time available to complete the study, and the lengthy time taken to complete each questionnaire during the interview. Due to the relatively intensive interviews conducted and the descriptive nature of the study, this number was considered sufficient for a mini-dissertation.

3.3.1 INCLUSION CRITERIA

Females, 18 years or older, previously or currently diagnosed by a medical practitioner according to the DSM-IV-TR diagnostic criteria (See Table 1) with AN and BN, who gave informed consent to participate, were included in the study.

3.3.2 ADVERTISEMENT

<p>We are recruiting females, 18 years or older who have been previously or are currently diagnosed by a medical practitioner with</p> <p style="text-align: center;">Anorexia Nervosa OR Bulimia Nervosa</p> <p>to participate in a study conducted by the University of the Free State.</p> <p>A questionnaire will be completed during a once-off, one-to-one interview, which will take place at Kowsie Health, University of the Free State (UFS).</p> <p>Confidentiality will be maintained at all times.</p> <p>All participants will be entered into a Lucky Draw to win an iPod.</p> <p>For more information please email me at: donnavanzyl@yahoo.com OR Send a text message to: +27827808087</p>	<p>Ons is op soek na vrouens, 18 jaar of ouer, wat voorheen of tans deur 'n mediese dokter gediagnoseer is met</p> <p style="text-align: center;">Anorexia Nervosa OF Bulimia Nervosa</p> <p>om deel te neem aan 'n studie deur die Universiteit van die Vrystaat.</p> <p>'n Vraelys sal voltooi word tydens 'n eenmalige een-tot-een onderhoud wat sal plaasvind by Kowsie Gesondheid, Universiteit van die Vrystaat (UV).</p> <p>Vertroulikheid sal ten alle tye gehandhaaf word.</p> <p>Alle deelnemers sal in 'n Gelukstrekking ingesluit word om 'n iPod te wen.</p> <p>Vir meer inligting kontak my by: donnavanzyl@yahoo.com OF Stuur 'n SMS-boodskap na: +27827808087</p>
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3.4 MEASUREMENTS

3.4.1 OPERATIONAL DEFINITIONS

- **BMI** refers to weight (kg) divided by height in metres squared (m^2). The calculated BMI value is categorised as either underweight (BMI <18.5 kg/m^2); normal weight (BMI 18.5-24.9 kg/m^2); overweight (BMI 25-29.9 kg/m^2); or obese (BMI ≥ 30 kg/m^2) (DeBusk, 2008:400-401).
- **Behaviour related to crossover** can be defined as the interchange between conditions; or the movement from AN to BN (Eddy *et al.*, 2008:245), either from ANR type to ANBP or BN; from ANBP type to BN; or from BN to AN. The eating disorders are defined and diagnosed according to the DSM-IV-TR (See Table 1). This definition of crossover was used for the purpose of this study.
- **Weight-restored AN** – restrictive or purging type: for the purpose of this study, weight-restored AN was defined as: “having gained optimum weight to the BMI level of 18.5 kg/m^2 or to a goal weight as prescribed by multidisciplinary team members” (Hsu, 2005:77).
- **AN and BN** were defined and diagnosed according to the DSM-IV-TR criteria (See Table 1).

3.4.2 TECHNIQUE

3.4.2.1 QUESTIONNAIRE

Questionnaires (Q), either Q1 or Q2 (See Appendix E) designed (based on available literature, see Table 6, page 46) by the researcher were used as the measurement tool. Q1 was implemented during the semi-structured, one-to-one interview conducted by the researcher with participants diagnosed with AN and Q2 with participants diagnosed with BN. The questionnaires include both closed-ended questions e.g. Yes, Sometimes and No, and open-ended questions, enabling the participants to fully express themselves.

The questionnaires were designed to collect descriptive quantitative information in the words of each participant.

According to Perkin (2006:214) a structured interview with participants offers the following advantages:

- Flexibility and the ability to repeat or probe questions;
- Higher response rate;
- The ability to control and standardise the environment and question order;
- The ability to record the participant's first response;
- The assurance that the designated participant answers the questions; and
- The enhanced ability to ensure all questions are answered.

The questionnaires were developed by the researcher (no such questionnaires are available) based on concepts that are considered important in the literature related to the topic.

3.4.2.2 ANTHROPOMETRIC MEASUREMENTS

(i) Weight

Body weight was determined according to the technique described by Lee and Nieman (2007:173). A platform electronic scale was used.

The steps taken to obtain an accurate weight value included:

- Removing all excess clothing including jackets, shoes and jewelry;
- Ensuring that the participant stood still in the middle of the scale's platform with body weight equally distributed on both feet and hands placed next to sides; and
- Recording weight to the nearest 100g (Lee & Nieman, 2007:173).

(ii) Height

Height was determined by means of a stadiometer.

The steps taken to obtain an accurate height value included:

- Removing all excess clothing including jackets, shoes and jewelry;
- Ensuring that participants stood with heels together, arms to the side, legs straight, shoulders relaxed, and head in the Frankfort horizontal plane position (“look straight ahead”). Heels, buttocks, scapulae (shoulder blades), and back of the head were against the vertical surface of the stadiometer;
- Ensuring that the participant inhaled deeply just before the measurement was taken, held her breath, and maintained an erect posture (“stand up tall”) whilst the researcher lowered the head-board to the highest point of the head with enough pressure to compress the hair; and
- Reading each measurement to the nearest 0.1 centimetre (cm) (Lee & Nieman, 2007:171-172).

3.4.3 DATA COLLECTION PROCEDURES

Step 1

Prior to commencement of the study, approval was obtained from the:

- Research Evaluation Committee of the School of Allied Health Professionals.
- Ethics Committee of the University of the Free State;
- Vice Rector Academic Planning (See Appendix C1) and Dean: Student Services of the University of the Free State (See Appendix C2); and
- Supervisor at Bloemcare Clinic (See Appendix C3).

Step 2

Advertisements were placed and once participants were recruited an information document (See Appendix A) containing information regarding the purpose and necessary details of the study was given to each participant (some via e-mail). Participants were given the opportunity to ask the researcher additional questions regarding the nature of the study.

Thereafter if participants were willing to participate the following took place:

- An appointment was scheduled between the participant and the researcher via e-mail or telephone. The meeting (semi-structured interview) took place at Kopsie Health, UFS in a private room, or in the case of in-patients, the appointment was arranged at Bloemcare in a private room. During this meeting any questions related to the study could be asked before informed consent (Appendix B) was obtained in the language of choice.

Step 3

Firstly anthropometric measurements were taken and noted according to the procedure described. The researcher then commenced with a semi-structured one-to-one interview in English or Afrikaans in the private room. The appropriate questionnaire (either Q1 or Q2 depending on the diagnosis) (Appendix E) was completed. Only sections relevant to the participant's diagnosis were completed and those that were not relevant were left open. Each questionnaire had its own unique number, which was used for data analysis. A list of participants and their e-mail address was kept separately by the researcher and treated confidentially. Refreshments were available for participants (water and tea or coffee).

Step 4

Once the questionnaire was completed, it was inserted into an envelope and stored in a safe place until coding was completed by the researcher. The responses to the questionnaires were coded accordingly and data was analysed by the Department of Biostatistics, UFS.

Step 5

Willing participants were entered into a lucky draw to win an iPod. The lucky draw took place after the completion of the study. The participants were then notified by email or sms whether they had won the iPod.

3.4.4 VALIDITY AND RELIABILITY

According to Leedy and Ormrod (2005:31) the validity of a measurement tool can be defined as the extent to which the tool measures what is supposed to be measured. Validity of a questionnaire can also be defined as the ability of a question to measure specified concepts appropriately (Perkin, 2006:211; and Joubert & Ehrlich , 2007:117).

Reliability measures look at the consistency of information generated (Perkin, 2006:223), when the entity being measured has not changed (Leedy & Ormrod, 2005:99). Reliability of a questionnaire can thus be defined as how consistently the questions perform (Perkin, 2006:211; and Joubert & Ehrlich, 2007:117).

3.4.4.1 Validity and Reliability of the Questionnaire

According to Perkin (2006:223) questionnaires are usually evaluated in terms of their validity, however they may also be evaluated in terms of their reliability.

In order to ensure validity, the researcher designed the questionnaires based on current literature, and the objectives of the study. Refer to Table 6 for resources consulted for the development of the questionnaires. Evidence from scientific articles as accessed via Pubmed, Science Direct, Medline, Google Scholar and CINAHL were used to ensure that all available literature was consulted before the questionnaire was compiled.

Table 6. Resources consulted for the development of the questionnaires

Category	Sub-category	Available literature leading to the development of questions	Resources consulted
Diagnosis of eating disorders	AN BN EDNOS Other	<ul style="list-style-type: none"> • Type: Restrictive, binge-purge or binge and non-purging • Duration 	American Psychiatric Association Diagnostic Criteria in Schebendach (2008:572-573)
Treatment	Psychiatric, psychological, spiritual, nutritional, counselling and/or other Hospitalisation	<ul style="list-style-type: none"> • Type receiving/received • In-, out- or day-patient treatment 	Setnick (2011:200, 202-203); and Schebendach (2008:573)
Inappropriate compensatory behaviour	Self-induced vomiting, laxative use, diuretic use, fasting, exercise, fat burners, appetite suppressants, and/or other Feelings associated with inappropriate compensatory behaviour	<ul style="list-style-type: none"> • Type engaged in • Frequency per day/week/month • A description of the feelings associated with inappropriate compensatory behaviour 	Setnick (2011:38-39, 159-162); and Schebendach (2008:573)
Anthropometry and weight history	Weight Height	<ul style="list-style-type: none"> • Lowest weight • Highest weight • Goal weight • Weight at which the participant feels comfortable • Height • BMI is calculated for current weight and weight at which the participant feels most comfortable 	Schebendach (2008:573)
Body image	Weight preoccupation	<ul style="list-style-type: none"> • Duration • Existence of current weight preoccupation • Fear of weight gain 	Setnick (2011:102-103); and Schebendach (2008:573)

<p>Food preoccupation</p>	<p>Eating attitudes</p>	<ul style="list-style-type: none"> • Existence of food aversions; safe, risky or forbidden foods; • “Good” or “bad” days or situations that may trigger inappropriate compensatory behaviours; • The fear of foods or dysfunctional thoughts regarding food or food experiences; • Refusal of food due to the fear of purging; • Irrational beliefs regarding the responsibility of food and weight gain; • Mistaken ideas on appropriate amounts of food; • Miscellaneous such as excessive chewing gum or condiment use; • Binge trigger foods; and • Energy content of binge foods; 	<p>Setnick (2011:32-33, 42-43, 95, 101-103, 115, 160-162); and Schebendach (2008:575)</p>
	<p>Eating behaviours</p>	<ul style="list-style-type: none"> • Ritualistic behaviours; • Unusual food combinations; • Restriction or refusal of specific food especially energy-dense food; • Avoiding energy-containing beverages; • Atypical seasoning of foods; • Excessive or atypical use of non-energy containing artificial sweeteners; and 	

	Eating habits	<ul style="list-style-type: none"> • Avoidance of social events where food is generally served. • Intake pattern (number of meals or snacks consumed per day, time of day that the meals and snacks are consumed); • Eating environment such as where or with whom and how; • Avoidance of particular food groups; • Variety of foods consumed; and • Amount of fluid /caffeine intake. 	
Medication or supplement use	E.g. depression, anxiety disorders, insomnia, irritability	<ul style="list-style-type: none"> • Prescribed and/or over the counter 	Setnick (2011:131-140)

The researcher is a qualified **registered** dietician and thus is trained to implement a questionnaire in a semi-structured interview. Initially, rapport was established with each participant which encouraged the participants to feel at ease. To enhance reliability, the questions included were simple, short and to the point, which promoted concentration, interest and a clear understanding of the questions asked.

3.4.4.2 Validity and Reliability of Anthropometric measurements

In order to ensure validity of the results, the scale and stadiometer used to determine weight and height respectively, were calibrated before each measurement. To promote the validity of the weight measurement, the scale was calibrated periodically using a known weight (Joubert & Ehrlich, 2007:119). In addition, to ensure validity of the results, weight and height were measured according to standard procedures as recommended by Lee and Nieman (2003:65).

In order to ensure reliability of the results, weight and height were measured by the same trained researcher according to the standard procedures. In addition, each weight and height measurement was taken twice and the average of the two measurements was noted on the questionnaire, therefore ensuring reliability of the results.

3.5 PILOT STUDY

The pilot study was conducted prior to the commencement of the main study on three participants that met the same inclusion criteria as that of the main study. The designed questionnaires were implemented during a pilot study, which enabled the researcher to determine if the participants understood and interpreted the questions as intended. In addition, the researcher could determine how long it took to complete the questionnaires and whether participants experienced any difficulties answering the questions. The pilot study also addresses face-related evidence validity of the questionnaires developed. The completed questionnaires were only included in the main study if no significant changes (e.g. editing) were made. Since no changes were made after the pilot, the results of these three participants were included in the main study.

3.6 STATISTICAL ANALYSIS

The results were coded by the researcher according to pre-established codes. Descriptive statistics namely, frequencies and percentages for categorical data and medians and percentiles for continuous data, were calculated. The analysis was done by the Department of Biostatistics at the University of the Free State.

3.7 ETHICAL CONSIDERATIONS

Approval to conduct the study was obtained from the Ethics Committee of the Faculty of Health Sciences (ETOVS 40/2011). The objectives and procedures of the study were explained to each participant by means of an information document (Appendix A) that was e-mailed to the participant before consenting to participate. After the participant read the information document and agreed to participate, an appointment was made to meet with the researcher. Prior to obtaining informed consent, any questions that participants had, were discussed and clarified by the researcher. Once the participant was fully informed, the participant signed the consent form (Appendix B). Both the information document and consent form were available in English and Afrikaans.

No names were made known or written on the questionnaires. A number was allocated to each questionnaire. The participant's number, name and e-mail address was kept by the researcher on a separate list. These contact details facilitated the communication that occurred via e-mail or SMS. The interviews were conducted in a private room. Codes were used for data capture, analysis and the generation of results. The researcher maintained confidentiality of all the information at all times.

Participants were informed verbally that participation was voluntary and that they were free to withdraw from the study at any given time (See Appendix A).

CHAPTER 4: RESULTS AND DISCUSSION

The results of the study and a discussion thereof are presented in chapter four. The results are discussed as they relate to the sub-objectives of the study and possible reasons for findings are given. In addition, wherever possible, the results are compared to the results of other relevant published studies.

Firstly the limitations of the study are reported and discussed. A description of the participant's baseline characteristics including age, BMI and duration of eating disorder are given, followed by a discussion of disordered eating patterns and behaviour that may indicate crossover between ANR, ANBP and BN.

4.1 LIMITATIONS OF THE STUDY

Only nine female participants were recruited for the study. The small sample size limited the statistical analysis of the data, therefore only descriptive statistics namely, frequencies and percentages for categorical data and medians and percentiles for continuous data, were calculated. In addition, the small sample size limits the generalisation of the results.

4.2 PARTICIPANT CHARACTERISTICS

A total of nine female participants were recruited and completed the study.

Five of the nine participants (55.6%) completed Q1, designed for a diagnosis of AN. All five participants had previously been diagnosed with ANR type. The remaining four of the nine participants (44.4%) completed Q2, designed for a diagnosis of BN. Of the four participants, two were currently diagnosed with BN purging-type and the other two participants were previously diagnosed with BN purging-type.

4.2.1 AGE

The median age of the participants who completed Q1 (n=5) was 28.1 years and for the participants who completed Q2 (n=4) it was 29.9 years (Table 7). In the International Price Foundation Genetic Study conducted by Tozzi *et al.* (2005:735) to determine diagnostic crossover amongst women with AN and BN, the median age for participants who crossed over from AN to BN was 28.2 years, for participants with AN only 25.2 years, for participants who crossed over from BN to AN 29.3 years, and for participants with BN 27.8 years. The median age for participants with AN in both studies was younger than that of participants with BN. Similarly Eddy *et al.* (2008:247) reported that the mean age for participants with AN included in their study conducted in America was on average younger than the participants with BN.

