PRE-OCCUPATIONS AND RITUALS RELATED TO FOOD IN PATIENTS WITH EATING DISORDERS

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ABSTRACT:

TITLE: Pre-occupations and rituals related to food in patients with eating disorders.

INTRODUCTION: Course and outcomes of eating disorders are often chronic conditions with lapses and relapses occurring commonly. The high relapse rate as well as the large number of patients' who still suffer from eating disorder symptoms, even years after treatment, is due to the fact that even though weight is within a normal, healthy range and bingeing and purging episodes have ceased. These patients, however, still continue to be preoccupied with thoughts about food, eating, and their bodies and therefore may still participate in ritualised behaviours surrounding eating and their bodies. The Yale-Brown-Cornwell Eating Disorder Scale Self Report Questionnaire (YBC-EDS-SRQ) is a reliable and valid semi-structured questionnaire that assesses these pre-occupations and rituals in a private setting where patients feel comfortable reporting the intensity, as well as frequency of their eating disorder symptoms. This assessment tool can also provide researchers and clinicians with an efficient means of evaluating the severity and impairment of the symptoms associated with the wide range of pre-occupations and rituals experienced by patients struggling with eating disorders, which in turn can motivate treatment options.

MAIN OBJECTIVE: The main objective of the study was to describe the pre-occupations and rituals related to food in patients with eating disorders. In order to achieve the main objective of the study, the following sub-objectives were investigated: the demographic profile of participants; current anthropometric status, including weight and height to calculate Body Mass Index (BMI); and the pre-occupations and rituals related to food.

SUBJECTS AND METHODS: The sample included all in-patients (n=5), as well as those who had been discharged but were still being followed up in the outpatient clinic (n=4), from an institution specialising in eating disorders i.e. Tara Hospital in Johannesburg, South Africa. The anthropometric measurements were obtained using standard techniques, while the socio-demographic information was obtained in one-on-one interviews between the resident dietitian and each participant.

The YBC-EDS-SRQ was self-administered. The YBC-EDS-SRQ nine questions considers pre-occupations and rituals of participants during their 'Current' and 'Worst period' of experiencing the eating disorder. This showed that in most instances, the pre-occupations and rituals occupied a greater amount of time throughout a day during the participants' 'Worst period' than during the 'Current period'. Pre-occupations and rituals during the 'Worst period', were also absent for a smaller proportion of the day when compared to the 'Current period'.

After completion of the questionnaire, scores were determined separately for the 'Current' and 'Worst' period's. The pre-occupations subtotal score was calculated by adding together the scores of four questions (1, 3, 4 and 7) for each period and the rituals subtotal score was calculated by adding together the scores of four questions (10, 12, 13 and 15). The total score was calculated by adding together the subtotals of the pre-occupations and rituals. The experimental change score was calculated by adding together the scores for questions 6, 8, 9, 15, 17 and 19.

RESULTS: Nine participants were recruited and included in the research study. Five of the nine participants were in-patients and four of the nine participants were outpatients. All of the nine participants were female. Eight of the nine were Caucasian, while one was Indian. More than half of participants were currently diagnosed with AN-non purging, with one currently diagnosed with AN-purging type and three currently diagnosed with BN-purging type. With regards to previous diagnosis, seven of the nine participants had not been previously diagnosed with an eating disorder. This information is supported by seven of the nine participants who had not been previously admitted to Tara Hospital or any other institution for an eating disorder. Three participants had a BMI <18.5 kg/m^2 which indicated that they were underweight, five had a BMI within the normal range and only one had a BMI between 25-30 kg/m^2, indicating overweight.

Pre-occupations typically occupied a significant proportion of the individuals' time, interfered with daily functioning, caused severe distress and although they are often mildly resisted, the pre-occupations are perceived to be largely out of the individuals' control. Rituals have been identified as somewhat less severe than the pre-occupations,

however, individuals still spend a vast majority of their time, performing them and also experienced little control over them.

For the pre-occupations sub-total score, the ‘Current period’ had a mean score of 8.6. The ‘Worst period’ had a mean score of 10.7. For the rituals sub-total score, the ‘Current period’ had a mean score of 6.2. The ‘Worst period’ had a mean score of 9.4. For the total score, the ‘Current period’ had a mean score of 14.8, while the ‘Worst period’ had a mean score of 20.1. For the experimental change score, the ‘Current period’ had a mean score of 8.4 and the ‘Worst period’ had a mean score of 13.0.

When compared with other similar studies, these results indicate a moderate level of eating disorder symptom severity related to pre-occupations and rituals in this sample of participants.

CONCLUSION: The results of this study confirm that the high rate of relapse that occurs in patients who suffer from eating disorder symptoms, despite the fact that treatment is ceased, may be related to the fact that even though weight is within a normal, healthy range and bingeing and purging episodes have ceased, these patients still continue to be preoccupied with thoughts about food, eating, and their bodies and therefore may still participate in ritualised behaviours surrounding eating and their bodies.

KEY WORDS: Pre-occupations, rituals, food, eating disorders, Yale-Brown-Cornwell Eating-Disorder-Scale Self-Report-Questionnaire

OPSOMMING:

TITEL: Preokkupasies en voedselverwante rituele in pasiënte met eetversteurings.

INLEIDING: Die verloop en uitkomste van eetversteurings is dikwels chronies en word deur terugval gekenmerk. Die hoë voorkoms van terugval, asook die groot aantal pasiënte wat steeds, selfs jare na behandeling aan simptome van eetversteurings ly, word toegeskryf aan die feit dat alhoewel massa binne die normale reikwydte val, hierdie pasiënte steeds met gedagtes oor voedsel, eet en hul liggame gepreokkupeer is, en dus steeds aan rituele gedrag rondom voedsel en hul liggame deelneem. Die Yale-Brown-Cornwell Eating Disorder Scale Self Report Questionnaire (YBC-EDS-SRQ) is 'n betroubare en geldige gestruktureerde vraelys wat hierdie preokkupasies en voedselverwante rituele in 'n privaat opset, waar pasiënte gemaklik voel om die intensiteit en frekwensie van die simptome van hul eetversteuring weer te gee, te assesseer. Hierdie instrument kan ook op 'n effektiewe wyse die erns van die simptome in pasiënte met eetversteurings bepaal, vir beide navorsers en klinisie. Gevolglik is dit van waarde vir personeel ten einde relevante behandeling te ontwikkel.