Table 7. Median age and BMI at various stages for participants

Categories	N	Age (years)	Current BMI in kg/m ²	Lowest BMI in kg/m ²	Highest BMI in kg/m ²	Comfortable BMI in kg/m ²
Q1	5	28.1	20.1	13.9	22.4	18.4 (n=4)*
Q2	4	29.9	21.4	19.4	27.9	18.9 (n=3)*

*One participant per category was unable to indicate a weight at which they felt most comfortable.

4.2.2 BODY MASS INDEX

As indicated in Table 7, the median current body mass index (BMI) for participants who completed Q1 (AN) and Q2 (BN) was 20.1 kg/m² and 21.4 kg/m², respectively. Both these values can be classified as a weight within the normal range according to the BMI classification system (See heading 3.4.1 Operational Definitions of BMI).

According to the BMI categories, the lowest BMI median value of 13.9 kg/m² for Q1 suggests that participants were severely underweight, which forms part of the diagnostic criteria for AN of maintaining less than 85% of a body weight expected. An important distinguishing feature of AN is the refusal to maintain a normal weight for age and height (Eckert, 2008:196). The highest BMI median value of 22.4 kg/m² suggests that the heaviest reported weight of participants was still in the optimal weight range. However, the average comfortable weight in kg was reported at 49.5 kg.

From the above, a comfortable BMI median value of 18.4 kg/m² was calculated by dividing the median comfort weight (weight indicated by participants at which they were most comfortable or most desired) in kg by the median height in metres squared (m²). This comfortable BMI median value falls just below the cut-off point for a BMI suggesting optimal weight (See page 40).

Similarly, Montelone *et al.* (2011:58) report that the mean desired weight for patients who crossed over from ANR to BN in their study in Italy was 47.4 kg.

The five participants who completed Q1 had not been clinically diagnosed with BN at the time of the study, but had engaged in bingeing and inappropriate compensatory behaviour for a period of time. Therefore, these participants could possibly have been diagnosed with ANBP or BN during this period of time.

The comfortable weight reported by the five participants that were in the first category (diagnosed with AN), may be associated with the fact that all participants indicated that they are currently still preoccupied with their weight and have previously been severely underweight, and therefore may be used to a lower weight. One of the five Q1 participants was unable to indicate a weight at which she was most comfortable. Table 7 (see page 52) also illustrates the BMI values obtained from the participants that were initially diagnosed with BN and completed Q2. The lowest BMI median value obtained from these participants was 19.4 kg/m². According to the BMI categories, this value suggests that participants at their lowest weight could be categorised in the optimal weight range. An important distinguishing feature of BN is that weight is generally maintained in the normal range (Eckert, 2008:196). The highest BMI median value of 27.9 kg/m² suggests that participants at their heaviest weight were in the overweight category. In addition an average comfortable weight in kg for this category was reported at 57.6 kg. Therefore a comfortable BMI median value of 18.9 kg/m² was calculated by dividing the median comfortable weight (weight indicated by participants at which they were most comfortable or most desired) in kg by the median height in m². This value falls just above the lower-end of the BMI cut-off point suggesting an optimal weight (See page 40).

The low comfortable weight may be associated with the fact that all participants indicated that they are currently still preoccupied with their weight. In addition the comfortable weight is similar to the lowest BMI median value, indicating that they are still more comfortable within their lowest weight range. Similarly, Monteleone et al. (2011:59) reported that the mean desired weight for patients in their study conducted in Italy with stable BN was 55.1 kg, and for BN patients who previously had ANR it was 47.4 kg.

As in the category with an initial diagnosis of AN, one of the four participants initially diagnosed with BN was unable to indicate a weight at which she was most comfortable.

4.2.3 DURATION OF EATING DISORDER AND GOAL WEIGHT ACHIEVEMENT

The five participants with a past diagnosis of ANR who completed Q1 had suffered from the particular eating disorder for a median duration of approximately 6 years. The one participant currently diagnosed with ANBP had endured the particular disorder for approximately another 6 years. Similarly, Eddy et al. (2008:247) observed that the mean duration of illness for AN participants included in their study was 6.0 years. Monteleone et al. (2011:58) reported that the duration of illness for patients with stable ANR in their study conducted in Italy was 6.7 years and for patients who crossed over from ANR to BN was 14.3 years. According to Monteleone et al. (2011:56) the majority of the affected individuals crossover within the first five years of illness. However, Eddy et al. (2008:249) suggest that the two AN sub-types, ANR and ANBP, are possible phases of the illness of AN and not distinctive diagnostic disorders.

In Table 8, a summary of the minimum, median and maximum duration of eating disorders in years of participants in this study is given.

Table 8. Duration of eating disorder

	Minimum	Median	Maximum
Past diagnosis of ANR (n=5)	3 years	6.1 years	12 years
Currently diagnosed with BN (n=2)	0.66 years	8.8 years	17 years
Past diagnosis of BN (n=2)	5 years	5.2 years	5.4 years

At the time of the study, three of the five participants previously diagnosed with AN were at the approximate goal weight recommended by the medical team for an average of 5 years.

Of the four participants initially diagnosed with BN, the two participants currently diagnosed with BN had suffered from the particular eating disorder for a median duration of 8.8 years. At the time of the interview, they currently engaged in inappropriate behaviour to compensate for a binge on average five times a week. The two participants previously diagnosed with BN who completed Q2 had suffered from the particular eating disorder for a median duration of approximately 5.2 years. Eddy et al. (2008:247) reported that the median duration of illness for the BN participants included in their study conducted in America was 6.7 years and Monteleone et al. (2011:59) reported that the duration of illness for patients with stable BN in their study conducted in Italy was 12.8 years and for BN patients with a history of ANR was 13.6 years.

The two participants previously diagnosed with BN had reached the goal weight recommended by the medical team. The goal weight had been maintained for a median value of 3.5 years. At the time of the interview, these two participants engaged in binge eating and compensatory inappropriate behaviour on average once a month. Therefore they had not completely recovered, but still fell within the diagnostic category of EDNOS (See Table 1). EDNOS is commonly considered a partial recovery state, which can be defined as a diagnostic category for eating disorders that do not meet the complete criteria for AN, BN or BED (Eddy et al., 2007:S70). Generally the diagnostic criteria for AN such as the amenorrhoea is not met, or for BN the frequency or duration of bingeing and purging behavior is less (Schebendach, 2008:563). Relapse to AN or BN is often observed amongst individuals from the partial recovery state, EDNOS (Eddy et al., 2007:S70). These participants are maintaining an optimal weight but they have not completely recovered and may be at risk of relapse.

4.2 DESCRIPTIVE INFORMATION ASSOCIATED WITH DISORDERED EATING PATTERNS

4.2.1 PARTICIPANTS INITIALLY DIAGNOSED WITH AN

The five participants who completed Q1 all indicated that they had been diagnosed with ANR type in the past. The majority of these participants used to engage in mostly restrictive type behaviour.

Some participants previously diagnosed with ANR, would not eat breakfast. The reason given for this was that they do not get hungry for the rest of the day if they skipped breakfast. This may possibly be used as a warning sign for parents or caregivers regarding restrictive behaviour.

During and after the process of weight restoration, the five participants indicated that they were tempted to binge. In this study the majority of participants regarded a binge as consuming an amount of food being atypical for them vs the norm regarding volume or energy density. Similarly Peat *et al.* (2009:593) reported that many AN patients eat relatively modest amounts of food or even only a biscuit, when they indicate that they have engaged in a binge. In addition, there is a considerable variability in the size of a binge amongst patients with AN such as those with BED and BN. The amount may possibly be evaluated according to the restrictive behaviour that was previously such a part of their lives. The type of food consumed should also be considered when defining a binge episode as the energy density of the food (“unsafe”) may influence the comfort after consumption.

Common triggers, which may have tempted participants to overeat or binge during or after the process of weight restoration, are listed in Table 9.

Table 9. Common triggers that may tempt bingeing behaviour

- | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Time of day: Late afternoon;• Time of season: Winter;• Loneliness;• Boredom; and• Social situations: one feels obliged to eat in front of family and friends, to appear “normal.” |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

These participants engaged in inappropriate behaviour to compensate for the binge. Common inappropriate compensatory behaviours reported included self-induced vomiting. Participants did try to avoid engaging in a binge episode. Table 10 lists ways reported to prevent engaging in binge eating episodes and ways to reduce the frequency thereof.

Table 10. Ways to prevent bingeing behaviour

Number of participants n = 5 (Q1)	Percentage	Ways to prevent bingeing behaviour
n = 4	80%	By distracting themselves from thoughts of food e.g. by exercising
n = 3	60%	By avoiding the sight of food completely e.g. by not purchasing the tempting food items
n = 2	40%	By avoiding being alone at home e.g. by going for a walk
n = 3	60%	By maintaining strict portion control

In addition, some tried to transform their negative thoughts to positive thoughts such as reminding themselves that food is nutritious. However, the majority of the participants indicated that they were unable to prevent themselves from engaging in inappropriate compensatory behaviour if they had engaged in a binge. According to Setnick (2011:149-150) the ultimate goal for recovery includes more balanced and appropriate eating behaviours and choices. Basic nutritional principles addressing the energy *adequacy*, *balanced* food intake, *food variety*, *moderate* quantities, *nutrient density*, *energy control*, *autonomy* based on personal preferences, and *confidence* in making the correct decision may provide a solid foundation for long-term recovery. These basic principles do not enable the individual to eat “anything and everything” but instead the individual is more able to make choices based on appropriate criteria (hunger vs availability) rather than fear. Working through these principles with a registered dietitian may help prevent the individual from engaging in a binge and inappropriate compensatory behaviour.

In addition, it is essential to educate individuals attempting compensatory behaviours as a result of the overwhelming feelings of guilt or wrongdoing after eating regarding the concept of “legalising food”. Legalising food refers to a process of accepting that foods are not inherently “good” or “bad”. Legalising food does not mean that foods must be eaten, but instead that foods can be eaten without guilt or shame. Thus foods return to an appropriate status as more nutritious, less nutritious, more to my liking etc. Adopting the legalisation of food takes time, but it may eventually neutralise the power “feared” foods have and reduce the feelings of wrongdoing, occurrence of overeating and compensatory behaviour (Setnick, 2011:151-152).

At the time of the interview, the participant currently diagnosed with ANBP, engaged mostly in restrictive behaviour, but indicated that whenever food was consumed, she engaged in inappropriate compensatory behaviour, in particular self-induced vomiting. The participant clearly indicated that a binge for her was associated with an amount and type of food (“unsafe”) consumed that made her feel uncomfortable.

4.2.2 PARTICIPANTS INITIALLY DIAGNOSED WITH BN

At the time of the interview, the four participants who completed Q2 were currently or had been previously diagnosed with BN, purging-type.

Two out of the four participants were currently diagnosed with BN. These two participants mostly engaged in self-induced vomiting to compensate for a binge. One participant also misused diuretics. The two participants previously diagnosed with BN used to engage mostly in purging behaviour such as self-induced vomiting. However, fasting, a non-purging behaviour was also indicated.

The four participants indicated that the inappropriate compensatory behaviour helped to prevent weight gain, lose weight, and get rid of the guilty feelings associated with the binge or “toxic” food consumed. The thought of “toxic” food reported by a participant was associated with the food consumed during the binge. The participant perceived the food as being “toxic”, possibly related to the amount of food consumed and the type of food consumed. High fat foods were generally consumed during a binge.

The two participants currently diagnosed with BN felt that losing weight was directly linked to an improved self-image.

Common triggers reported which tempted the participants to overeat or binge are listed in Table 11 below.

Table 11. Common triggers that may tempt bingeing behaviour

<ul style="list-style-type: none">• Time of day: after work (late afternoon);• Time of season: winter;• Feelings: rejection, loneliness;• Boredom;• Social pressure to eat with family and friends; and• Once the participant has consumed a tempting food, she gives up because she has already cheated and therefore continues to binge.

Similarly to triggers mentioned in Table 11, bingeing and inappropriate compensatory behaviour commonly occur after school in adolescents when very hungry or at night when the family is asleep or sometimes due to boredom (Gonzalez et al., 2007:616). According to Setnick (2011:172), binge eating may be related to coming home ravenous after work, inadequate planning for an evening meal, inability to cook or go grocery shopping, or fear of weight gain after a certain hour, stress, feelings of inadequacy, a desire to escape from family responsibilities, or other non-nutrition related issues.

Ways in which the participants who completed Q2 tried to prevent themselves from engaging in a binge are listed in Table 12.

Table 12. Ways to prevent engaging in a binge

Number of participants n = 4 (Q2)	Ways in which engaging in a binge was prevented
Current diagnosis of BN (n=2)	<ul style="list-style-type: none"> • By believing thoughts of how fat they are, to encourage them to continue fasting; • By maintaining strict portion control; • By avoiding all tempting foods; • By chewing sugar-free gum; or • By distraction e.g. exercising.
Past diagnosis of BN (n=2)	<ul style="list-style-type: none"> • By maintaining strict portion control; • By making smart food choices by reading labels therefore including “safe foods” and avoiding “unsafe foods”; • By smoking; or • By consuming large amounts of fluid or coffee.

All participants experienced a sense of relief after they had engaged in inappropriate behaviour to compensate for the binge.

After a binge, individuals feel disgusted with themselves, depressed or guilty and likewise it is reported that individuals feel lighter, emptier and emotionally relieved after engaging in inappropriate compensatory behaviours (Setnick, 2011:159).

4.3 FACTORS ASSOCIATED WITH DISORDERED EATING PATTERNS

Four of the five participants (see Table 13) who completed Q1 reported feelings of anxiety, and two of the five participants reported feelings of frustration regarding the inability to engage in inappropriate behaviour after a binge. Three of the four participants who completed Q2 reported feelings of anxiety and half of the participants reported feelings of frustration regarding the inability to engage in inappropriate behaviour after a binge. In addition, other feelings reported included desperation, irritation, helpless/powerless and being very uncomfortable. For the purpose of this study, desperation was regarded as a synonym for anxiety, and irritation was regarded as a synonym for frustration. The feelings may be associated with the preoccupation about the energy and nutrient content of food consumed, which often results from the anxiety and effort to manage the fearful thoughts regarding weight gain and loss of control (Setnick, 2011:46).

Table 13. Common feelings associated with inability to engage in inappropriate behaviour after a binge

Number of Participants	Anxiety	Frustration
n = 5 (Q1)	n = 4	n = 2
n = 4 (Q2)	n = 3	n = 2

Eight out of the nine participants indicated that they had “safe foods,” a term referring to specific food that they felt comfortable or at ease consuming. All participants indicated that they had “unsafe foods,” a term referring to specific foods they felt uncomfortable consuming. Unsafe foods were likely to be completely eliminated from the diet. See Table 14 for a list of common safe and unsafe foods reported by the participants. One participant indicated that she did not have “safe foods”, but only “unsafe foods”.

Table 14. Common safe and unsafe foods reported by participants

Safe foods	Unsafe foods
<ul style="list-style-type: none"> • Salad • Fat-free yoghurt • Fruit (apple) • Steamed vegetables • Grilled chicken breast, skinless • Provitas • Lite-soup 	<ul style="list-style-type: none"> • Starch • Pastry • Take-aways • Dessert • Chocolate • Alcohol • Cream

The safe foods mentioned in Table 14 are mostly fat-free. In contrast, the majority of unsafe foods are generally energy dense foods including fat and/or additional sugar or empty calories. Eckert (2008:202) likewise reported that patients with BN can usually identify safe foods that do not result in a binge and unsafe foods that are generally forbidden as they may result in a binge. Similarly the unsafe foods are high-energy carbohydrate rich or fatty foods and common food aversions (unsafe foods) included red meat, baked foods, desserts, added fats, and fried foods (Schebendach, 2008:574).

At the time of the interview, all participants indicated that they were still preoccupied with their weight, which in most cases started at school. Reasons for the preoccupation ranged from the desire to be socially accepted or to be as thin as their peers, to their mother's influence who is constantly dieting or preoccupied with the daughter's weight. Reasons behind the disordered eating included weight control, a means of coping, the belief that being thin improves ones self-image, and a means of having control over ones life.

4.4 A DESCRIPTION OF BEHAVIOUR THAT MAY INDICATE CROSSOVER FROM WEIGHT-RESTORED AN TO ANBP OR TO BN

Overall, the five participants previously diagnosed with ANR reported that they were tempted to engage in bingeing and inappropriate compensatory behaviour during and after the process of weight restoration. See Table 15 for a summary of the commonly reported inappropriate compensatory behaviour that participants engaged in during and after the process of weight restoration and currently. According to the participants, they engaged in inappropriate behaviour after a binge, for the following reasons: to prevent the weight gain, lose weight, feel less guilty, feel better/lighter and/or because it had become such a part of their lives (habit). The majority engaged in self-induced vomiting, laxative abuse, excessive exercise, and fasting. The use of appetite suppressants, was also reported amongst these participants.

Table 15. Inappropriate behaviour engaged in during the process of weight restoration, after the process of weight restoration or currently

	n who answered yes	Self-induced vomiting N	Laxatives or diuretic misuse n	Excessive Exercise n	Fasting n	Other n
During the process of weight restoration	5	3	3	4	3	2
After the process of weight restoration	3	3	1	2	3	2
Currently engage in inappropriate behaviour	3	2	0	2	2	1

At the time of the interview, three participants reported that they still currently engage in inappropriate behaviour, with the frequency of inappropriate behaviour ranging from a minimum of twice a month to every day.

Table 9 lists the common triggers during or after the process of weight restoration, which could have tempted participants to overeat or binge.

All participants experienced a sensation of relief after they had engaged in inappropriate compensatory behaviour. Feelings listed in Table 16 associated with weight gain included: the fear of physically gaining weight/fat; a loss of control (powerless); feeling like a failure; and feeling less socially accepted.

Table 16. Feelings associated with weight gain reported by participants

Feelings	Yes N	No N
Fear gaining weight	5	0
Loss of control	5	0
Like a failure	5	0
Physically fatter	5	0
Other: less socially accepted or less worthy	2	-

According to Eckert (2008:195), AN can be regarded as an eating or weight phobia. In addition, it is suggested that weight gain appears to generate anxiety, whereas not eating or weight loss serves to avoid anxiety. It is thus possible that participants who are either still in the process of weight restoration or have already restored weight, still experience anxiety regarding weight gain and therefore attempt inappropriate compensatory behaviour to prevent weight gain or to deal with anxiety.

According to Eddy *et al.* (2008:249), both the AN restrictive and binge-purge type may be phases in the illness of AN. Therefore the course of AN appears to support that the AN subtypes are not distinctive disorders. In addition, Eddy *et al.* (2008:248) observed in their 7 year follow-up study conducted in America amongst women with a diagnosis of AN or BN that approximately half of those with AN who crossed over to BN, did so in the course of progressing to partial or full recovery.

However, Lund *et al.* (2009:304) studied the rate of weight gain during in-patient treatment for AN in America as a predictor for short-term clinical outcome after discharge. They observed that patients who gained ≥ 0.8 kg/week were significantly less likely to experience a clinical meaningful worsening of ED symptoms, however a slow weight gain may also indicate the unwillingness to be treated or difficulty with complying, which may be a factor to be considered in poor outcome.

At the time of the interview, three of the five participants listed in Table 15 indicated that they were currently likely to engage in inappropriate behaviour such as self-induced vomiting, laxative abuse, excessive exercise and fasting, indicating that they had not fully recovered. Eckert (2008:202) reports that more than one half of patients continue to practice dietary restriction and avoid high-calorie foods; binge eating or overeating, and commonly engage in self-induced vomiting and laxative abuse.

Two of these three participants indicated that they felt overweight and would not mind losing a few kilograms. The feeling may possibly be related to the continued preoccupation with their weight status and the low weight at which the participants feel most comfortable.

At the time of the interview, one participant had a current diagnosis of ANBP type. This particular participant engaged in mostly restrictive behaviour but when she had consumed food with family and friends and felt uncomfortable, she often engaged in inappropriate compensatory behaviour, in particular self-induced vomiting. Schebendach (2008:579) report that nutritional rehabilitation and weight restoration may not necessarily resolve the core eating difficulties observed in AN. This in turn may contribute to the high relapse rate observed amongst the AN population.

The remaining two participants indicated that they had recovered completely and maintained an ideal body weight, without inappropriate compensatory behaviour.

Monteleone et al. (2011:56) recently reported from their study conducted in Italy that 8-62% of patients with an initial diagnosis of ANR develop binge-purging symptoms during the course of the illness, and 21-54% of them meet the criteria for BN. In addition, Eddy et al. (2007:570) concluded from their study conducted in America that diagnostic crossover between AN subtypes is common. It was observed from their prospective data that most women with AN who crossover to BN experience regular binge/purge symptoms when their weight is low prior to BN. Is it possible that their behaviour during the course of the AN illness could possibly be regarded as ANBP. However, according to Monteleone et al. (2011:57) crossover to BN occurs more frequently from ANBP than from ANR.

The five participants who were previously diagnosed with ANR all received some kind of treatment including Psychiatric, Psychological, Spiritual and Dietetic counselling. Table 17 indicates the various types of counselling received.

Table 17. Treatment for participants with a current or previous diagnosis of AN

Category	Psychiatry counselling n	Psychological counselling n	Spiritual counselling n	Dietetic counselling n	Medication n
Yes	3	4	1	3	3
No	2	1	4	2	2

Other counselling received included: General practitioner visits, personal training (focused exercise) and treatment by a physician.

Three out of the five participants had used prescribed pharmacological medication including antidepressants for the past diagnosis of ANR type. In addition, one of these three participants had also been prescribed bipolar medication.

Likewise, Eckert (2008:199) indicated that major depression is a common comorbid disorder in AN and BN. A relationship between bipolar disorder and eating disorders, in particular BN has also been suggested. Both AN and BN have been linked to anxiety disorders such as OCD. Anxiety is central to both the etiology and maintenance of AN and BN. According to the study conducted by Monteleone *et al.* (2011:58, 59) in Italy including a sample of 238 AN and BN patients, 10 of the 46 patients (21.7%) with stable ANR had a comorbid Axis I disorder (clinical disorders) and 12 of the 46 patients (26%) with stable ANR had a comorbid Axis II disorder (personality disorders). Some medications used to treat mental illness may have the potential to affect appetite and cause weight changes (gain or loss), which may further exacerbate an eating disorder. Thus health practitioners must be aware of and assess possible adverse effects medication may pose (Setnick, 2011:81).

Four out of the five participants had read self-help books with the themes covering eating disorders and/or spiritual inspirational messages.

At the time of the interview, the participant with the current diagnosis of ANBP was receiving treatment including counselling (psychiatric, psychological and dietetic); and medication (anti-depressants, bipolar medication, and sleeping tablets).

In summary, all five participants crossed over from restrictive type behaviour to bulimic tendencies during the progression to partial or full recovery. One of the five participants was currently diagnosed with ANBP and therefore has crossed over from ANR.

4.5 A DESCRIPTION OF BEHAVIOUR THAT MAY INDICATE THAT PARTICIPANTS DIAGNOSED WITH BN MAY HAVE A HISTORY OF AN

Four participants completed Q2. Two participants were currently diagnosed with BN, purging type and the other two participants had previously been diagnosed with BN, purging type.

One of the two participants had previously been diagnosed with BN prior to the current diagnosis of BN. Both participants currently diagnosed BN indicated that prior to the diagnosis of BN other inappropriate compensatory behaviours that could possibly have influenced their weight status were occasionally attempted. Examples included appetite suppressants, laxative abuse, excessive exercise, fasting, fat burner use, and fad dieting.

The remaining two participants that completed Q2 had been previously diagnosed with BN, purging type. Of these two, one participant was previously diagnosed with ANR prior to the diagnosis of BN. A gynaecologist made the diagnosis during her high school years. The participant indicated that she never completely recovered from ANR. The other participant reported that prior to the past diagnosis of BN, she had attempted fasting in order to influence her weight status. Both participants pointed out that they had not completely recovered from BN, but agreed that their current eating patterns could be categorised under the EDNOS classification. The participant with the history of ANR indicated that her binge eating was classified according to standards set by herself for amount of food regarding volume and/or energy density.

Eddy et al. (2008:248) observed from their study conducted in America that crossover from ANR to BN occurs less often than crossover from ANBP to BN. The crossover appears to occur during the transition to partial or full recovery. Despite crossing over to full-blown BN, these women appear to be vulnerable to relapse into AN. Similarly Eddy et al. (2007:S69) reported that women with BN who had a history of AN were less likely to fully recover than those with no history of AN. In addition, it was observed that women with no history of AN were more likely to progress from EDNOS to full recovery when compared to women with a history of AN (Eddy et al., 2007:S69). EDNOS is commonly considered as partial recovery.

As mentioned previously, EDNOS refers to a diagnostic category for eating disorders that does not meet the full criteria for AN, BN or BED (Schebendach, 2008:563). Patients with a diagnosis of EDNOS should receive adequate treatment because inadequate treatment may lead to the development of the full-blown eating disorder (Schebendach, 2008:566). According to Thomas et al. (2009:408-409), available data suggests that approximately 40% of individuals with EDNOS develop AN or BN within 1-2 years. Remission rates of 50% after 3 years and 80% after 5 years have been reported with the remainder of individuals continuing eating disorders diagnoses.

At the time of the interview, both participants currently engaged in bingeing and inappropriate compensatory behaviour. Self-induced vomiting was most common. The frequency thereof was at least once a month, sometimes twice a month. Common triggers that may have tempted participants to binge are indicated in Table 11.

At the time of the interview, both participants currently diagnosed with BN were in-patients and were currently receiving psychiatric, psychological and dietetic counselling. Table 18 summarises the treatment received. One of the two participants was currently also receiving spiritual counselling. Both participants were taking prescribed pharmacological medication namely, anti-depressants. None of them had read self-help books. The participant that had a past diagnosis of BN reported that only psychological counselling was received after the initial diagnosis of BN, but was discontinued by the patient herself.

Table 18. Treatment for participants with a current or previous diagnosis of BN

Category	Psychiatry counselling n	Psychological counselling n	Spiritual counselling n	Dietetic counselling n	Medication n	Self-help N
Currently diagnosed (n = 2); currently receiving treatment	2	2	1	2	2	0
Previously diagnosed (n = 2); previously received treatment	2	1	1	1	2	0
Previously diagnosed (n = 2); currently receiving treatment	2	1	1	0	2	1

Of the participants previously diagnosed with BN, both had received psychiatric counselling after diagnosis. Pharmacological medication which included anti-depressants had been prescribed for both of these participants. Additional sleeping tablets and anti-anxiety medication had been prescribed for one of the two participants.

At the time of the interview, both participants previously diagnosed with BN were still receiving psychiatric counselling and taking prescribed anti-depressants. Additional sleeping tablets, bipolar, and anti-anxiety medication were also currently prescribed for only one participant. Common psychological comorbidities found in BN include depression, anxiety disorders, substance abuse disorders and impulsive behaviours (Hay, 2007:711). Monteleone *et al.* (2011:59) observed from their study amongst patients with a current or lifetime diagnosis of AN and BN that 45 of the 123 patients (35.1%) with stable BN had a comorbid Axis I disorder (clinical disorders) and 28 of the 123 patients (21.8%) with stable BN had a comorbid Axis II disorder (personality disorders). As mentioned above, some medications used to treat mental illness may have the potential to affect appetite and cause weight changes (gain or loss), which may further exacerbate an eating disorder (Setnick, 2011:81).

One of the two participants was currently reading self-help books covering topics such as bipolar inspirational stories and spiritual inspirational stories (Bible).

The participant previously diagnosed with ANR prior to the BN diagnosis, received psychiatric counselling and prescribed pharmacological medication, namely anti-depressants at the initial diagnosis of ANR.

In summary, the two currently diagnosed BN participants were undergoing treatment at the time of the interview; whereas both participants previously diagnosed with BN had partially recovered as they could be categorised under the EDNOS category at the time of the interview. One of these participants reported having a history of ANR. Despite having undergone treatment for initial diagnosis of ANR, the participant crossed over to BN purging type.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSIONS

The results of the study concluded that participants were more comfortable at a lower BMI in comparison with their current or heaviest BMI. The comfortable BMI most commonly appeared to fall at or just below the lower end of the BMI cut-off point for normal weight. Some participants reported that no weight exists at which they are comfortable. In addition, participants all indicated that they were still preoccupied with their weight at the time of the interview. Thus it can be concluded that participants continued to be dissatisfied or preoccupied with their weight status, which may indicate that participants had not completely recovered from their eating disorder.

Disordered eating patterns within the initially diagnosed AN category included mostly restrictive behaviour. These participants also avoided eating breakfast in order to inhibit their appetite for the rest of the day. During or after the process of weight restoration, participants engaged in bulimic tendencies including bingeing and inappropriate compensatory behaviour. Most of the participants indicated that a binge episode is more appropriately defined by a standard set by themselves for volume and energy density of the food or fluid ingested. The most common inappropriate compensatory behaviour engaged in after a binge episode included purging behaviour in the form of self-induced vomiting. Those initially diagnosed with BN, disordered eating patterns included bingeing and inappropriate compensatory behaviour such as the purging type: self-induced vomiting. According to these participants the binge episode was more suitably defined by the general definition of “an episode of eating marked by three particular features: (i) the amount of food eaten is larger than what the person would eat under similar circumstances; (ii) the excessive eating occurs in a discrete period, usually less than 2 hours; and (iii) the eating is accompanied by a subjective sense of loss of control”.

The participant with BN with a history of ANR, also indicated that a binge episode was more suitably defined according to standards set by herself regarding volume and type of food and fluid ingested. The particular participant was more likely used to a restricted food intake and therefore the amount or type of food and fluid intake that made her feel uncomfortable was considered a binge. Binges were generally triggered by certain factors such as loneliness, boredom, winter, late afternoon and social obligation. The inappropriate compensatory behaviour mostly occurred in order to compensate for the volume or type of food and fluid ingested. In summary, disordered eating habits included restrictive behaviour (ANR), a combination of restrictive and binge-purge behaviour (ANBP) and binge-purging behaviour (BN).

Crossover within subtypes or between eating disorders (AN and BN) is observed as an outcome of eating disorders. From the reviewed literature it can be concluded that crossover occurs more commonly from AN to BN. In this study participants initially diagnosed with ANR type attempted bingeing and inappropriate compensatory behaviour during and after the period of weight restoration. The reason behind engaging in inappropriate compensatory behaviour was most commonly to prevent weight gain or to lose weight. Two participants indicated that they would engage in the occasional binge-purge behaviour and therefore have not completely recovered, but may be categorised by EDNOS. One of the participants initially diagnosed with ANR type had crossed over to a current diagnosis of ANBP type. At the time of the study, the participant engaged in mostly restrictive behaviour and the binge-purging behaviour occurred mostly during social situations when the participant felt obliged to eat. Thus the majority of the AN participants crossed over from restrictive type behaviour to bulimic tendencies and a participant crossed over from an initial diagnosis of ANR to ANBP type. Therefore the observation that crossover occurred most commonly from AN to BN is thus comparable to the reviewed literature.

Participants in this study with an initial diagnosis of ANR were more likely to cross over to bulimic tendencies instead of progressing to the partial syndrome state of AN. The partial syndrome state is generally considered as EDNOS, but based on restrictive type behaviour. Participants indicated that they had not completely recovered, and they may be classified under the category EDNOS which appears to be based on binge-purge behaviour. Therefore the behaviour may indicate crossover from AN to bulimic tendencies.

A the time of the interview, the two participants currently diagnosed with BN were in the process of in-patient recovery. One of the participants previously diagnosed with full-blown BN had a prior diagnosis of ANR type. Thus it can be concluded that the participant has a prior history of ANR type, and therefore crossover occurred from the initial diagnosis of AN to full-blown BN. Both participants previously diagnosed with BN indicated that they had not fully recovered but may be classified under the category EDNOS based on binge-purge behaviour. These participants may be at risk for future relapse.

Overall, behaviour indicating possible crossover from weight-restored AN to BN was observed in the study. The AN participants engaged in bulimic tendencies during and after the process of weight restoration and one BN participant had a prior history of ANR.