HOOFDOELWIT: Die hoofdoel van die studie was om die preokkupasies en rituele in pasiënte met eetversteurings te beskryf. Om hierdie doel te bereik, is die volgende bepaal: demografiese profiel, huidige antropometrie (massa en lengte om liggaamsmassaindeks (LMI) te bepaal); en preokkupasies en voedselverwante rituele .

DEELNEMERS EN METODES: Die steekproef het bestaan uit alle pasiënte in die saal, asook pasiënte wat ontslaan is, maar steeds opgevolg word in die buitepasiënte kliniek, by Tara Hospitaal, 'n inrigting wat in eetversteurings spesialiseer. Die antropometriese metings is met behulp van gestandardiseerde tegnieke bepaal, terwyl die sosio-demografiese inligting tydens individuele onderhoude deur die dieetkundige met elke deelnemer ingesamel is. Die YBC-EDS-SRQ is deur pasiënte self voltooi. Nadat die vraelyste voltooi is, is 'n punt vir beide die huidige en die ergste periode bereken. Die preokkupasie subtotaal is bereken deur die totaal vir vier vrae (1, 3, 4 en 7) bymekaar te tel en die rituele subtotal is bereken deur die totaal vir vier vrae (10, 12, 13 and 15)

bymekaar te tel. Die finale eindtotaal is bereken deur die subtotale bymekaar te tel. Die eksperimentele veranderingtelling is bereken deur die puntetoekenning vir vrae 6, 8, 9, 15, 17 and 19 bymekaar te tel.

RESULTATE: Nege vroulike deelnemers is in die studie ingesluit. Agt van die nege was blank, terwyl een 'n Indiër was. Meer as die helfde van die deelnemers is huidiglik met anoreksia- purgeertipe- en drie met bulimie-purgeertipe gediagnoseer. Wat vorige diagnose aanbetref, is sewe van die nege nie voorheen met 'n eetversteuring gediagnoseer nie. Dit stem ooreen met die feit dat hierdie sewe ook nie voorheen as gevolg van 'n eetversteuring gehospitaliseer is nie. Drie deelnemers het 'n LMI <18.5 kg/m^2 gehad wat aandui dat hulle ondermassa is, vyf se LMI was binne die normale reikwydte, en slegs een het 'n LMI tussen 25-30 kg/m^2 gehad, wat oormassa aandui.

Preokkupasies het tipies 'n betekenisvolle hoeveelheid van deelnemer's se tyd opgeneem, het hulle funksionering beïnvloed, het erge kommer veroorsaak en was buite die beheer van die individue. Rituele is minder ernstig as preokkupasies ervaar, maar deelnemers het steeds 'n groot hoeveelheid van hul tyd daaraan spandeer, en gevoel dat hul min beheer daaroor het.

Die YBC-EDS-SRQ nege vrae oorweeg die pasiënte se preokkupasies en rituele tydens die huidige en ergste periode. In die meeste gevalle het preokkupasies en rituele tydens die ergste periode meer tyd in beslag geneem as tydens die huidige periode. Tydens die ergste periode was preokkupasies en rituele ook vir 'n kleiner periode van die dag afwesig as tydens die huidige periode.

Vir die preokkupasie subtotaal was die gemiddelde telling vir die huidige periode 8.6, terwyl dit vir die ergste periode 10.7 was. Vir die rituele subtotaal, het die huidige periode 'n telling van 6.2 gehad terwyl die ergste periode se gemiddelde telling 9.4 was. Vir die totale telling, het die huidige periode 'n gemiddelde telling van 14.8 gehad en die ergste periode 'n telling van 20.1. Die eksperimentele veranderingtelling vir die huidige periode was 8.4, en vir die ergste periode 13.0.

Hierdie resultate dui op 'n matige vlak van eetversteuring simptome wat verband hou met preokkupasies en rituele in hierdie groep deelnemers.

GEVOLGTREKKING: Hierdie studie bevestig dat die hoë voorkoms van terugval selfs jare nadat behandeling ten einde voltooi is, wat voorkom in pasiënte met eetvertsteurings, toegeskryf kan word aan preokkupasies en gedagtes oor voedsel, eet en hul liggame. Om hierdie rede neem hierdie pasiënte steeds aan rituele gedrag wat eet en hul liggame aanbetref, deel.

KERNWOORDE: Preokkupasies, rituele, voedsal, eetversteurings, Yale-Brown-Cornwell Eating-Disorder-Scale Self-Report-Questionnaire

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LIST OF ABBREVIATIONS:

APA	American Psychiatric Association
AN	Anorexia Nervosa
BN	Bulimia Nervosa
DSM	Diagnostic and Statistical Manual of Mental Disorders
YBC-EDS	Yale-Brown-Cornwell Eating-Disorder-Scale
YBC-EDS-SRQ	Yale-Brown-Cornwell Eating-Disorder-Scale Self-Report-Questionnaire
BMI	Body Mass Index
kg	kilogram
m^2	metres squared
n	sample size
%	percentage

GLOSSARY:

Pre-occupations are the thoughts, ideas, images or impulses that repeatedly enter the mind and may seem to do so against a person's will. Examples of pre-occupations may include excessive concern with body shape, and / or the excessive concern of the energy content of food. Pre-occupations differ between worries or concerns, as worries and concerns tend to occur from time to time and usually do not affect a person's life very much, whereas pre-occupations may enter the mind so frequently that they interfere with one or more areas of a person's life (Bellace et al., 2012).

Rituals are the behaviours or acts that a person feels driven to perform. At times a person may try to resist doing them, but this may prove difficult. A person may experience anxiety that does not diminish until the behaviour is completed. An example of a ritual is the need to compute the exact energy content of all the foods consumed. Whilst most rituals are observable behaviours, some are unobservable, mental acts such as silently computing the energy content of foods, or having to recite nonsense phrases each time a person thinks of food. Rituals, as have been defined above, should not be confused with habits. Habits i.e. brushing your teeth before washing your face are routines performed in a similar way. However, rituals are accompanied with a sense that the activity must be performed in a precise manner. Altering or being unable to perform a ritual often leads to unpleasant or very anxious feelings (Bellace et al., 2012).