5.2 RECOMMENDATIONS

Supplementary research should focus on the occurrence of crossover from AN to BN during the progression to partial and full recovery, as the commencement of binge-purging behaviours may occur in order to cope with the weight gain associated with the recovery process and the fear thereof. These individuals are possibly not completely ready to gain a large amount of weight. Further research should explore whether crossover will occur if patients are not progressing to partial or full recovery and therefore not attempting weight gain.

Another factor to consider is the type of weight that is gained e.g. fat vs fat and muscle. Will participants fear muscle less than fat? Thus research should include an assessment of body composition in addition to assessment of weight. Health practitioners and researchers should note that the possible weight gain (amount and type) and the fear thereof may act as a trigger for inappropriate compensatory behaviours and thus ANR and ANBP are distinctive disorders and not phases of the illness as the current reviewed literature suggests.

There is a possibility that participants at the time of crossover to a full-blown eating disorder may go unnoticed. Therefore researchers should also consider that the time of diagnosis with regards to follow-up studies may impact on the evidence of crossover data. In general, the additional evidence will contribute vital information that should be considered prior to the development of newer diagnostic criteria and effective intervention programmes. Furthermore, investigations aimed at determining potential risk or predisposing factors that contribute to crossover between eating disorders, may provide information that could possibly assist the multi-disciplinary medical team in preventing crossover during the course of progressing to partial or full recovery.

It is recommended that this pilot study should be replicated and that associations between findings should be compared on a larger sample. Such studies should include all subtypes of AN over a longer time period.

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APPENDICES

APPENDIX A (1): INFORMATION DOCUMENT-ENGLISH

Information Document

Research Institution: University of the Free State

Researcher: Donna Barr

Study Title: A description of behaviour that may indicate crossover from weight-restored Anorexia Nervosa to Bulimia Nervosa

Eating disorders are becoming more prevalent and there has been an increase in the number of cases reported even in children and males. Patients often recover, but relapse and crossover between disorders is sometimes observed.

Thus we, of the University of the Free State (UFS), Department of Nutrition and Dietetics, are undertaking a study to determine how many individuals with Anorexia Nervosa (AN) crossover within the subtypes of AN and to Bulimia Nervosa (BN). Additionally we want to determine how many individuals diagnosed with BN have crossed over from previously diagnosed AN (both restrictive and purging types), thus implying having a history of AN.

Invitation to participate: We are asking/inviting you to participate in this research study and to give us the permission to use the results so that we can determine the prevalence of the crossover between AN and BN and thus do further research to determine how we can prevent it.

What the study involves: For this study, we need females, aged 18 years and older, previously or currently diagnosed by a medical practitioner according to the DSM-IV-TR diagnostic criteria with AN and BN. The study will be executed during Feb – July 2011. Participants are required to read the information document, and if willing to participate, sign the consent form prior to the conduction of the interview. Information will be collected by means of a questionnaire that will be completed by the researcher during a semi-structured one-to-one interview. Your weight and height will also be measured. An appointment for the interview will be arranged via email.

The interview will take place in a private room at Kovsie Health, UFS. The analysis of the results will be conducted by the Department of Biostatistics at UFS.

Risks of being involved in the research study:

- There is no risk in being involved in the study. Participants may withdraw at any time from the study and confidentiality will be maintained at all times.

Benefits of being involved in the study:

- You will help us determine the behaviour associated with crossover from AN to BN, which in turn may:
 - Provide additional information regarding the course or outcome of eating disorders;
 - Enable researchers to design and implement crossover prevention strategies; and
 - Highlight gaps or problem areas that should be addressed by the multi-disciplinary team to enable them to manage eating disorders more effectively.

Participation: Is voluntary and refusal to participate will involve no penalty. You may discontinue participation at any time without penalty or loss of benefits.

Reimbursements: Participants will not be compensated financially for their participation. Participation entails only the once-off interview, which will take between 30-90 minutes of the participants' time, with no financial expense. However, willing participants will be entered into a Lucky Draw to win an iPod.

Confidentiality: Personal information will be kept confidential at all times. No names, but only numbers and codes will be written on the questionnaire. Email addresses and participants' names will be kept on a separate list and treated as confidential.

Findings: Results of the study may be published and presented at a meeting or congress. Participants will be notified of the findings of the study via email.

Your participation will be greatly appreciated. Thank you!

Kind regards,

Donna Barr

Contact details:

Email: donnavanzyl@yahoo.com; **Text messages:** +27827808087

Contact details of the Research Ethics Committee for reporting any problems or complaints:

Ms. H Strauss

Tel: 051 405 2812

APPENDIX A (2): INFORMATION DOCUMENT-AFRIKAANS

Inligtingsdokument

Navorsing Instansie: Universiteit van die Vrystaat

Navorser: Donna Barr

Studie Titel: 'n Beskrywing van gedrag wat 'n aanduiding mag wees van oorgang vanaf herstelde-gewig Anoreksia Nervosa na Bulimia Nervosa.

Daar is 'n toename in eetversteuringsgevalle, selfs onder kinders en mans. Alhoewel sommige pasiënte herstel, word terugval en oorkruising tussen versteurings soms waargeneem.

Ons, by die Universiteit van die Vrystaat (UV), Departement Voeding en Dieetkunde is besig om navorsing oor die voorkoms van oorkruising tussen die subtypes van Anoreksie Nervosa (AN) en Bulimia Nervosa (BN) te bepaal. Ons hoop om verder te bepaal of huidige gediagnoseerde BN deelnemers, 'n geskiedenis van AN het.

Uitnodiging om deel te neem: Ons vra / nooi u om deel te neem aan hierdie navorsing en vir ons toestemming te gee om die resultate te gebruik. Op hierdie wyse sal dit vir ons moontlik wees om verdere navorsing te doen en moontlike strategieë te ontwikkel om die bogenoemde oorkruising te verhoed.

Wat die studie behels: Vir hierdie studie, benodig ons vroue, 18 jaar en ouer, wat voorheen of tans gediagnoseer is deur 'n mediese dokter volgens die DSM-IV-TR diagnostiese kriteria met AN of BN. Die studie sal uitgevoer word tydens Februarie-Julie 2011. Deelnemers word versoek om die inligtingsdokument te lees. As u bereid is om aan die studie deel te neem, sal u gevra word om die toestemmingsvorm te onderteken voordat die onderhoud sal plaasvind. Die doel van die studie is slegs om inligting in te samel oor die wanordelike eetgewoontes van AN en BN individue. Inligting word ingesamel deur 'n vraelys wat deur die navorser voltooi word tydens 'n semi-gestruktureerde een-tot-een onderhoud. U lengte en massa sal ook bepaal word. 'n Afspraak vir die onderhoud word via e-pos gereël. Die onderhoud sal plaasvind in 'n privaatkamer by Kowsie Gesondheid, UV. Die ontleding van die uitslae sal deur die Departement Biostatistiek (UV) onderneem word.

Risikos verbonde aan deelname:

- Daar is geen risiko verbonde aan deelname aan hierdie studie nie. Deelnemers kan ter enige tyd onttrek. Alle inligting sal ten alle tye streng vertroulik hanteer word.

Voordele van betrokkenheid by die studie:

U sal help om te bepaal wat die voorkoms van oorkruising tussen AN en BN is. Op hierdie wyse kan:

- Addisionele inligting aangaande die verloop of uitkoms van eetversteurings voorsien word;
- Navorsers in staat gestel word om strategieë te ontwerp en implementeer om die oorkruising te voorkom; en
- Probleem areas geïdentifiseer word sodat die multi-dissiplinêre span eetversteurings meer effektief kan bestuur.

Deelname is vrywillig en weiering om deel te neem sal geen nadele inhou nie. Die deelnemer kan te eniger tyd aan deelname onttrek sonder enige nadelige gevolge.

Vergoeding: Deelnemers sal nie finansiëel vergoed word vir hul deelname nie. Deelname behels slegs die eenmalige onderhoud wat tussen 30-90 minute sal duur, met geen finansiële onkoste nie. Alhoewel, gewillige deelnemers sal in 'n gelukstrekking ingesluit word om 'n iPod te wen.

Vertroulikheid: Persoonlike inligting sal ten alle tye vertroulik gehanteer word. Geen name, maar slegs nommers en kodes sal op die vraelyste verskyn. E-pos adresse en name van deelnemers sal op 'n aparte lys verskyn en vertroulik hanteer word.

Bevindinge: Resultate van die groep kan gepubliseer word en by 'n vergadering of kongres bespreek word. Deelnemers sal in kennis gestel word van die studie se bevindinge via e-pos.

U deelname sal waardeer word. Dankie!

Vriendelike groete,

Donna Barr

Kontak besonderhede:

E-pos: donnavanzyl@yahoo.com; **SMS-boodskappe:** +27827808087

Kontak besonderhede van die Etiekkomitee vir die rapportering van enige probleme of klagtes:

Ms H Strauss

Tel: 051 405 2812

APPENDIX B (1): CONSENT FORM-ENGLISH

CONSENT FORM: RESEARCH STUDY PARTICIPATION

You are requested to participate in the following research study: To determine: **A description of behaviour that may indicate crossover from weight-restored Anorexia Nervosa to Bulimia Nervosa.**

The research will require of you to answer questions during a semi-structured interview to the best of your ability. Your weight and height will also be measured. The interview will be conducted by the researcher in a private room, at Kopsie Health, UFS.

You have been informed about the study by:

If you have any enquiries or questions please contact the researcher, Donna Barr at any time at donnavanzyl@yahoo.com or via a text message to +27827808087; and I will respond either via email or text message. You may contact the Secretariat of the Ethics Committee of the Faculty of Health Sciences, UFS at the telephone number (051) 405 2812 if you have questions about your rights as a research participant.

Your participation in this research is voluntary, and you will not be penalised if you refuse to participate or decide to terminate participation. If you agree to participate, you will be given a signed copy of this document.

Personal information will be kept confidential. Results of the study may be published and presented at a meeting or congress. Participants will be notified of the findings of the study via email.

The research study, including the above mentioned information has been clearly described to me. I,hereby voluntarily agree to participate in the study and understand what my involvement in the study means.

Signature of participant

Date

APPENDIX B (2): CONSENT FORM-AFRIKAANS

TOESTEMMING TOT DEELNAME AAN NAVORSING

U word versoek om deel te neem aan die volgende navorsingstudie: **'n Beskrywing van gedrag wat 'n aanduiding mag wees van oorgang vanaf herstelde-gewig Anoreksia Nervosa tot Bulimia Nervosa.**

Die navorsing sal van u vereis om voorafbepaalde vrae tot die beste van u vermoë te beantwoord. U lengte en massa sal ook bepaal word. Dit sal plaasvind tydens 'n een-tot-een onderhoud met die navorser in 'n privaat kamer by Kowsie Gesondheid, UV.

U is oor die studie ingelig deur:

Indien u enige navrae of vrae het kontak asseblief die navorser, Donna Barr enige tyd by donnavanzy@yaho.com of via 'n SMS-boodskap te +27827808087. Die navorser sal reageer via e-pos of SMS-boodskap. U kan die sekretariaat van die Etiekkomitee van die Fakulteit Gesondheidswetenskappe, UV kontak by die telefoonnommer (051) 405 2812 as u vrae het oor u regte as 'n navorsings-deelnemer.

Persoonlike inligting sal ten alle tye vertroulik gehanteer word. Resultate van die groep kan gepubliseer word en by 'n vergadering of kongres bespreek word. Deelnemers sal in kennis gestel word van die studie se bevindinge via e-pos.

U deelname aan hierdie navorsing is vrywillig, en u sal nie gepeenaliseer word as u weier om deel te neem of besluit om deelname te staak nie. As u instem om deel te neem, sal 'n ondertekende kopie van hierdie dokument sowel as die deelnemersinligtings dokument, aan u gegee word.

Die navorsingstudie, insluitend die bogenoemde inligting is verbaal aan my beskryf. Hiermee gee ek, vrywillig toestemming tot deelname aan die studie en verstaan wat my betrokkenheid behels.

Ondertekening van 'n deelnemer

Datum

APPENDIX C (1): LETTER TO REQUEST PERMISSION FROM UFS

Re: Permission to conduct a research study at the University of the Free State

To: Prof HR Hay

Vice rector: Academic planning

I am a student, currently registered for a Masters degree in Nutrition and Dietetics at the University of the Free State. I hereby apply for permission to include the University of the Free State (UFS) as a site to obtain participants for my research study: **A description of behaviour that may indicate crossover from weight-restored Anorexia Nervosa to Bulimia Nervosa.**

Firstly, female students, aged 18 years and older, previously or currently diagnosed with Anorexia Nervosa and Bulimia Nervosa according to the DSM-IV-TR diagnostic criteria will be recruited by means of advertisements placed in the hostels, the town hostel gazette's and at Kovsie Health; and secondly, these participants will be required to participate in a once-off, one-on-one interview conducted by the researcher during which a structured questionnaire will be completed. The participant's weight and height will also be measured. The interview will take place at Kovsie Health, UFS, after they have been informed about the study and given written consent.

The study protocol will be submitted for approval to the Ethics Committee of the Faculty of Health Sciences. All information will be kept strictly confidential and no information will be used for purposes other than the research project. Respondents will be informed that their decision to participate is voluntary and that they are allowed to withdraw from the study at any time.

Findings may be published, and or presented at a meeting/congress. In addition, participants will be notified of the findings of the study via email. Patients with current disordered eating patterns, not currently being treated will be referred to Kovsie Health for further assessment.

Sincerely,

Donna Barr

M.Sc. Dietetics Student (Student Number: 2002026983)

APPENDIX C (2): LETTER TO REQUEST PERMISSION FROM UFS

Re: Permission to conduct a research study at the University of the Free State

To: Mr R Buys

Dean: Student Services

I am a student, currently registered for a Masters degree in Nutrition and Dietetics at the University of the Free State. I hereby apply for permission to include the University of the Free State (UFS) as a site to obtain participants for my research study: **A description of behaviour that may indicate crossover from weight-restored Anorexia Nervosa to Bulimia Nervosa.**

Firstly, Female students, aged 18 years and older, previously or currently diagnosed with Anorexia Nervosa and Bulimia Nervosa according to the DSM-IV-TR diagnostic criteria will be recruited by means of advertisements placed in the hostels, the town hostel gazette's and at Kovsie Health; and secondly, these participants are required to participate in a once-off, one-to-one interview conducted by the researcher during which a questionnaire will be completed. The participant's weight and height will also be measured. The interview will take place at Kovsie Health, UFS, after they have been informed about the study and given consent.

The study will be submitted for approval to the Ethics Committee of the Faculty of Health Sciences. All information will be kept strictly confidential and no information will be used for purposes other than the research project. The respondent's decision to participate is voluntary and they are allowed to withdraw from the study at any time.

Findings may be published, and or presented at a meeting/congress. In addition, participants will be notified of the findings of the study via email. Patients with current disordered eating patterns, not currently being treated will be referred to Kovsie Health for further assessment.

Sincerely,

Donna Barr

M.Sc. Dietetics Student (Student Number: 2002026983)

**APPENDIX C (3): LETTER TO REQUEST PERMISSION FROM BLOEMCARE
PSYCHIATRIC CLINIC**

Re: Permission to conduct a research study at Bloemcare Psychiatric Clinic

To: Mrs. Botha

Manager: Bloemcare Psychiatric Clinic

I am a student, currently registered for a Masters degree in Nutrition and Dietetics at the University of the Free State. I hereby request permission to include Bloemcare Psychiatric Clinic as a site to obtain participants for my research study: **A description of behaviour that may indicate crossover from weight-restored Anorexia Nervosa to Bulimia Nervosa.**

Firstly, Female students, aged 18 years and older, previously or currently diagnosed with Anorexia Nervosa and Bulimia Nervosa according to the DSM-IV-TR diagnostic criteria will be recruited by means of the Psychiatrist's and nursing staff informing prospective in- and out-patients regarding the study and by advertisements placed in Bloemcare Clinic. Willing participants or staff may then contact the researcher directly via email or sms. Secondly, these participants are required to participate in a once-off, one-to-one interview conducted by the researcher during which a questionnaire will be completed. The participant's weight and height will also be measured. The interview will take place at Kopsie Health, UFS.

The Ethics Committee of the Faculty of Health Sciences has approved the study. All information will be kept strictly confidential and no information will be used for purposes other than the research project. The respondent's decision to participate is voluntary and they are allowed to withdraw from the study at any time.

Findings may be published, and or presented at a meeting/congress. In addition, participants will be notified of the findings of the study via email.

Sincerely,

Donna Barr

M.Sc. Dietetics Student (2002026983)

APPENDIX C (4): LETTER TO REQUEST PERMISSION FROM PROSPECTIVE PARTICIPANTS

Re: Informing prospective patients of the study conducted by the UFS

To: Whom it may concern

I am a student, currently registered for a Masters degree in Nutrition and Dietetics at the University of the Free State. I have received permission from the Manager: Mrs. Botha to include Bloemcare Clinic as a site to obtain participants for my research study: **A description of behaviour that may indicate crossover from weight-restored Anorexia Nervosa to Bulimia Nervosa.**

Firstly, females, aged 18 years and older, previously or currently diagnosed with Anorexia Nervosa and Bulimia Nervosa according to the DSM-IV-TR diagnostic criteria will be included in the study. Secondly, participants will be required to participate in a once-off, one-on-one interview conducted by the researcher during which a structured questionnaire will be completed. The participant's weight and height will also be measured. The interview will take place at Kovie Health, UFS.

The Ethics Committee of the Faculty of Health Sciences, UFS, has approved the study protocol. All information will be kept strictly confidential and no information will be used for purposes other than the research project. Respondents will be informed that their decision to participate is voluntary and that they are allowed to withdraw from the study at any time.

Findings may be published, and or presented at a meeting/congress. In addition, participants will be notified of the findings of the study via email or sms.

Herewith, I would like to request that you assist me by informing the patient of the study taking place. Advertisements will also be distributed in the Bloemcare Clinic. Willing participants may then contact the researcher directly via email (donnavanzyl@yahoo.com) or sms (+27827808087).

Sincerely,
Donna Barr (M.Sc. Dietetics Student)

APPENDIX D: LIST OF DEFINITIONS

List of Definitions to go through with the participant prior to interview commencement:

Anorexia Nervosa: A disease characterised by: (1) refusal to maintain a minimally normal body weight, (2) intense fear of gaining weight, (3) body image distortion and (4) amenorrhoea in postmenarcheal females

AN Restrictive type: During the current episode of AN, the individual has not regularly engaged in binge eating and/or purging behaviour

AN Binge-Purging type: During the current episode of AN, the individual has regularly engaged in binge eating and/or purging behaviour (self-induced vomiting or the misuse of laxatives, diuretics or enemas)

Bulimia Nervosa: An illness characterised by recurrent episodes of binge eating followed by inappropriate compensatory methods such as purging, including self-induced vomiting or the misuse of laxatives, diuretics or enemas or non-purging, including as fasting or excessive exercise.

BN Purging type: During the current episode of BN, the individual has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics or enemas

BN Non-purging type: During the current episode of BN, the individual has used other compensatory behaviours, such as fasting or excessive exercise, but has not regularly engaged in self induced vomiting or the misuse of laxatives, diuretics or enemas

EDNOS: a diagnostic category for eating disorders that fail to meet full criteria for either AN or BN

Binge: an episode of eating marked by three particular features: (1) the amount of food eaten is larger than what the person would eat under similar circumstances; (2) the excessive eating occurs in a discrete period, usually less than 2 hours; and (3) the eating is accompanied by a subjective sense of loss of control

Inappropriate behaviours/compensatory methods: examples include purging, including self-induced vomiting or the misuse of laxatives, diuretics or enemas or non-purging, including as fasting or excessive exercise. (Schebendach & Reichert-Anderson, 2004:594)

APPENDIX E (1): QUESTIONNAIRE 1

Questionnaire 1

A DESCRIPTION OF BEHAVIOUR THAT MAY INDICATE CROSSOVER FROM WEIGHT-RESTORED ANOREXIA NERVOSA TO BULIMIA NERVOSA

(All information in this questionnaire is confidential)

Questionnaire number:

D	D	M	M	Y	Y	Y	Y		

Interview Date:

1-2

3-10

Birth Date:

D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

11-18

Gender: 1=female 2=male

Current Weight (kg): _____

Lowest weight during diagnosis (kg): _____

Highest weight in lifetime (kg): _____

Total weight gain from lowest weight during recovery (kg): _____

The recommended goal weight (kg): _____

What is the weight that YOU feel most comfortable at? (kg): _____

Height (cm): _____

		.		
		.		
		.		
		.		
		.		
		.		
		.		
		.		

19

20-23

24-27

28-31

32-35

36-39

40-43

44-48

Is Anorexia Nervosa a current or past diagnosis?

 49

1. Current
2. Past

Which type of Anorexia Nervosa do you or did you have?

 50

1. Restrictive type
2. Binge eating –purging type

CURRENT RESTRICTIVE TYPE			
Complete this section if the participant is currently diagnosed with current restrictive type Anorexia			
How long have you had Anorexia Nervosa Restrictive type for? _____ Months	<input type="checkbox"/>	<input type="checkbox"/>	51-52
Do you mostly only engage in food restrictive behaviour? (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	53
If NO, Please indicate what kind	<input type="checkbox"/>	<input type="checkbox"/>	54-55
_____	<input type="checkbox"/>	<input type="checkbox"/>	56-57
How often would you engage in behaviour other than restrictive behaviour? _____ times /week	<input type="checkbox"/>	<input type="checkbox"/>	58-59
Are you currently receiving treatment? (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	
Please specify what type treatment are you currently receiving?	<input type="checkbox"/>	<input type="checkbox"/>	60
1. Psychiatry counselling (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	61
2. Psychological counselling (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	62
3. Spiritual counselling (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	63
4. Nutrition counselling from a Dietitian (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	64
5. Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	65-66
_____	<input type="checkbox"/>	<input type="checkbox"/>	67-68
_____	<input type="checkbox"/>	<input type="checkbox"/>	69-70
_____	<input type="checkbox"/>	<input type="checkbox"/>	71-72
_____	<input type="checkbox"/>	<input type="checkbox"/>	73-74
Are you currently taking medication? (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	75
If Yes, please specify: _____	<input type="checkbox"/>	<input type="checkbox"/>	76-77
_____	<input type="checkbox"/>	<input type="checkbox"/>	78-79
_____	<input type="checkbox"/>	<input type="checkbox"/>	1-2
_____	<input type="checkbox"/>	<input type="checkbox"/>	3-4
_____	<input type="checkbox"/>	<input type="checkbox"/>	5-6
Are you currently reading self-help books? (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	7
If Yes, please specify:	<input type="checkbox"/>	<input type="checkbox"/>	
_____	<input type="checkbox"/>	<input type="checkbox"/>	8-9
_____	<input type="checkbox"/>	<input type="checkbox"/>	10-11
_____	<input type="checkbox"/>	<input type="checkbox"/>	12-13
_____	<input type="checkbox"/>	<input type="checkbox"/>	14-15
_____	<input type="checkbox"/>	<input type="checkbox"/>	16-17
How have you been treated?	<input type="checkbox"/>	<input type="checkbox"/>	
1. In-patient basis (Hospital) (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	18
2. Out-patient basis (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	19
3. Other:	<input type="checkbox"/>	<input type="checkbox"/>	20-21
_____	<input type="checkbox"/>	<input type="checkbox"/>	22-23

If you are not currently receiving treatment, have you in the past received:

- | | | | |
|--------------------------------------------------------|--------------------------|--------------------------|-------|
| 1. Psychiatry counselling (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 24 |
| 2. Psychological counselling (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 25 |
| 3. Spiritual counselling (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 26 |
| 4. Nutrition counselling from a Dietitian (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 27 |
| 5. Other: _____ | <input type="checkbox"/> | <input type="checkbox"/> | 28-29 |

Have you taken medication specific to the diagnosis? (1=yes 2=no)

If Yes, please specify:

<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	31-32
<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	33-34
<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	35-36
<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	37-38
<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	39-40

Have you read self-help books? (1=yes 2=no)

If Yes, please specify:

<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	41
<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	42-43
<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	44-45
<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	46-47
<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	48-49
<hr/>	<input type="checkbox"/>	<input type="checkbox"/>	50-51

Have you recovered completely from this eating disorder? (1=yes 2=no)

Is this the first and only time you have been diagnosed with an eating disorder? (1=yes 2=no)

If NO, Were you diagnosed with:

- | | | | |
|---------------------------------------------------------|--------------------------|--------------------------|----|
| 1. Bulimia Nervosa Purging type (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 54 |
| 2. Bulimia Nervosa Non-Purging type (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 55 |
| 3. Eating disorder not otherwise specified (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 56 |
| 4. Binge eating disorder (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 57 |
| 5. Other: _____ | <input type="checkbox"/> | <input type="checkbox"/> | 58 |

Before the restrictive behaviour started did you engage in any inappropriate activities to maintain weight/prevent weight gain/lose weight? (1=yes 2=no)

If Yes, What type of inappropriate activities did you engage in?

- | | | | |
|---------------------------------------|--------------------------|--------------------------|-------|
| 1. Appetite Suppressants (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 60 |
| 2. Laxative abuse (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 61 |
| 3. Excessive Exercise (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 62 |
| 4. Fasting (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 63 |
| 5. Fat burners (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 64 |
| 6. Self-induced vomiting (1=yes 2=no) | <input type="checkbox"/> | <input type="checkbox"/> | 65 |
| 7. Other: _____ | <input type="checkbox"/> | <input type="checkbox"/> | 66-67 |

Where did you hear about or learn these behaviours from?

- 1. Friends (1=yes 2=no)
- 2. Family (1=yes 2=no)
- 3. Media (1=yes 2=no)
- 4. Other: _____

	68
	69
	70
	71
	72
	73

Are you preoccupied with your weight? (1=yes 2=no)

If YES, please indicate when your preoccupation started:

- 1. At School
- 2. At University
- 3. Other: _____

	74
--	----

What do you think is the **main reason** why this preoccupation started?

		75-76
--	--	-------

Do you think the eating disorder is mostly about the weight control? (1=yes 2=no)

If NO, please indicate the main reason why you think you have an eating disorder.

		77
		78-79

Is it easy for you to control the restrictive behaviour? (1=yes 2=no)

	80
--	----

What do you do to prevent yourself from "losing control" over your restrictive behaviour?

		1-2
		3-4
		5-6
		7-8
		9-10

How would you feel if you lose control over the restrictive behaviour and engage in a binge/overeating episode?

		11-12
		13-14
		15-16
		17-18
		19-20

What would you do to cope/deal with these feelings?

			21-22
			23-24
			25-26
			27-28
			29-30

Do you currently often get tempted to overeat? (1=yes 2=no)

		31
--	--	----

IF YES, What triggers you to overeat?

1. Time of day (1=yes 2=no) If Yes, specify: _____			32
2. Time of season (1=yes 2=no) If Yes, specify: _____			33-34
3. Comments made by family/friends (1=yes 2=no) If Yes, specify: _____			35
4. Feelings e.g. loneliness (1=yes 2=no) If Yes, specify: _____			36-37
5. Social pressure (1=yes 2=no) If Yes, specify: _____			38
6. Physical weight gain (1=yes 2=no) If Yes, specify: _____			39-40
7. Boredom (1=yes 2=no) If Yes, specify: _____			41
8. Other: _____			42-43
			44
			45-46
			47
			48-49
			50
			51-52
			53-54

After the "overeat/binge" would you engage in an inappropriate behaviour in order to prevent the weight gain? (1=yes 2=no)

		55
--	--	----

If YES, What inappropriate behaviour would you engage in?

1. Purging type			56
2. Non-purging type			
3. Both			

Specify: _____

How often would you overeat and then engage in these inappropriate behaviours? _____ times a week

If you are unable to engage in a specific behaviour to prevent the "weight gain", how do you feel?

			57-58
			59-60
			61-62
			63-64
			65-66
			67-68
			69-70

Do you have safe foods that do not stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no)

		71
--	--	----

If YES , please indicate 5 examples of safe foods:	<input type="text"/>	<input type="text"/>	72-73
	<input type="text"/>	<input type="text"/>	74-75
	<input type="text"/>	<input type="text"/>	76-77
	<input type="text"/>	<input type="text"/>	78-79
	<input type="text"/>	<input type="text"/>	1-2
Do you have unsafe foods that do stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no)	<input type="text"/>	<input type="text"/>	3
If YES , please indicate 5 examples of unsafe foods:	<input type="text"/>	<input type="text"/>	4-5
	<input type="text"/>	<input type="text"/>	6-7
	<input type="text"/>	<input type="text"/>	8-9
	<input type="text"/>	<input type="text"/>	10-11
	<input type="text"/>	<input type="text"/>	12-13
Do you eat breakfast? (1=yes 2=no)	<input type="text"/>	<input type="text"/>	14
If NO , indicate the main reason why you do not eat breakfast?	<input type="text"/>	<input type="text"/>	15-16
<hr/>			
During the course of the restrictive AN, have you endeavoured to gain weight? (1=yes 2=no)	<input type="text"/>	<input type="text"/>	17
IF YES , How much total weight in kg did you gain?	<input type="text"/>	<input type="text"/>	18-22
DURING the process of this weight gain, did you engage in inappropriate behaviour/s to prevent the weight gain? (1=yes 2=no)	<input type="text"/>	<input type="text"/>	23
IF YES , How often? _____ times a month	<input type="text"/>	<input type="text"/>	24-25
Specify the type of behaviour/s:			
1. Self-induced vomiting (1=yes 2=no)	<input type="text"/>	<input type="text"/>	26
2. Laxative, diuretics or enema misuse (1=yes 2=no)	<input type="text"/>	<input type="text"/>	27
3. Excessive exercise (1=yes 2=no)	<input type="text"/>	<input type="text"/>	28
4. Fasting (1=yes 2=no)	<input type="text"/>	<input type="text"/>	29
5. Other: _____	<input type="text"/>	<input type="text"/>	30-31
_____	<input type="text"/>	<input type="text"/>	32-33

PAST RESTRICTIVE TYPE		
Complete this section if the participant was diagnosed with restrictive type Anorexia in the past		
How long did you have Anorexia Nervosa Restrictive type? _____ months	<input type="checkbox"/>	<input type="checkbox"/> 1-2
Did you mostly only engage in food restrictive behaviour? (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 3
If NO, please indicate what kind of behaviour: _____	<input type="checkbox"/>	<input type="checkbox"/> 4-5
_____	<input type="checkbox"/>	<input type="checkbox"/> 6-7
How often would you engage in behaviour other than restrictive behaviour? _____ times a week	<input type="checkbox"/>	<input type="checkbox"/> 8-9
Was this the first and only time you have been diagnosed with an eating disorder? (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 10
If NO, Were you diagnosed with:		
1. Bulimia Nervosa Purging type (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 11
2. Bulimia Nervosa Non-Purging type (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 12
3. Eating disorder not otherwise specified (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 13
4. Binge eating disorder (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 14
5. Other: _____	<input type="checkbox"/>	<input type="checkbox"/> 15
Did you receive?		
1. Psychiatry counselling (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 16
2. Psychological counselling (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 17
3. Spiritual counselling (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 18
4. Nutrition counselling from a Dietitian (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 19
5. Other: _____	<input type="checkbox"/>	<input type="checkbox"/> 20-21
Did you take medication specific to the diagnosis? (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 22
If Yes, please specify:		
_____	<input type="checkbox"/>	<input type="checkbox"/> 23-24
_____	<input type="checkbox"/>	<input type="checkbox"/> 25-26
_____	<input type="checkbox"/>	<input type="checkbox"/> 27-28
_____	<input type="checkbox"/>	<input type="checkbox"/> 29-30
_____	<input type="checkbox"/>	<input type="checkbox"/> 31-32
Did you read self-help books? (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 33
If Yes, please specify:		
_____	<input type="checkbox"/>	<input type="checkbox"/> 34-35
_____	<input type="checkbox"/>	<input type="checkbox"/> 36-37
_____	<input type="checkbox"/>	<input type="checkbox"/> 38-39
_____	<input type="checkbox"/>	<input type="checkbox"/> 40-41
_____	<input type="checkbox"/>	<input type="checkbox"/> 42-43
Were you treated as an:		
1. In-patient (Hospital) (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 44
2. Out-patient (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 45
3. Other: _____	<input type="checkbox"/>	<input type="checkbox"/> 46-47
Are you currently receiving treatment? (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/> 48

Please specify what type treatment are you currently receiving?