CHAPTER 1:

1. INTRODUCTION AND PROBLEM STATEMENT

1.1. EATING DISORDERS

According to Schebendach (2013: 489), eating disorders are 'debilitating psychiatric illnesses characterised by a persistent disturbance of eating habits or weight control behaviours that result in significantly impaired physical health and psychosocial functioning'. These include anorexia nervosa (AN) and bulimia nervosa (BN). The American Psychiatric Association (APA) has published diagnostic criteria for both AN and BN (Schebendach, 2013: 489, Escott Stump, 2008: 247-248, Mancini –Cathilho, 2006).

AN is an illness characterised by (1) the refusal to maintain a minimally normal body weight, (2) intense fear of gaining weight, (3) body image distortion and (4) amenorrhea in postmenarcheal females. It may be one of two subtypes: restricting or binge eating or purging (Schebendach, 2013: 563–564; Peaslee Levine, 2012: 244). Patients with AN severely reject food causing extreme weight loss, low basal metabolic rate and exhaustion. Criteria for diagnosis include the persistent pursuit of achieving 'thinness', misperception of body image and restrained eating, binge eating or purging (Peaslee Levine, 2012: 244; Escott Stump, 2008: 247).

BN is an illness characterised by repeated episodes of binge eating followed by inappropriate compensatory methods such as purging, including self-induced vomiting or misuse of laxatives, diuretics and enemas; or non-purging, including fasting or engaging in excessive amounts of exercise (Schebendach, 2013: 491). In BN, repeated episodes of binging increase gastric capacity which results in delayed gastric emptying which blunts cholecystokinin release and impairs satiety response. Criteria for diagnosis of BN include recurrent episodes of binge eating, sense of lack of control, self-evaluation excessively influenced by body weight or body shape and recurrent and inappropriate compensatory behaviour two times weekly for a minimum of three months (Peaslee Levine, 2012: 244-245; Escott-Stump, 2008: 564-566).

According to Schebendach (2013: 489), genetic factors, together with biological and psychosocial factors, contribute to the pathogenesis of BN.

Jasper et al. (2005) note that eating disorders involve physiological functioning; thinking processes; behaviours that have perceived individual beneficial effects i.e. self-comforting; behavioural choices which have cultural value i.e. benefits derived from being thin; and individual meaning i.e. demonstrating one's self-discipline through self-denial.

The effects of genes that may possibly be involved in the susceptibility to eating disorders have not as yet been recognised. However, genes that code for proteins involved in neurotransmitter variations i.e. those related to dopamine and serotonin, which differently affect mood and anxiety as well as 'novelty-seeking'; or those genes involved in 'traits' namely perfectionism i.e. the drive for perfection is a personality trait that predisposes individuals for eating disorders especially with regards to AN. In addition, it may also be a symptom as malnutrition may increase this trait; or perseverance i.e. this is often a common symptom in eating disorders, characterised by entering or continuing a train of thought that is narrowly focused, or being unable to change 'planes of thinking' – suggesting a 'disability in abstract reasoning', consistent with neurobiological understandings of eating disorders (Jasper, 2005: 1-5).

The overall prevalence of AN and BN is on the rise. The lifetime prevalence of AN and BN, dependent on how strictly the diagnostic criteria are defined, are approximately 0,3-3,7% and 1-3% respectively, occurring predominantly in younger adolescents in Westernised, post industrialised societies, including South Africa, who desire or idealise a thin body type (Schebendach, 2013: 489; Gonzalez, 2007: 614-619, Wilson et al., 1996). However, it has recently been reported that across nations, migration and modernisation are expected to result in a more global distribution of eating disorders (Schebendach, 2013: 489; Cabarello et al., 2002: 137).

Course and outcomes of eating disorders are often chronic conditions with lapses and relapses occurring commonly (Bohon et al., 2009: 176, Sue et al., 2006: 270-271; Sunday et al., 1999: 455). Numerous studies have identified obsessional and

compulsive behaviour in patients with eating disorders (Dyl et al., 2006: 369-382; Fey-Yensen et al., 2002: 68-71).

The high relapse rate as well as the large number of patients who still suffer from eating disorder symptoms, even years after treatment has ceased, is related to the fact that even though weight is maintained within a normal, healthy range and bingeing and purging episodes have ceased, these patients still continue to be preoccupied with thoughts about food, eating, and their bodies and therefore may still participate in ritualised behaviours surrounding eating and their bodies (Bellace et al., 2012: 856-857; Sunday et al., 1999: 456).

The development of pre-occupations and rituals has been linked to how individuals perceive their own physical attractiveness as well as how other individuals perceive their bodies within a cultural context (Haines et al., 2011: 530-531; Fey-Yensen et al., 2002: 68).

Fey-Yensen et al. (2002: 68) reported that in the 40 years preceding 2002, standards related to body shape and size have evolved to an end point that is unrealistic and unobtainable with a message characteristic of these standards of: “self-worth is tied to beauty which is tied to thinness”. The above misconceptions can result in the development of a low self-esteem and in most cases the development of eating disorders and associated behaviours i.e. pre-occupations and rituals that can compromise health.

Individuals diagnosed with an eating disorder according to the Diagnostic and Statistical Manual of Mental Disorders, TR-IV (DSM-IV-TR), a manual published by the American Psychiatric Association that establishes diagnostic criteria for AN and BN (Schebendach, 2013: 489), are generally characterised by pre-occupations and rituals related to eating, body shape, food and weight (Bellace et al., 2012: 856).

The DSM-IV-TR criterion has recently been updated to the DSM-V criteria (Diagnostic and Statistical Manual of Eating Disorders: DSM V, 2013: 813). The fundamental diagnostic criteria for AN are theoretically unchanged from the DSM-IV with one exception that the requirement for amenorrhea is eliminated. With regards to the criteria

for BN, there is a reduction in the required minimum average frequency of binge eating and inappropriate compensatory behaviour frequency from twice weekly to once weekly.