1. Psychiatry counselling (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	49
2. Psychological counselling (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	50
3. Spiritual counselling (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	51
4. Nutrition counselling from a Dietitian (1=yes 2=no)	<input type="checkbox"/>	<input type="checkbox"/>	52
5. Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	53-54
_____	<input type="checkbox"/>	<input type="checkbox"/>	55-56
_____	<input type="checkbox"/>	<input type="checkbox"/>	57-58
_____	<input type="checkbox"/>	<input type="checkbox"/>	59-60
_____	<input type="checkbox"/>	<input type="checkbox"/>	61-62

Are you currently taking medication? (1=yes 2=no)

If Yes, please specify: _____	<input type="checkbox"/>	<input type="checkbox"/>	63
_____	<input type="checkbox"/>	<input type="checkbox"/>	64-65
_____	<input type="checkbox"/>	<input type="checkbox"/>	66-67
_____	<input type="checkbox"/>	<input type="checkbox"/>	68-69
_____	<input type="checkbox"/>	<input type="checkbox"/>	70-71
_____	<input type="checkbox"/>	<input type="checkbox"/>	72-73

Are you currently reading self-help books? (1=yes 2=no)

If Yes, please specify:	<input type="checkbox"/>	<input type="checkbox"/>	74
_____	<input type="checkbox"/>	<input type="checkbox"/>	75-76
_____	<input type="checkbox"/>	<input type="checkbox"/>	77-78
_____	<input type="checkbox"/>	<input type="checkbox"/>	79-80
_____	<input type="checkbox"/>	<input type="checkbox"/>	1-2
_____	<input type="checkbox"/>	<input type="checkbox"/>	3-4

Are you preoccupied with your weight? (1=yes 2=no)

If YES, please indicate when your preoccupation started:

1. At School	<input type="checkbox"/>	5
2. At University	<input type="checkbox"/>	6
3. Other: _____	<input type="checkbox"/>	7

What do you think is the **main reason** why this preoccupation started?

_____	<input type="checkbox"/>	<input type="checkbox"/>	8-9

Do you think the eating disorder is mostly about the weight control? (1=yes 2=no)

		10
		11-12

IF NO, please indicate the **main reason** why you think you have an eating disorder:

Do you eat breakfast? (1=yes 2=no)

		13
		14-15

IF NO, indicate the main reason why you do not eat breakfast?

Are you currently at "goal weight" recommended by your medical team? (1=yes 2=no)

		16
		17-18
		19

IF YES, how long have you been at the "goal weight" recommended by the medical team? _____ years

DURING the process of weight restoration or weight gain, did you engage in inappropriate behaviour/s to prevent the weight gain? (1=yes 2=no)

If you did engage in inappropriate behaviours, please specify the type:

1. Self-induced vomiting (1=yes 2=no)
2. Laxative, diuretics or enema misuse (1=yes 2=no)
3. Excessive exercise (1=yes 2=no)
4. Fasting (1=yes 2=no)
5. Other: _____

		20
		21
		22
		23
		24-25
		26-27
		28-29

How often would you engage in these inappropriate behaviours? _____ times a month

Where did you hear about or learn these behaviours from?

1. Friends (1=yes 2=no)
2. Family (1=yes 2=no)
3. Media (1=yes 2=no)
4. Other: _____

		30
		31
		32
		33
		34

ONCE YOU HAD reached the goal weight, did you engage in inappropriate behaviour/s? (1=yes 2=no)

IF YES, What inappropriate behaviour would you engage in?

1. Self-induced vomiting (1=yes 2=no)
2. Laxative, diuretics or enema misuse (1=yes 2=no)
3. Excessive exercise (1=yes 2=no)
4. Fasting (1=yes 2=no)
5. Other: _____

		35
		36
		37
		38
		39

Did you engage in these inappropriate behaviours in order to?

1. Prevent weight gain
2. Lose weight
3. Other: _____

		40
		41
		42

Did these activities allow you to appear “normal” by eating in front of your friends and family, thus pleasing them and then purging or non-purging in the secret to feel better? (1=yes 2=no) 43

Did you feel a sense of relief after you have engaged in the inappropriate behaviour/s? (1=yes 2=no) 44

In your opinion what feelings did you experience regarding the weight gain?

- 1. Did you fear gaining weight (1=yes 2=no) 45
- 2. Did you experience a sense of lack of control when eating (1=yes 2=no) 46
- 3. Did you feel like a failure (1=yes 2=no) 47
- 4. Did you feel physically fat (1=yes 2=no) 48
- 5. Other: _____ 49-50
 _____ 51-52

How would you have felt if you had eaten too much for yourself and you were not able to engage in inappropriate behaviour/s?

_____	<input type="checkbox"/>	<input type="checkbox"/>	53-54
_____	<input type="checkbox"/>	<input type="checkbox"/>	55-56
_____	<input type="checkbox"/>	<input type="checkbox"/>	57-58
_____	<input type="checkbox"/>	<input type="checkbox"/>	59-60
_____	<input type="checkbox"/>	<input type="checkbox"/>	61-62

What did you do to try prevent yourself from engaging in a binge?

_____	<input type="checkbox"/>	<input type="checkbox"/>	63-64
_____	<input type="checkbox"/>	<input type="checkbox"/>	65-66
_____	<input type="checkbox"/>	<input type="checkbox"/>	67-68
_____	<input type="checkbox"/>	<input type="checkbox"/>	69-70
_____	<input type="checkbox"/>	<input type="checkbox"/>	71-72

What did you do to try prevent yourself from engaging in inappropriate behaviour after a binge has taken place?

_____	<input type="checkbox"/>	<input type="checkbox"/>	73-74
_____	<input type="checkbox"/>	<input type="checkbox"/>	75-76
_____	<input type="checkbox"/>	<input type="checkbox"/>	77-78
_____	<input type="checkbox"/>	<input type="checkbox"/>	79-80
_____	<input type="checkbox"/>	<input type="checkbox"/>	1-2

Do you have safe foods that do not stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no) 3

If YES, please indicate 5 examples of safe foods:

_____	<input type="checkbox"/>	<input type="checkbox"/>	4-5
_____	<input type="checkbox"/>	<input type="checkbox"/>	6-7
_____	<input type="checkbox"/>	<input type="checkbox"/>	8-9
_____	<input type="checkbox"/>	<input type="checkbox"/>	10-11
_____	<input type="checkbox"/>	<input type="checkbox"/>	12-13

Do you have unsafe foods that do stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no)

		14
--	--	----

If YES, please indicate 5 examples of unsafe foods:

			15-16
			17-18
			19-20
			21-22
			23-24

If you did NOT engage in inappropriate behaviours after the process of weight restoration, have you:

1. Recovered completely, and you are maintaining your weight by NOT engaging in inappropriate behaviour

		25
--	--	----

2. Have you resorted back to Anorexia Nervosa Restrictive type

		26
--	--	----

3. Have you resorted back to Anorexia Nervosa Binge/purge type

		27
--	--	----

4. You have gained weight to a level that is overweight/obese and NOT engaging in inappropriate behaviours

		28
--	--	----

5. Other: _____

		29-30
		31-32

If you have completely recovered and maintain an ideal weight, indicate how you maintain the ideal weight? (If you have not recovered leave this question open)

			33-34
			35-36
			37-38
			39-40
			41-42

Do you currently get tempted to overeat? (1=yes 2=no)

		43
--	--	----

What generally triggers you to overeat?

1. Time of day (1=yes 2=no)

If Yes, specify: _____

		44
		45-46

2. Time of season (1=yes 2=no)

If Yes, specify: _____

		47
		48-49

3. Comments made by family/friends (1=yes 2=no)

If Yes, specify: _____

		50
		51-52

4. Feelings e.g. loneliness (1=yes 2=no)

If Yes, specify: _____

		53
		54-55

5. Social pressure (1=yes 2=no)

If Yes, specify: _____

		56
		57-58

6. Physical weight gain (1=yes 2=no)

If Yes, specify: _____

		59
		60-61

7. Boredom (1=yes 2=no)

If Yes, specify: _____

		62
		63-64

8. Other: _____

		65-66
--	--	-------

Are you currently engaging in inappropriate behaviour in order to prevent the weight gain? (1=yes 2=no) 67

If YES, Specify the type of behaviour/s:

1. Self-induced vomiting (1=yes 2=no) 68

2. Laxative, diuretics or enema misuse (1=yes 2=no) 69

3. Excessive exercise (1=yes 2=no) 70

4. Fasting (1=yes 2=no) 71

5. Other: _____ 72-73

How often would you overeat and engage in these inappropriate behaviours? _____ times a month 74-75

Diagnostic Criteria Below: Tick in the Box what is applicable to the participant. (1=yes 2=no)

Do you experience recurrent episodes of binge eating characterised by both of the following: 76

- Eating, in a discrete period (e.g. within any 2-hr period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances.
- A sense of lack of control over eating during the binge episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating)

Do you engage in recurrent inappropriate compensatory behaviour in order to prevent weight gain such as self-induced vomiting; misuse of laxatives, diuretics, enemas or other medication; fasting; or excessive exercise. (1=yes 2=no) 77

Does the binge eating and inappropriate compensatory behaviour both occur on average, at least twice a week for at least 3 months. (1=yes 2=no) 1

Is your self-evaluation unreasonably influenced by body shape and weight. (1=yes 2=no) 2

The binge and inappropriate behaviours DO NOT occur during episodes of AN. (1=yes 2=no) 3

Choose the subtype that best describes your behaviour: 4

1. **Purging type.** During the current episode of BN, the individual has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics or enemas
2. **Non-purging type.** During the current episode of BN, the individual has used other compensatory behaviours, such as fasting or excessive exercise, but has not regularly engaged in self induced vomiting or the misuse of laxatives, diuretics or enemas

Do your friends or family members know about your current behaviour? (1=yes 2=no) 5

If YES, how did they find out? 6-7

Have you searched for help? (1=yes 2=no) 8

If NO, would you like help? (1=yes 2=no) 9

(If you have answered "no" to binge and purging behaviour this interview is finished)

CURRENT BINGE EATING/PURGING TYPE AN

(This section to be completed if the participant answered yes to current binge eating and purging)

For how long have you had Anorexia Nervosa Binge/purging type? _____ Months 10-11

Do you currently mostly only engage in the binge/purge behaviour? (1=yes 2=no) 12

If NO, please specify what other inappropriate behaviour you would engage in, in order to prevent weight gain or to lose weight?

_____ 13-14

_____ 15-16

_____ 17-18

_____ 19-20

_____ 21-22

How often will you engage in inappropriate behaviour other than the binge/purge behaviour?

_____ times a week 23-24

_____ 25-26

Was this the first and only time you have been diagnosed with an eating disorder? (1=yes 2=no) 27

If NO, Were you diagnosed with:

1. Bulimia Nervosa Purging type (1=yes 2=no) 28

2. Bulimia Nervosa Non-Purging type (1=yes 2=no) 29

3. Eating disorder not otherwise specified (1=yes 2=no) 30

4. Binge eating disorder (1=yes 2=no) 31

5. Other: _____ 32

Were you diagnosed by?

1. Yourself (1=yes 2=no) 33

2. A Doctor (1=yes 2=no) 34

3. A Psychologist (1=yes 2=no) 35

4. Other: _____ 36

When were you diagnosed for the first time? _____ year 37-40

Are you currently receiving treatment? (1=yes 2=no) 41

Please specify what type treatment are you currently receiving?

1. Psychiatry counselling (1=yes 2=no) 42

2. Psychological counselling (1=yes 2=no) 43

3. Spiritual counselling (1=yes 2=no) 44

4. Nutrition counselling from a Dietitian (1=yes 2=no) 45

5. Other: _____ 46-47

_____ 48-49

_____ 50-51

_____ 52-53

_____ 54-55

Are you currently taking medication? (1=yes 2=no)

If Yes, please specify:

			56
			57-58
			59-60
			61-62
			63-64
			65-66
			67

Are you currently reading self-help books? (1=yes 2=no)

If Yes, please specify:

			68-69
			70-71
			72-73
			74-75
			76-77

How have you been treated?

1. In-patient basis (Hospital) (1=yes 2=no)

2. Out-patient basis (1=yes 2=no)

3. Other: _____

			78
			79
			1-2
			3-4

If you are not currently receiving treatment, have you in the past received:

1. Psychiatry counselling (1=yes 2=no)

2. Psychological counselling (1=yes 2=no)

3. Spiritual counselling (1=yes 2=no)

4. Nutrition counselling from a Dietitian (1=yes 2=no)

5. Other: _____

			5
			6
			7
			8
			9-10
			11

Have you taken medication specific to the diagnosis? (1=yes 2=no)

If Yes, please specify:

			12-13
			14-15
			16-17
			18-19
			20-21

Have you read self-help books? (1=yes 2=no)

If Yes, please specify:

			22
			23-24
			25-26
			27-28
			29-30
			31-32

Before the binge/purging behaviour started did you engage in any inappropriate activities to maintain your weight/prevent weight gain/lose weight? (1=yes 2=no)

			33
--	--	--	----

What type of inappropriate activities did you engage in?

1. Appetite Suppressants (1=yes 2=no)
2. Laxative abuse (1=yes 2=no)
3. Excessive Exercise (1=yes 2=no)
4. Fasting (1=yes 2=no)
5. Fat burners (1=yes 2=no)
6. Self-induced vomiting (1=yes 2=no)
7. Other: _____

		34
		35
		36
		37
		38
		39
		40-41

Where did you hear about or learn these behaviours from?

1. Friends (1=yes 2=no)
2. Family (1=yes 2=no)
3. Media (1=yes 2=no)
4. Other: _____

		42
		43
		44
		45
		46
		47

Are you preoccupied with your weight? (1=yes 2=no)

If YES, please indicate when your preoccupation started:

1. At School
2. At University
3. Other: _____

What do you think is the main reason why this preoccupation started?

		48-49
--	--	-------

Do you think the eating disorder is mostly about the weight control? (1=yes 2=no)

IF NO, please indicate the main reason why you have an eating disorder:

		50
		51-52

What triggers you to overeat?

1. Time of day (1=yes 2=no)
If Yes, specify: _____
2. Time of season (1=yes 2=no)
If Yes, specify: _____
3. Comments made by family/friends (1=yes 2=no)
If Yes, specify: _____
4. Feelings e.g. loneliness (1=yes 2=no)
If Yes, specify: _____
5. Social pressure (1=yes 2=no)
If Yes, specify: _____
6. Physical weight gain (1=yes 2=no)
If Yes, specify: _____
7. Boredom (1=yes 2=no)
If Yes, specify: _____
8. Other: _____

		53
		54-55
		56
		57-58
		59
		60-61
		62
		63-64
		65
		66-67
		68
		69-70
		71
		72-73
		74-75
		76

After the "overeate/binge" would you engage in an inappropriate behaviour in order to prevent the weight gain? (1=yes 2=no)

If YES, What inappropriate behaviour would you engage in?

1. Purging type
2. Non-purging type
3. Both

Specify: _____

		77
		78-79
		1-2
		3
		4

How often would you overeat and then engage in these inappropriate behaviours? ____ times a week

Do you feel a sense of relief after you have engaged in the inappropriate behaviour/s? (1=yes 2=no)

If you are unable to engage in a specific behaviour to prevent the "weight gain", how do you feel?

		5-6
		7-8
		9-10
		11-12
		13-14

Do you try to prevent yourself from engaging in inappropriate behaviour? (1=yes 2=no) 15

What do you do to try preventing yourself from engaging in inappropriate behaviour after a binge has taken place?

			16-17
			18-19
			20-21
			22-23
			24-25

Do you try to prevent yourself from engaging in a binge? (1=yes 2=no) 26

If YES, What do you do to try preventing yourself from engaging in a binge?

			27-28
			29-30
			31-32
			33-34
			35-36

When during the day do your binges mostly take place?