1.2. FOOD PRE-OCCUPATIONS AND RITUALS

Pre-occupations commonly associated with eating disorders include: food, eating, weight, shape and appearance, clothing, as well as 'other' pre-occupations.

Patients with eating disorders often spend a significant amount of time obsessing over these pre-occupations as a result of relentless thoughts of food and eating. The above mentioned pre-occupations can typically occur during many hours of the day (Haines et al., 2011: 530; Jordan et al., 2009: 267; Dyl et al., 2006: 370).

Behaviour related rituals refer to compulsive behaviours surrounding eating. These may include food and eating – weighing and measuring food, repeatedly eating specific foods in a particular order, use of specific cutlery and utensils, cutting food into small pieces, dissembling food, eating only a certain strict number of calories, as well as eating at certain times; bingeing; purging; body weight; exercise; hoarding or saving food, as well as excessive list making, and 'other' rituals. As in AN, the above mentioned rituals can typically occur during many hours of the day (Haines et al., 2011: 530; Jordan et al., 2009: 267; Dyl et al., 2006: 370).

These food pre-occupations and rituals are often performed in secrecy and when interrupted, patients often experience a sense of intense anxiety and in certain instances may refuse to eat at all. This is due to the control and perfectionism that is associated with eating disorders (NEDO, 2013, Babiez-Zielinska et al., 2013: 134; Schebendach, 2008: 563-584; Escott Stump, 2008: 247-255).

1.3. YALE-BROWN-CORNWELL EATING DISORDER SELF REPORT QUESTIONNAIRE

The majority of eating disorder assessments tools, such as the Yale-Brown-Cornwell Eating Disorder Scale (YBC-EDS), are used to monitor patients or to measure the

symptoms during treatment associated with the eating disorder i.e. restricting, binge eating and purging.

The YBC-EDS is an adaption of the Yale-Brown-Cornwell Obsessive-Compulsive Scale. The questionnaire allows the interviewer to determine the target symptoms specific to each patient and then assesses the degree of impairment associated with the patient's unique symptomatology during 'Current' periods (defined as the past month) as well as 'worst' period (defined as the one month period during which the patient felt their eating disorder was at its worst) for that patient (Bellace et al., 2012: 856-857).

The Yale-Brown-Cornwell Eating Disorder Scale Self Report Questionnaire (YBC-EDS-SRQ) is an adaption of the YBC-EDS that was recently developed by Bellace and colleagues (Bellace et al., 2012: 857). It is a reliable and valid semi-structured questionnaire that assesses these pre-occupations and rituals in a private setting where patients feel comfortable reporting the intensity, as well as frequency of their eating disorder symptoms. This assessment tool can also provide clinicians with an efficient means of evaluating the severity and impairment of the symptoms associated with the wide range of pre-occupations and rituals experienced by patients struggling with eating disorders (Bellace et al., 2012: 856).

Currently no information related to food pre-occupations and rituals in patients with eating disorders in South Africa is available. The current study contributes to a unique understanding of these issues in the South African context compared to other contexts, which in turn has important implications for local treatment protocols.

1.4. OBJECTIVES OF THE STUDY

The main objective of the study was to describe the pre-occupations and rituals related to food in patients with eating disorders.

The main objective of the study was achieved by investigating the following sub-objectives:

- To determine a demographic profile of in-patients with eating disorders as well as those who have been discharged, but are being followed up in the outpatient clinic of the same treatment facility;
- To determine current anthropometry including weight and height in order to calculate Body Mass Index (BMI);
- To describe the pre-occupations related to food in patients with AN and BN, as well as those who have been discharged from the treatment facility, but are being followed up in the outpatient clinic; and
- To describe the rituals related to food in in-patients with AN and BN, as well as those who have been discharged from the treatment facility, but are being followed up in the outpatient clinic.

1.5. OUTLINE OF DISSERTATION

In chapter one, a motivation for the study was provided as well as a description of the problem. The main objectives and sub-objectives have also been set.

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

Chapter three contains a description of the study design, population and sampling, study measurements (operational definitions, techniques, anthropometric measurements procedures and data collection, validity and reliability of the techniques used in the study), pilot study, statistical analysis and the ethical aspects related to the study.

In chapter four, the results of the study are provided as well as a discussion of the results.

The conclusion and recommendations are provided in chapter five.

CHAPTER 2:

LITERATURE REVIEW

2.1. INTRODUCTION

In this literature review, an overview of eating disorders will be given in terms of definition with specific focus on Anorexia Nervosa (AN) and Bulimia Nervosa (BN). Diagnostic criteria will be discussed, with a focus on the changes made from the DSM-IV to the DSM-V and related to the YBC-EDS-SRQ.

The literature pertaining to pre-occupations and rituals related to food in patients with eating disorders will also be explored.

2.2. EATING DISORDERS

Eating disorders include several disorders classified as 'debilitating psychiatric illnesses and are characterised by a persistent disturbance of eating habits or weight control behaviours that result in significantly impaired physical health and psychosocial functioning' (Schebendach, 2013: 489, Escott Stump, 2008: 247-255). The Diagnostic and Statistical Manual of Mental Disorders, TR-IV and 5, a manual published by the American Psychiatric Association (APA), has established diagnostic criteria for AN and BN, as well as eating disorders not otherwise specified and binge eating disorders (Schebendach, 2013: 489; Escott Stump, 2008: 247-255, Mancini-Cathilo, 2006).

Eating disorders have morbidity and mortality rates that are among the highest of any of the mental disorders (Babiez-Zielinska et al., 2013:133). The main aspect in individuals suffering from an eating disorder is their desire to achieve 'perfectionism' (Babiez-Zielinska et al., 2013: 134; Schebendach, 2008: 563-584; Escott Stump, 2008: 247-255).

A number of studies have indicated that the development of eating disorders is determined by a number of complex conditions that arise from a combination of long standing behavioural, physiological, psychological, environmental or interpersonal and social factors all having an influence on one another (Babiez-Zielinska et al., 2013: 134). As eating disorders are 'emotional problems', they are commonly associated with

the younger generation, mainly young females, experiencing problems with their own identity, as well as a low self-esteem (Babiez-Zielinska et al., 2013: 134). As a result, individuals with eating disorders often use food and the control thereof in an attempt to compensate for emotional stimuli that may otherwise seem 'overwhelming'. For some, restricting food intake, bingeing and purging may initially present as a coping mechanism, but ultimately these behaviours will influence the individual's physical and emotional health, self-esteem and sense of competence and control (NEDO, 2013).

Physiological factors that may contribute to the development of an eating disorder include: (1) a low self-esteem; (2) feelings of inadequacy or lack of control in life and (3) depression, anxiety, anger or loneliness. Environmental or interpersonal factors include: (1) troubled family and personal relationships, (2) difficulty expressing emotions and feelings, (3) history of being teased or ridiculed based on size or weight and (4) history of physical or sexual abuse. Social factors include: (1) cultural pressures that place a strong emphasis on 'thinness' and place value on achieving the 'perfect body type', (2) narrow definitions of beauty that may include only females and males of specific body weight and shape and (3) cultural norms that value individuals on the basis of their physical appearance and not on their inner qualities and strengths (NEDO, 2013; Babiez-Zielinska et al., 2013: 134).

Studies have suggested that there may be other factors that could contribute to the development of eating disorders. These include: (1) biochemical and biological causes – in certain individuals diagnosed with an eating disorder, chemicals in the brain that control hunger, appetite and digestion have been identified as being imbalanced (however these imbalances require further research), and (2) eating disorders have been found to run in families, thus indicating genetic susceptibility (NEDO, 2013; Schebendach, 2008: 564-565).

2.2.1. ANOREXIA NERVOSA

AN as defined by the Eating Disorder Diagnostic Criteria DSM-V, is a disease characterised by: (1) the refusal to maintain body weight at or above a minimally normal weight for age and height i.e. weight loss leading to maintenance of body weight less than 85% of that expected for age and height or failure to achieve expected weight gain

during period of growth resulting in a body weight less than 87% of that expected for age and height; (2) the intense fear of gaining weight or becoming ‘fat’, even though clinically underweight; (3) disturbance in the way one’s body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight (Schebendach, 2013: 565; Gonzalez et al., 2007: 615; Sue et al., 2006: 529; Mancini-Cathilo, 2006).

AN can be divided according to two diagnostic subtypes. These include: (1) Restricting Type – Anorectic Restrictor whereby during the ‘Current period’ of AN, the individual has not participated in regular binge eating or purging behaviour; and (2) Binge Eating or Purging Type – Anorectic Bulimics whereby during the ‘Current period’ of AN, the individual has participated in regular binge eating and purging episodes (Schebendach, 2013: 491; Lavender et al., 2013: 1; Escott-Stump, 2008: 247; Gonzalez et al., 2007: 615; Sue et al., 2006: 529).

In order to fully understand the two subtypes, an understanding of binge eating and purging is essential. Binge eating is an episode of eating marked by three particular features: (1) the amount of food that is eaten is larger than most individuals would eat under similar circumstances; (2) the excessive eating occurs in discrete periods, usually less than 2 hours; and (3) the eating is accompanied by an individual sense of loss of control (Schebendach, 2013: 564-565; NEDO, 2013). Purging includes methods used to reverse the effects of binge eating. These include the most common purging method of self-induced vomiting, as well as additional methods namely laxative, enema and diuretic abuse (Schebendach, 2013: 491; NEDO, 2013).

AN may present initially as the restricting subtype, however it may progress to the development of the binge eating or purging type as the illness progresses over time (Schebendach, 2013: 491).

According to the APA (2006), the psychological features associated with AN include - compulsivity, denial, feelings of ineffectiveness, harm avoidance, impulse control, inflexible thinking, limited social spontaneity, manipulative behaviour, overly restrained emotional expression, perfectionism, power issues especially within family settings and

trust issues. Typically individuals with AN are afraid of the risk of failure (Schebendach, 2013: 491; Babiez-Zielinska et al., 2013: 133; Escott-Stump, 2008: 247).

As mentioned above, AN is a disease which results in the deliberate reduction of overall energy intake and general well-being as this eating disorder involves self-starvation. As a result, the body is denied the essential nutrients it requires to function optimally and is forced to 'slow down' in order to conserve energy. This 'slowing down' process can lead to severe medical complications (NEDO, 2013).

Along with significant weight loss, individuals with AN also suffer from numerous other complications i.e. abnormally low body temperature, dry hair and skin, as well as hair loss, dehydration, electrolyte imbalances, estrogen deficiency, fainting and fatigue, irregular heartbeat, lanugo, muscle loss and weakness, reduction of bone density leading to osteoporosis, severely low blood pressure, an a supressed immunity (Babiez-Zielinska et al., 2013: 139; Schebendach, 2013: 493-494; Erdur et al., 2012: 2).

As individuals with AN generally deny the severity of their condition, treatment is delayed and malnutrition may occur. A poor long-term prognosis and a relatively high mortality rate is common in individuals diagnosed with AN (Erdur et al., 2012: 2). Approximately 5-20% of individuals with AN die from their illness. Half of this population die of medical complications. Malnutrition, dehydration and electrolyte imbalances may cause kidney failure or fatal arrhythmias or induce heart attack which may precipitate death (Babiez-Zielinska et al., 2013: 139; Schebendach, 2013: 494; Escott-Stump, 2008: 247, Stice et al., 2000).

2.2.2. BULIMIA NERVOSA

BN as defined by the Eating Disorder Diagnostic Criteria from DSM-V is a disease characterised by: (1) recurrent episodes of binge eating characterised by (a) eating, in a discrete period of time i.e. within any two hour period, an amount of food that is definitely larger than most individuals would eat during a similar period of time under similar circumstances; (b) a sense of loss of control over eating during the period i.e. a feeling that they cannot stop eating or that there is no control over what or how much they are consuming; (2) recurrent inappropriate compensatory behaviours in order to

prevent weight gain, including self-induced vomiting, the misuse of laxatives, diuretics, enemas or other means of medication as well as excessive exercise and fasting; (3) binge eating and inappropriate compensatory behaviours both occur, on average, a minimum of twice per week for a period of three months; (4) self-evaluation is strongly influenced by body shape and weight; (5) disturbance does not occur exclusively during periods of BN (Schebendach, 2013: 491; Gonzalez et al., 2007: 615; Sue et al., 2006: 529; Mancini-Cathilo, 2006; Stice et al., 2000).