1. Morning
2. Late Afternoon
3. At night
4. Other: _____

			37
			38
			39
			40
			41-42

What do you think is the main reason for this time of day?

Do you have safe foods that do not stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no) 43

If YES, please indicate 5 examples of safe foods:

			44-45
			46-47
			48-49
			50-51
			52-53

Do you have unsafe foods that do stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no)

If YES, please indicate 5 examples of unsafe foods:

			54-55
			56-57
			58-59
			60-61
			62-63

Do you eat breakfast? (1=yes 2=no)

If NO, what is the main reason why you do not eat breakfast?

		64
		65-66

Are you currently at the "goal weight" recommended by your medical team? (1=yes 2=no)

If NO, would you like to be at goal weight? (1=yes 2=no)

	67
	68

PAST BINGE/PURGE AN TYPE			
(This section to be completed if the participant answered yes to past binge eating and purging)			
For how long did you have Anorexia Nervosa Binge/purging type? _____ Months	<input type="text"/>	<input type="text"/>	69-70
Did you mostly only engage in the binge/purge behaviour? (1=yes 2=no)	<input type="text"/>	<input type="text"/>	71
If NO, please specify what other inappropriate behaviour you would engage in, in order to prevent weight gain or to lose weight?			
_____	<input type="text"/>	<input type="text"/>	72-73
_____	<input type="text"/>	<input type="text"/>	74-75
_____	<input type="text"/>	<input type="text"/>	76-77
_____	<input type="text"/>	<input type="text"/>	78-79
_____	<input type="text"/>	<input type="text"/>	1-2
How often will you engage in inappropriate behaviour other than the binge/purge behaviour? ___ x week	<input type="text"/>	<input type="text"/>	3-4
Was this the first and only time you had been diagnosed with an eating disorder? (1=yes 2=no)	<input type="text"/>	<input type="text"/>	5
If NO, Were you diagnosed with:			
1. Bulimia Nervosa Purging type (1=yes 2=no)	<input type="text"/>	<input type="text"/>	6
2. Bulimia Nervosa Non-Purging type (1=yes 2=no)	<input type="text"/>	<input type="text"/>	7
3. Eating disorder not otherwise specified (1=yes 2=no)	<input type="text"/>	<input type="text"/>	8
4. Binge eating disorder (1=yes 2=no)	<input type="text"/>	<input type="text"/>	9
5. Other: _____	<input type="text"/>	<input type="text"/>	10
Were you diagnosed by?			
1. Yourself (1=yes 2=no)	<input type="text"/>	<input type="text"/>	11
2. A Doctor (1=yes 2=no)	<input type="text"/>	<input type="text"/>	12
3. A Psychologist (1=yes 2=no)	<input type="text"/>	<input type="text"/>	13
4. Other: _____	<input type="text"/>	<input type="text"/>	14
When were you diagnosed for the first time? _____ year	<input type="text"/>	<input type="text"/>	15-18
Are you currently receiving treatment? (1=yes 2=no)			
Please specify what type treatment are you currently receiving?			
1. Psychiatry counselling (1=yes 2=no)	<input type="text"/>	<input type="text"/>	19
2. Psychological counselling (1=yes 2=no)	<input type="text"/>	<input type="text"/>	20
3. Spiritual counselling (1=yes 2=no)	<input type="text"/>	<input type="text"/>	21
4. Nutrition counselling from a Dietitian (1=yes 2=no)	<input type="text"/>	<input type="text"/>	22
5. Other: _____	<input type="text"/>	<input type="text"/>	23
_____	<input type="text"/>	<input type="text"/>	24-25
_____	<input type="text"/>	<input type="text"/>	26-27
_____	<input type="text"/>	<input type="text"/>	28-29
_____	<input type="text"/>	<input type="text"/>	30-31
_____	<input type="text"/>	<input type="text"/>	32-33

Are you currently taking medication? (1=yes 2=no)

If Yes, please specify:

			34
			35-36
			37-38
			39-40
			41-42
			43-44

Are you currently reading self-help books? (1=yes 2=no)

If Yes, please specify:

			45
			46-47
			48-49
			50-51
			52-53
			54-55

How have you been treated?

1. In-patient basis (Hospital) (1=yes 2=no)

2. Out-patient basis (1=yes 2=no)

3. Other: _____

			56
			57
			58-59
			60-61

If you are not currently receiving treatment, did you receive:

1. Psychiatry counselling (1=yes 2=no)

2. Psychological counselling (1=yes 2=no)

3. Spiritual counselling (1=yes 2=no)

4. Nutrition counselling from a Dietitian (1=yes 2=no)

5. Other: _____

			62
			63
			64
			65
			66-67
			68

Have you taken medication specific to the diagnosis? (1=yes 2=no)

If Yes, please specify:

			69-70
			71-72
			73-74
			75-76
			77-78

Have you read self-help books? (1=yes 2=no)

If Yes, please specify:

			79
			1-2
			3-4
			5-6
			7-8
			9-10

Did you recover completely from the initial eating disorder? (1=yes 2=no)

		11
		12

If it is your first and only time diagnosis, before the binge/purging behaviour started did you engage in any inappropriate activities to maintain your weight/prevent weight gain/lose weight? (1=yes 2=no)

If Yes, What type of inappropriate activities did you engage in?

1. Appetite Suppressants (1=yes 2=no)
2. Laxative abuse (1=yes 2=no)
3. Excessive Exercise (1=yes 2=no)
4. Fasting (1=yes 2=no)
5. Fat burners (1=yes 2=no)
6. Self-induced vomiting (1=yes 2=no)
7. Other: _____

		13
		14
		15
		16
		17
		18
		19-20

Where did you hear about or learn these behaviours from?

1. Friends (1=yes 2=no)
2. Family (1=yes 2=no)
3. Media (1=yes 2=no)
4. Other: _____

		21
		22
		23
		24
		25
		26

Are you currently preoccupied with your weight? (1=yes 2=no)

If YES, please indicate when your preoccupation started:

1. At School
2. At University
3. Other: _____

Indicate the main reason why do you think this preoccupation started?

		27-28
--	--	-------

Do you think the eating disorder is mostly about the weight control? (1=yes 2=no)

If NO, please indicate the main reason why you have an eating disorder:

		29
		30-31

Do you eat breakfast? (1=yes 2=no)

If NO, please indicate the main reason why not?

		32
		33-34

Have you been recommended a "goal or ideal weight" by any member of a medical team? (1=yes 2=no)

Are you currently at the "goal/ideal weight" recommended by your medical team? (1=yes 2=no)

If YES, for how long have you been at the "goal weight" recommended by the physician? _____ years

Did you have the tendency to uncontrollably overeat during the process of weight gain? (1=yes 2=no)

		35
		36
		37-38
		39

IF YES, What triggers you to overeat?

1. Time of day (1=yes 2=no)
If Yes, specify: _____
1. Time of season (1=yes 2=no)
If Yes, specify: _____
2. Comments made by family/friends (1=yes 2=no)
If Yes, specify: _____
3. Feelings e.g. loneliness (1=yes 2=no)
If Yes, specify: _____
4. Social pressure (1=yes 2=no)
If Yes, specify: _____
5. Physical weight gain (1=yes 2=no)
If Yes, specify: _____
6. Boredom (1=yes 2=no)
If Yes, specify: _____
7. Other: _____

		40
		41-42
		43
		44-45
		46
		47-48
		49
		50-51
		52
		53-54
		55
		56-57
		58
		59-60
		61-62

DURING the process of weight restoration or weight gain, did you engage in inappropriate behaviour/s to prevent the weight gain? (1=yes 2=no)

		63
--	--	----

What inappropriate behaviour would you engage in?

1. Self-induced vomiting (1=yes 2=no)
2. Laxative, diuretics or enema misuse (1=yes 2=no)
3. Excessive exercise (1=yes 2=no)
4. Fasting (1=yes 2=no)
5. Other: _____

		64
		65
		66
		67
		68-69
		70-71

How often would you overeat and then engage in these inappropriate behaviours? _____ times a month

ONCE YOU HAD reached the goal weight, did you engage in inappropriate behaviour/s? (1=yes 2=no)

		72
		73

If YES, What inappropriate behaviour would you engage in?

1. Self-induced vomiting (1=yes 2=no)
2. Laxative, diuretics or enema misuse (1=yes 2=no)
3. Excessive exercise (1=yes 2=no)
4. Fasting (1=yes 2=no)
5. Other: _____

		74
		75
		76
		77
		78-79

Did you engage in these inappropriate behaviours to?

1. Prevent weight gain
2. Lose weight
3. Other: _____

		80
		1
		2

Did these activities allow you to appear "normal" by eating in front of your friends and family, thus pleasing

		3
--	--	---

them and then purging or excessively exercising in the secret to feel better? (1=yes 2=no)

Did you feel a sense of relief after you have engaged in the inappropriate behaviour/s? (1=yes 2=no)

4

In your opinion what feelings did you experience regarding the weight gain?

1. Did you fear gaining weight
2. Did you experience a sense of lack of control when eating
3. Did you feel like a failure
4. Did you feel physically fat
5. Other: _____

<input type="checkbox"/>	5
<input type="checkbox"/>	6
<input type="checkbox"/>	7
<input type="checkbox"/>	8
<input type="checkbox"/>	9-10
<input type="checkbox"/>	11-12

What did you do to try prevent yourself from engaging in a binge?

_____	<input type="checkbox"/>	<input type="checkbox"/>	13-14
_____	<input type="checkbox"/>	<input type="checkbox"/>	15-16
_____	<input type="checkbox"/>	<input type="checkbox"/>	17-18
_____	<input type="checkbox"/>	<input type="checkbox"/>	19-20
_____	<input type="checkbox"/>	<input type="checkbox"/>	21-22

What did you do to try prevent yourself from engaging in inappropriate behaviour after a binge has taken place?

_____	<input type="checkbox"/>	<input type="checkbox"/>	23-24
_____	<input type="checkbox"/>	<input type="checkbox"/>	25-26
_____	<input type="checkbox"/>	<input type="checkbox"/>	27-28
_____	<input type="checkbox"/>	<input type="checkbox"/>	29-30
_____	<input type="checkbox"/>	<input type="checkbox"/>	31-32

How would you have felt if you had eaten too much for yourself and you were not able to engage in inappropriate behaviour/s?

_____	<input type="checkbox"/>	<input type="checkbox"/>	33-34
_____	<input type="checkbox"/>	<input type="checkbox"/>	35-36
_____	<input type="checkbox"/>	<input type="checkbox"/>	37-38
_____	<input type="checkbox"/>	<input type="checkbox"/>	39-40
_____	<input type="checkbox"/>	<input type="checkbox"/>	41-42

If you do not engage in inappropriate behaviour have you:

1. Recovered completely, and you are maintaining your weight by NOT engaging in inappropriate behaviour
2. Have you resorted back to Anorexia Nervosa Restrictive type
3. Have you resorted back to Anorexia Nervosa Binge/purge type
4. You have gained weight to a level that is OW/obese, and not engaging in inappropriate behaviours
5. Other: _____

<input type="checkbox"/>	43
<input type="checkbox"/>	44
<input type="checkbox"/>	45
<input type="checkbox"/>	46
<input type="checkbox"/>	47-48

If you have completely recovered and maintain an ideal weight, how do you maintain the ideal weight?

		49-50
		51-52
		53-54
		55-56
		57-58
Do you currently get tempted to overeat? (1=yes 2=no)		59

If YES, what do you think triggers you to overeat?

- Time of day (1=yes 2=no)
If Yes, specify: _____
- Time of season (1=yes 2=no)
If Yes, specify: _____
- Comments made by family/friends (1=yes 2=no)
If Yes, specify: _____
- Feelings e.g. loneliness (1=yes 2=no)
If Yes, specify: _____
- Social pressure (1=yes 2=no)
If Yes, specify: _____
- Physical weight gain (1=yes 2=no)
If Yes, specify: _____
- Boredom (1=yes 2=no)
If Yes, specify: _____
- Other: _____

		60
		61-62
		63
		64-65
		66
		67-68
		69
		70-71
		72
		73-74
		75
		76-77
		78
		79-80
		1-2

Do you have safe foods that do not stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no)

		3
--	--	---

If YES, please indicate 5 examples of safe foods:

		4-5
		6-7
		8-9
		10-11
		12-13

Do you have unsafe foods that do stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no)

		14
--	--	----

If YES, please indicate 5 examples of unsafe foods:

		15-16
		17-18
		19-20
		21-22
		23-24

Are you currently engaging in inappropriate behaviour in order to prevent the weight gain? (1=yes 2=no)

		25
--	--	----

If YES, What type of inappropriate behaviour do you engage in?

1. Self-induced vomiting (1=yes 2=no)
2. Laxative, diuretics or enema misuse (1=yes 2=no)
3. Excessive exercise (1=yes 2=no)
4. Fasting (1=yes 2=no)
5. Other: _____

<input type="checkbox"/>	26
<input type="checkbox"/>	27
<input type="checkbox"/>	28
<input type="checkbox"/>	29
<input type="checkbox"/>	30-31
<input type="checkbox"/>	32

How often would you engage in these inappropriate behaviours? _____ times a month

Diagnostic Criteria Below: Tick in the Box what is applicable to the participant. (1=yes 2=no)

Do you experience recurrent episodes of binge eating characterised by both of the following:

<input type="checkbox"/>	33
--------------------------	----

- Eating, in a discrete period (e.g. within any 2-hr period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances.
- A sense of lack of control over eating during the binge episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating)

Do you engage in recurrent inappropriate compensatory behaviour in order to prevent weight gain such as self-induced vomiting; misuse of laxatives, diuretics, enemas or other medication; fasting; or excessive exercise. (1=yes 2=no)

<input type="checkbox"/>	34
--------------------------	----

Does the binge eating and inappropriate compensatory behaviour both occur on average, at least twice a week for at least 3 months. (1=yes 2=no)

<input type="checkbox"/>	35
--------------------------	----

Is your self-evaluation unreasonably influenced by body shape and weight. (1=yes 2=no)

<input type="checkbox"/>	36
--------------------------	----

The binge and inappropriate behaviours DO NOT occur during episodes of AN. (1=yes 2=no)

<input type="checkbox"/>	37
--------------------------	----

Choose the subtype that best describes your behaviour:

<input type="checkbox"/>	38
--------------------------	----

1. **Purging type.** During the current episode of BN, the individual has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics or enemas
2. **Non-purging type.** During the current episode of BN, the individual has used other compensatory behaviours', such as fasting or excessive exercise, but has not regularly engaged in self induced vomiting or the misuse of laxatives, diuretics or enemas

Do your friends or family members know about your current behaviour? (1=yes 2=no)

<input type="checkbox"/>	39
<input type="checkbox"/>	40-41

If Yes, how did they find out?

Have you sought help?

<input type="checkbox"/>	42
--------------------------	----

If NO, would you like help? (1=yes 2=no)

<input type="checkbox"/>	43
--------------------------	----

APPENDIX E (2): QUESTIONNAIRE 2

Questionnaire 2

**A DESCRIPTION OF BEHAVIOUR THAT MAY INDICATE
CROSSOVER FROM WEIGHT-RESTORED ANOREXIA NERVOSA TO
BULIMIA NERVOSA**

(All information in this questionnaire is confidential)

Questionnaire number:

D	D	M	M	Y	Y	Y	Y

1-2

Interview Date:

3-10

Birth Date:

D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

11-18

Gender: 1=female 2=male

Current Weight (kg): _____

Lowest weight during diagnosis (kg): _____

Highest weight (kg): _____

Total weight gain from lowest weight during recovery (kg): _____

The recommended goal weight (kg): _____

What is the weight that YOU feel most comfortable at? (kg): _____

Height (cm): _____

		.	
		.	
		.	
		.	
		.	
		.	
		.	
		.	
		.	
		.	

19

20-23

24-27

28-31

32-35

36-39

40-43

44-48

49

Is Bulimia Nervosa a current or past diagnosis?

1. Current
2. Past

Which type of Bulimia Nervosa do you have?

1. Purging type
2. Non-purging type

--

50

CURRENTLY DIAGNOSED BULIMIA NERVOSA

Complete this section if participant is currently diagnosed with Bulimia Nervosa

For how long have you had Bulimia Nervosa? _____ Months

--	--

 51-52

How would you describe your current weight or body shape?