BN can be divided according to two diagnostic subtypes dependent on the compensatory behavioural methods adopted by the individual. These include: (1) Purging Subtype – whereby during the current episode of BN, the individual has regularly engaged in self-induced vomiting as well as the misuse of laxatives, diuretics and enemas; and (2) Non-Purging Subtype – whereby during the current episode of BN, the individuals have used other inappropriate compensatory behaviours such as fasting or excessive exercise in order to compensate for the binge episode but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics or enemas (Schebendach, 2013: 491, Stice et al., 2000).

Individuals with BN differ from those with AN binge and purging subtypes, as individuals with the classic diagnosis of BN are typically within a normal weight range, although some individuals may be slightly underweight or overweight. Individuals with BN also place considerable importance on body shape and size and tend to be easily frustrated with their inability to attain an underweight state (Schebendach, 2013: 491).

BN is diagnosed when an individual participates in binge eating behaviours, and is not diagnosed according to the self-induced vomiting which is commonly thought to be the central diagnostic criteria. Although the amount of food consumed during a binge varies, binges often range between 4200-8400kJ (Schebendach, 2013: 491). Individuals typically binge on foods that are otherwise avoided. These foods include unhealthy snack options or desserts. However in certain instances, these individuals may consume excessively large quantities of low energy foods i.e. ‘free’ vegetables and fruits. Therefore in order to meet full diagnostic criteria according to DSM-V, both binge eating and recurrent inappropriate compensatory behaviours must occur, on average,

at least twice per week for three months (Schebendach, 2013: 491-492, Stice et al., 2000).

BN can be extremely harmful to the body and when untreated, individuals with BN may suffer from several serious complications. The recurrent binge-purge cycles can damage the entire digestive system. Other common complications include severe dehydration and electrolyte imbalances which can lead to irregular heartbeat, resulting in heart failure. Others may include inflammation and possible rupture of the oesophagus from frequent purging, progressive constipation resulting from laxative abuse, hypoglycemia, renal failure, sialadenosis (swelling of the salivary glands), as well as other oral manifestations resulting from the trauma associated with BN (Babiez-Zielinska et al., 2013: 134; Escott-Stump, 2008: 253).

2.3. GLOBAL PREVALENCE OF ANOREXIA NERVOSA AND BULIMIA NERVOSA

The overall global prevalence of AN and BN is on the rise. According to the APA (2000, 2006), the reported lifetime prevalence of AN and BN among females is 0.3-3.7% and 1-3% respectively and for males it is estimated to be one tenth that of females in both AN and BN (Schebendach, 2013: 489). In a review conducted by Babiez-Zielinska et al. (2013: 135), the prevalence of AN and BN was found to be 6.3 and 9.9 per 100 000 population respectively. In a study conducted by Erdur et al. (2012: 1) in Berlin at the Charite' University Medical Centre amongst 169 female inpatients with AN between 1979 and 2011, the lifetime prevalence of AN was 1.2.-2.2%. As mentioned in chapter one, both conditions occur predominantly in younger adolescents in Westernised, post industrialised societies, (including South Africa) who idealise a thin body type (Schebendach, 2013: 489; Gonzalez et al., 2007: 614-619, Wilson et al., 1996). The prevalence of BN is three times higher in larger cities than in smaller urbanised or rural areas, whereas AN is found with almost equal frequency in areas with varying degrees of urbanisation (Babiez-Zielinska et al., 2013: 135).

In the United States of America, AN and BN occur within the population at a prevalence of 6-15% and 5-30%, respectively. Within the population, 5% of females and 1% of males suffer from either AN or BN (Escott-Stump, 2008: 247, 252).

AN is more common in females, representing approximately 90-95% of cases, and generally occurs after the onset of puberty (Escott-Stump, 2008: 247). However, occurrence at any age is not unlikely. Approximately 80% of individuals diagnosed with BN are female. Escott Stump (2008: 252), describes that in the United States of America 85%, of those individuals diagnosed with BN are college-educated females.

2.4. PRE-OCCUPATIONS AND RITUALS

As previously mentioned, the course and outcomes of eating disorders are often chronic conditions with lapses and relapses frequently occurring (Bohon et al., 2009: 176; Sue et al., 2006: 270-279; Sunday et al., 1999: 455). A number of researchers have emphasised the obsessional and compulsive behaviour observed in individuals with eating disorders (Dyl et al., 2006: 369-382; Fey-Yensen et al., 2002: 68-71).

The high relapse rate as well as large number of individuals who suffer from eating disorder symptoms during their entire lifetime, is closely associated with pre-occupations and rituals related to food, eating, and their bodies (Bellace et al., 2012: 856-857; Sunday et al., 1999: 456).

The development of pre-occupations and rituals has been linked to how individuals perceive their own physical attractiveness, as well as how other individuals perceive their bodies within a cultural context (Haines et al., 2011: 530-531; Fey-Yensen et al., 2002: 68). The 'ideals' related to body shape and size have evolved in the 40 years preceding 2002, to an end point that is unrealistic and unobtainable (Fey-Yensen et al.,2002: 68). The above misconceptions can result in the development of eating disorders and associated behaviours i.e. pre-occupations and rituals that can compromise health.

Three aspects of eating disorder 'obsessions and compulsions' have not been systematically measured in context with the severity and uniqueness of core eating disorder symptomology. These three aspects include: (1) patients may not view the eating disorder related thoughts and behaviours as senseless; (2) patients may not wish to abolish these pre-occupations and rituals; and (3) patients may not view these pre-occupations and rituals as ego-dystonic (the opposite of ego-syntonic and refers to the

thought and behaviours that are in conflict with needs and goals of one's ego or consistent with one's ideal self-image) (Sunday et al., 1994: 237).

Individuals diagnosed with an eating disorder will regularly participate in unnatural and ritualistic behaviours (Lavender et al., 2013: 2). These pre-occupations and rituals often lead to a strong sense of anxiety. Lavender et al. (2013) report a study conducted in order to determine the 'anxiety trajectories' in individuals diagnosed with an eating disorder. The findings demonstrated that on days where anxiety levels were high, individual were more likely to partake in ritualistic behaviour as well as exhibit multiple levels of anxiety. The findings also suggest a strong association between anxiety trajectories in the natural environment and numerous eating disorder behaviours. Furthermore, the findings suggest that the daily timing of a certain preoccupation or ritual varies across the different levels of anxiety experienced. This demonstrates further similarities amongst anxiety and eating disorders, and may in certain instances indicate a 'functional relationship' between anxiety and eating disorder behaviours (Lavender et al., 2013: 9, Wilson et al., 1996)

Pre-occupations commonly associated with eating disorders include: food, eating, weight, shape and appearance, clothing as well as 'other' pre-occupations i.e. hoarding and exercise (Mazure et al., 1994).

Individuals diagnosed with an eating disorder, specifically those with AN, often spend a significant amount of time performing activities associated with food. These may include watching cooking channels, looking up recipes, grocery shopping, and packing lunch boxes, as well as planning and preparing healthy menu options for those around them. They may often become overly involved and critical of the eating habits of others. Many individuals will hoard, hide, save and collect food and non-food related items, as opposed to actually consuming the food, a common symptom of starvation. These are all means of being surrounded by food without consuming it (NEDO, 2013).

In individuals diagnosed with an eating disorder, food often becomes the main focus of their day to day activities. Individuals will often seek employment within industries that either allows them to control the eating habits of others (i.e. dietitians, nutritionists) or puts them in contact with food (i.e. chef) (NEDO, 2013).

Behaviour related rituals may include food, eating, bingeing, purging, weighing, exercise, hoarding or saving food, somatic as well as excessive list making and ‘other’ rituals (Mazure et al., 1994). Eating related rituals refer to compulsive behaviour surrounding eating. When ritualistic behaviours’ are interrupted, individuals diagnosed with an eating disorder often experience an intense, often severe, form of anxiety (NEDO, 2013, Wilson et al., 1996; Mazure et al., 1994).

Individuals with eating disorders are often obsessed with weighing and measuring food. They will often dissemble food and cut the food into smaller pieces. Eating related rituals include eating a specific number of kilojoules and stopping once that amount is reached; and sometimes repeatedly eating the same foods, within a particular order and only eating at specific times also occurs (NEDO, 2013).

The above mentioned pre-occupations and rituals can typically occur during many hours of the day (Haines et al., 2011: 530-531; Jordan et al., 2009: 267-268; Dyl et al., 2006: 370).

2.5. INSTRUMENTS TO DETERMINE PRE-OCCUPATIONS AND RITUALS

The majority of eating disorder assessments tools are used to monitor individuals or to measure the symptoms during treatment associated with the eating disorder i.e. restricting food intake, binge eating and purging. Individuals diagnosed with an eating disorder according to the DSM-V criteria for AN and BN are generally preoccupied with food and engage in rituals related to eating, body shape, food and weight (Bellace et al., 2012: 856, Jordan et al., 2009).

The YBC-EDS-SRQ allows for the determination of target symptoms specific to each patient and the assessment of the degree of impairment associated with the patient’s symptomatology during both ‘Current’ periods (defined as the past month) and ‘worst’ period (as defined as the one month period during which the patient felt their eating disorder was at its worst) for that patient (Bellace et al., 2012: 856-857, Jordan et al., 2009).

The YBC-EDS is a semi-structured interview that was developed by Halmi et al. (1994). It identifies a wide range of eating related pre-occupations and rituals frequently

experienced by individuals diagnosed with an eating disorder from a 65-item checklist, followed by 19 questions. Once the pre-occupations and rituals checklists have been completed, four core questions are then asked regarding the pre-occupations, and four core questions regarding the rituals (Bellace et al., 2012: 858, Jordan et al., 2009, Stice et al., 2000).

The YBC-EDS-SRQ is an adaption of the YBC-EDS that was recently developed by Bellace and colleagues and is used to assess the very eating disordered pre-occupations and rituals that can contribute to the onset and maintenance of eating disorders (Bellace et al., 2012: 857).

This questionnaire was derived from the YBC-EDS interview, which has long been recognised as a strong assessment tool. The YBC-EDS-SRQ was developed to be a more efficient assessment tool for both researchers and clinicians. It was developed in order to assess the nature and severity of an individual's unique set of pre-occupations and rituals related to eating disorders, and allows for patients to complete the same 65-item checklist and 19 questions item questionnaire related to their eating disorder pre-occupations and rituals independently (Bellace et al., 2012: 858).

There are limitations associated with a self-report questionnaire. Patients may feel that reporting their eating disorder related symptoms are somewhat embarrassing. This may result in the patients' under-reporting these symptoms. On the other hand, patients may feel more comfortable completing the questionnaire independently as opposed to describing what they experience to another individual during a one-on-one interview. Some patients may deny or minimise the severity of their symptoms in an individual interview, whereas the YBC-EDS-SRQ provides a more private setting whereby patients can reflect on their eating disorder related symptoms in terms of frequency and intensity (Sunday et al., 1994, Mazure et al., 1994).

During completion of the YBC-EDS-SRQ, individuals are often surprised to learn that they are not alone in their experiences around certain thoughts and behaviours related to eating, food and weight (Bellace et al., 2012:859; Sunday et al., 1994:244).

The YBC-EDS-SRQ can therefore reduce the individual's sense of feeling 'abnormal' relative to other individuals diagnosed with an eating disorder. In addition the specific pre-occupations and rituals recognised by each individual can allow for a more individualised treatment approach for each individual (Bellace et al., 2012:859).