--	--

 53-54

--	--

 55-56

--	--

 57-58

--	--

 59-60

--	--

 61-62

What do you think triggers you to overeat?

1. Time of day (1=yes 2=no)

--	--

 63

If Yes, specify: _____

--	--

 64-65

1. Time of season (1=yes 2=no)

--	--

 66

If Yes, specify: _____

--	--

 67-68

2. Comments made by family/friends (1=yes 2=no)

--	--

 69-70

If Yes, specify: _____

--	--

 71-72

3. Feelings e.g. loneliness, boredom (1=yes 2=no)

--	--

 73

If Yes, specify: _____

--	--

 74-75

4. Social pressure (1=yes 2=no)

--	--

 76

If Yes, specify: _____

--	--

 77-78

5. Physical weight gain (1=yes 2=no)

--	--

 1

If Yes, specify: _____

--	--

 2-3

6. Other: _____

--	--

 4-5

Are you currently engaging in inappropriate behaviour in order to?

1. Prevent weight gain

--	--

 6

2. Lost weight

--	--

 7

3. Other: _____

--	--

 8

What type of inappropriate behaviour do you engage in?

1. Bulimia Nervosa Purging type behaviour (1=yes 2=no)

--	--

 9

If Yes, specify: _____

--	--

 10-11

2. Bulimia Nervosa Non-Purging type behaviour (1=yes 2=no)

--	--

 12

If Yes, specify: _____

--	--

 13-14

3. Other:

--	--

 15

If Yes, specify: _____

--	--

 16-17

How often would you engage in these inappropriate behaviours? _____ times a week

--	--

 18

What do you think is the main reason that triggers you to engage in the inappropriate behaviour?

--	--

 19-20

Do you feel a sense of relief after you have engaged in the inappropriate behaviour/s? (1=yes, 2=no)

--	--

 21

IF YES, indicate the main reason why?

--	--

 22-23

Do you try to prevent yourself from engaging in inappropriate behaviour? (1=yes 2=no)

--	--

 24

If YES, What do you do to try prevent yourself from engaging in inappropriate behaviour?

			25-26
			27-28
			29-30
			31-32
			33-34

How do you feel if you have eaten and you are not able to engage in inappropriate behaviour/s?

			35-36
			37-38
			39-40
			41-42
			43-44

What do you do to try prevent yourself from engaging in a binge?

			45-46
			47-48
			49-50
			51-52
			53-54

Do you have safe foods that do not stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no)

--	--

 55

If YES, please indicate 5 examples of safe foods:

--	--

 56-57

			58-59
			60-61
			62-63
			64-65

Do you have unsafe foods that do stimulate the temptation of overeating and then engaging in inappropriate behaviour/s?

--	--

 66

If YES, please indicate 5 examples of unsafe foods:

--	--

 67-68

			69-70
			71-72
			73-74
			75-76

Is this the first and only time that you have been diagnosed with an ED? (1=yes 2=no)

	77
--	----

If NO, Were you previously diagnosed with:

1. Anorexia Nervosa Restrictive type (1=yes 2=no)
2. Anorexia Nervosa Binge/purging type (1=yes 2=no)
3. Bulimia Nervosa type: _____ (1=yes 2=no)
4. Eating disorder not otherwise specified (1=yes 2=no)
5. Binge eating disorder (1=yes 2=no)
6. Other: _____ (1=yes 2=no)

	78
	79
	1
	2
	3
	4

Were you diagnosed by?

1. Yourself (1=yes 2=no)
2. A Doctor (1=yes 2=no)
3. A Psychologist (1=yes 2=no)
4. Other: _____

	5
	6
	7
	8
	9-12

When were you diagnosed for the first time? _____ year

Did you receive?

1. Psychiatry counselling (1=yes 2=no)
2. Psychological counselling (1=yes 2=no)
3. Spiritual counselling (1=yes 2=no)
4. Nutrition counselling from a Dietitian (1=yes 2=no)
5. Other: _____

	13
	14
	15
	16
	17-18
	19

Did you take medication specific to the diagnosis? (1=yes 2=no)

If Yes, please specify:

			20-21
			22-23
			24-25
			26-27
			28-29

Did you read self-help books? (1=yes 2=no)

If Yes, please specify:

			30
			31-32
			33-34
			35-36
			37-38
			39-40

Were you treated as an:

1. In-patient (Hospital) (1=yes 2=no)
2. Out-patient (1=yes 2=no)
3. Other: _____

			41
			42
			43-44

Are you currently receiving treatment? (1=yes 2=no)

		45
--	--	----

Please specify what type treatment are you currently receiving?

		46
--	--	----

1. Psychiatry counselling (1=yes 2=no)

		47
--	--	----

2. Psychological counselling (1=yes 2=no)

		48
--	--	----

3. Spiritual counselling (1=yes 2=no)

		49
--	--	----

4. Nutrition counselling from a Dietitian (1=yes 2=no)

		50
--	--	----

5. Other: _____

		51-52
--	--	-------

		53-54
--	--	-------

		55-56
--	--	-------

		57-58
--	--	-------

		59-60
--	--	-------

Are you currently taking medication? (1=yes 2=no)

		61
--	--	----

If Yes, please specify: _____

		62-63
--	--	-------

		64-65
--	--	-------

		66-67
--	--	-------

		68-69
--	--	-------

		70-71
--	--	-------

Are you currently reading self-help books? (1=yes 2=no)

		72
--	--	----

If Yes, please specify: _____

		73-74
--	--	-------

		75-76
--	--	-------

		77-78
--	--	-------

		1-2
--	--	-----

		3-4
--	--	-----

Before the BN behaviour started, did you engage in any inappropriate activities to maintain your weight/prevent weight gain/lose weight? (1=yes 2=no)

		5
--	--	---

If Yes, What type of inappropriate activities did you engage in?

1. Appetite Suppressants (1=yes 2=no)

		6
--	--	---

2. Laxative abuse (1=yes 2=no)

		7
--	--	---

3. Excessive Exercise (1=yes 2=no)

		8
--	--	---

4. Fasting (1=yes 2=no)

		9
--	--	---

5. Fat burners (1=yes 2=no)

		10
--	--	----

6. Self-induced vomiting (1=yes 2=no)

		11
--	--	----

7. Other: _____

		12-13
--	--	-------

Where did you hear about or learn these behaviours from?

1. Friends (1=yes 2=no)

		14
--	--	----

2. Family (1=yes 2=no)

		15
--	--	----

3. Media (1=yes 2=no)

		16
--	--	----

4. Other: _____

		17
--	--	----

Are you preoccupied with your weight? (1=yes 2=no)

	18
	19

If YES, please indicate when your preoccupation started:

1. At School
2. At University
3. Other: _____

What do you think is the main reason why this preoccupation started?

		20-21
--	--	-------

Do you think the eating disorder is mostly about the weight control? (1=yes 2=no)

		22
		23-24

IF NO, please indicate the main reason why you have an eating disorder:

Do you eat breakfast?

		25
		26-27

IF NO, please indicate the main reason why not?

Have you been recommended a "goal or ideal weight" by any member of a medical team? (1=yes 2=no)

		28
		29
		30-31

Are you currently at the "goal weight" recommended by your medical team? (1=yes 2=no)

If YES, for how long have you been at the "goal weight" recommended by the medical team? ____ years

PAST DIAGNOSED BULIMIA NERVOSA

Complete this section if participant was diagnosed with Bulimia Nervosa in the past

For how long did you have Bulimia Nervosa? _____ Months 34-35

What do you think triggers you to overeat?

- 1. Time of day (1=yes 2=no) 36
 If Yes, specify: _____ 37-38
- 2. Time of season (1=yes 2=no) 39
 If Yes, specify: _____ 40-41
- 3. Comments made by family/friends (1=yes 2=no) 42
 If Yes, specify: _____ 43-44
- 4. Feelings e.g. loneliness (1=yes 2=no) 45
 If Yes, specify: _____ 46-47
- 5. Social pressure (1=yes 2=no) 48
 If Yes, specify: _____ 49-50
- 6. Boredom (1=yes 2=no) 51
 If Yes, specify: _____ 52-53
- 7. Other: _____ 54-55

What did you do to try prevent yourself from engaging in a binge/overeat?

	<input type="checkbox"/>	<input type="checkbox"/>	56-57
	<input type="checkbox"/>	<input type="checkbox"/>	58-59
	<input type="checkbox"/>	<input type="checkbox"/>	60-61
	<input type="checkbox"/>	<input type="checkbox"/>	62-63
	<input type="checkbox"/>	<input type="checkbox"/>	64-65

What do you think triggered you to engage in the inappropriate behaviour in order to?

- 1. Prevent weight gain 66
- 2. Lost weight 67
- 3. Other: _____ 68

What type of inappropriate behaviour did you engage in?

- 1. Bulimia Nervosa Purging type behaviour. (1=yes 2=no) 69
 If Yes, specify: _____ 70-71
- 2. Bulimia Nervosa Non-Purging type behaviour. (1=yes 2=no) 72
 If Yes, specify: _____ 73-74
- 3. Other: (1=yes 2=no) 75
 If Yes, specify: _____ 76-77

Did you feel a sense of relief after you have engaged in the inappropriate behaviour/s? (1=yes 2=no)

<input type="checkbox"/>	<input type="checkbox"/>	1
--------------------------	--------------------------	---

IF YES, why do you think?

			2-3
			4-5
			6-7
			8-9
			10-11
Did you try to prevent yourself from engaging in inappropriate behaviour? (1=yes 2=no)			12

If YES, What do you do to try prevent yourself from engaging in inappropriate behaviour?

			13-14
			15-16
			17-18
			19-20
			21-22

How would you have felt if you had engaged in a binge and you were not able to engage in inappropriate behaviour/s?

			23-24
			25-26
			27-28
			29-30
			31-32

What do you do to try prevent yourself from engaging in a binge?

			33-34
			35-36
			37-38
			39-40
			41-42

Do you have safe foods that do not stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no)

			43
IF YES, please indicate 5 examples of safe foods:			44-45
			46-47
			48-49
			50-51
			52-53

Do you have unsafe foods that do stimulate the temptation of overeating and then engaging in inappropriate behaviour/s? (1=yes 2=no)

--	--

 54

If YES, please indicate 5 examples of unsafe foods:

				55-56
				57-58
				59-60
				61-62
				63-64

Is this the first and only time you had been diagnosed with an eating disorder? (1=yes 2=no)

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 65

If NO, Were you previously diagnosed with:

1. Anorexia Nervosa Restrictive type (1=yes 2=no)
2. Anorexia Nervosa Binge/purging type (1=yes 2=no)
3. Bulimia Nervosa type: _____ (1=yes 2=no)
4. Eating disorder not otherwise specified (1=yes 2=no)
5. Binge eating disorder (1=yes 2=no)
6. Other: _____ (1=yes 2=no)

		66
		67
		68
		69
		70
		71

Were you diagnosed by?

1. Yourself (1=yes 2=no)
2. A Doctor (1=yes 2=no)
3. A Psychologist (1=yes 2=no)
4. Other: _____

		72
		73
		74
		75

When were you diagnosed for the first time? _____ year

				76-79
--	--	--	--	-------

Did you recover completely from the initial eating disorder? (1=yes 2=no)

--	--

 1

If NO, please elaborate:

				2-3
--	--	--	--	-----

If it is your first and only time diagnosis, before the binge/purge behaviour started did you engage in any inappropriate activities to maintain your weight/prevent weight gain/lose weight? (1=yes 2=no)

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 4

If Yes, What type of inappropriate activities did you engage in?

1. Appetite Suppressants (1=yes 2=no)
2. Laxative abuse (1=yes 2=no)
3. Excessive Exercise (1=yes 2=no)
4. Fasting (1=yes 2=no)
5. Fat burners (1=yes 2=no)
6. Self-induced vomiting (1=yes 2=no)
7. Other: _____

		5
		6
		7
		8
		9
		10
		11-12

Where did you hear about or learn these behaviours from?

1. Friends (1=yes 2=no)
2. Family (1=yes 2=no)
3. Media (1=yes 2=no)
4. Other: _____

	13
	14
	15
	16

Did you receive?

1. Psychiatry counselling (1=yes 2=no)
2. Psychological counselling (1=yes 2=no)
3. Spiritual counselling (1=yes 2=no)
4. Nutrition counselling from a Dietitian (1=yes 2=no)
5. Other: _____

	17
	18
	19
	20
	21-22

Did you take medication specific to the diagnosis? (1=yes 2=no)

If Yes, please specify:

_____			23
_____			24-25
_____			26-27
_____			28-29
_____			30-31
_____			32-33

Did you read self-help books? (1=yes 2=no)

If Yes, please specify:

_____			34
_____			35-36
_____			37-38
_____			39-40
_____			41-42
_____			43-44

Were you treated as an:

1. In-patient (Hospital) (1=yes 2=no)
2. Out-patient (1=yes 2=no)
3. Other: _____

	45
	46
	47-48
	49-50
	51

Are you currently receiving treatment? (1=yes 2=no)

Please specify what type treatment are you currently receiving?

1. Psychiatry counselling (1=yes 2=no)			52
2. Psychological counselling (1=yes 2=no)			53
3. Spiritual counselling (1=yes 2=no)			54
4. Nutrition counselling from a Dietitian (1=yes 2=no)			55
5. Other: _____			56-57
_____			58-59
_____			60-61
_____			62-63
_____			64-65

Are you currently taking medication? (1=yes 2=no)

If Yes, please specify: _____			66
_____			67-68
_____			69-70
_____			71-72
_____			73-74
_____			75-76

Are you currently reading self-help books? (1=yes 2=no)

If Yes, please specify: _____			77
_____			78-79
_____			1-2
_____			3-4
_____			5-6
_____			6-7

Are you currently preoccupied with your weight? (1=yes 2=no)

If YES, please indicate when your preoccupation started:			8
1. At School			
2. At University			
3. Other: _____			9
What do you think is the main reason why this preoccupation started?			10-11

Have you been recommended a "goal or ideal weight" by any member of a medical team? (1=yes 2=no)

Are you currently at the "goal weight" recommended by your medical team? (1=yes 2=no)			12
If YES, for how long have you been at the "goal weight" recommended by your medical team? ___years			13
_____			14-15
Would you say you have completely recovered? (1=yes 2=no)			16

If YES, How do you go about maintaining your ideal weight?

			17-18
			19-20
			21-22
			23-24
			25-26

If NO:

- | | | |
|---------------------------------------------------------|--|-------|
| 1. Have you relapsed back to BN (1=yes 2=no) | | 27 |
| 2. Eating disorder Not otherwise specified (1=yes 2=no) | | 28 |
| 3. Have you crossed over to ANR (1=yes 2=no) | | 29 |
| 4. Have you crossed over to ANBP (1=yes 2=no) | | 30 |
| 5. Binge eating disorder (1=yes 2=no) | | 31 |
| 6. Other: _____ | | 32-33 |

Do you currently engage in a binge episode? (1=yes 2=no)

If YES, How often would you engage in a binge episode? _____ times a month

Do you currently engage in inappropriate behaviour to compensate for the binge? (1=yes 2=no)

What inappropriate behaviour do you engage in?

- | | | |
|---------------------------------------|--|-------|
| 1. Appetite Suppressants (1=yes 2=no) | | 38 |
| 2. Laxative abuse (1=yes 2=no) | | 39 |
| 3. Excessive Exercise (1=yes 2=no) | | 40 |
| 4. Fasting (1=yes 2=no) | | 41 |
| 5. Fat burners (1=yes 2=no) | | 42 |
| 6. Self-induced vomiting (1=yes 2=no) | | 43 |
| 7. Other: _____ | | 44-45 |

How often do you engage in the inappropriate behaviour? _____ times a month

How would you describe your current weight or body shape?

			48-49
			50-51
			52-53
			54-55
			56-57

Do you eat breakfast (1=yes 2=no)

If NO, please indicate the main reason why not?

			58
			59-60

Do you think your eating disorder is all about weight control? (1=yes 2=no)

If NO, elaborate what you think the main reason is for you having or having had an eating disorder?

		61
		62-63