The YBC-EDS-SRQ has been identified as a useful instrument with regards to the assessment of the pre-occupations and rituals associated with eating disorders in both the clinical and research setting (Sunday et al., 1994: 243). All individuals diagnosed with an eating disorder will typically report pre-occupations and rituals related to their eating disorder (Sunday et al., 1994: 237). Pre-occupations typically occupied a significant proportion of the individuals' time, interfered with daily functioning, caused severe distress and although they are often mildly resisted, the pre-occupations are perceived to be largely out of the individuals' control. Rituals have been identified as somewhat less severe than the pre-occupations, however, individuals still spend a vast majority of their time, performing them and also experienced little control over them (Sunday et al., 1994: 243).

CHAPTER 3:

METHODOLOGY

3.1. INTRODUCTION

In chapter three a description of the study design, population and sampling, as well as the inclusion and exclusion criteria is provided. This is followed by a description of the operational definitions outlined in terms of the objectives of the study. An overview of the methods and techniques applied in the study is provided, as well as a theoretical rationale for the use, validity and reliability of each method and technique used. The study procedures are discussed followed by a description of the pilot study, statistical analysis and ethical aspects.

3.2. STUDY DESIGN

A descriptive study was conducted.

3.3. POPULATION AND SAMPLING

In collaboration with the Department of Biostatistics of the University of the Free State, the researcher decided on a convenience sampling design.

Due to the low occurrence of eating disorders amongst males, only females were included for the purpose of the research study. Females, between the ages of 12-45, currently diagnosed according to the DSM-IV-TR and DSM-V diagnostic criteria (see Appendix A), with either AN or BN were recruited for the research study. The sample included in-patients, as well as those who had been discharged but were being followed up in the outpatient clinic, from an institution specialising in eating disorders i.e. Tara Hospital.

Tara Hospital is a 141 bed psychiatric specialised tertiary hospital, situated in Hurlingham, Sandton and runs a behavioural eating disorders programme for individuals suffering from AN or BN. It is the only institution within the Gauteng region to specialise in the treatment of individuals with eating disorders.

The eating disorder ward admits a maximum of eight patients to the ward at any time. The small number of patients admitted is to ensure optimal medical, as well as nutritional therapy.

The eating disorder ward currently runs two programmes for patients suffering with AN and BN. The AN program requires patients to be admitted for a period of approximately 14 weeks and involves seven stages of which stages two to seven are conducted at Tara Hospital. The initial stage involves the stabilisation of the patient at a general hospital prior to the admission to Tara Hospital.

The BN programme requires patients to stay for a minimum period of eight weeks and involves six stages. In certain instances, a patient may require a longer stay due to slow progress; as a result the eight week period is an estimation.

A multi-disciplinary approach is followed with the treatment of individuals suffering from eating disorders including the following team members: consultant or psychiatrist; medical registrar, clinical psychologist, nurse, occupational therapist, social worker and dietitian.

Upon discharge, patients are followed up at the eating disorder out-patient clinic, unless it is too far for them to travel to this clinic, in which case alternative arrangements are made for them to be followed up in their area of residence.

All the patients that were in the ward at the time that the study was conducted (October 2013 - November 2013) were eligible to participate in the study as well as those patients who were being followed up in the outpatient clinic at the time.

3.3.1. Inclusion Criteria

The study sample included a convenience sample of all in-patients within the eating disorder ward, as well as those who had been discharged from the ward but were being followed up in the outpatient clinic of Tara hospital regardless of their age or race.

AN and BN were characterised based on the DSM-V TR Criteria (Appendix A) and included:

- Anorexia nervosa – non-purging type;
- Anorexia nervosa – purging type;
- Bulimia nervosa – purging type with no history of anorexia nervosa; and
- Bulimia nervosa – purging type with a history of anorexia nervosa

3.3.2. Exclusion Criteria

Male patients were excluded.

3.4. MEASUREMENTS

3.4.1. Operational Definitions

- ***Demographic Profile***: For the purpose of this study, demographic profile included age, gender, race, history of AN or BN or any other eating disorder, duration of admission in institution, as well as prior admissions to an institution, and eating disorder type. Anthropometric variables were also noted in the demographic profile and included weight and height prior to admission, as well as current weight to calculate BMI;
- ***Food Pre-occupations***: For the purpose of this study, food pre-occupations included behaviour related to food, eating, weight and shape, clothing and other miscellaneous issues i.e. hoarding food as well as exercising; and
- ***Food Rituals***: For the purpose of this study, food rituals included behaviour related to food, eating, bingeing, purging, body weight, exercise, hoarding or saving food as well as list making.

3.4.2. Techniques

3.4.2.1. Questionnaires

The socio-demographic profile of the participants was obtained using a standardised questionnaire (Appendix B), which was designed by the researcher and completed by the resident dietitian. The age and race, as well the number of times the participant had previously been admitted to Tara as well as any other institution for the treatment of an eating disorder was noted. This was followed by a section documenting the date of

admission to Tara Hospital as well as any previous admissions, current diagnosis, as well as, if applicable, previous diagnosis and history of an eating disorder. The dates of admission, diagnosis, as well as anthropometric measurements prior to admission were obtained from the patient's medical file.

The YBC-EDS-SRQ was used as the measurement tool to determine the pre-occupations and rituals related to food (Appendix C). The YBC-EDS is a semi-structured interview that was developed by Halmi et al. (1994). It identifies a wide range of eating related pre-occupations and rituals frequently experienced by patients diagnosed with an eating disorder from a 65-item checklist, followed by 19 questions. Once the pre-occupations and rituals checklists have been completed, four core questions are then asked regarding the pre-occupations and four core questions regarding the rituals (Bellace et al., 2012: 858).

It was derived from the YBC-EDS interview by Halmi et al. (1994), which has long been recognized as an effective assessment tool. It was developed to be a more efficient assessment tool for both researchers and clinicians. The self-report questionnaire was developed in order to assess the nature and severity of an individual's unique set of pre-occupations and rituals related to eating disorders. The YBC-EDS-SRQ allows for patients to complete the same 65-item checklist and 19 questions item questionnaire related to their eating disorder pre-occupations and rituals independently. This questionnaire takes approximately 20 minutes to complete and can be administered to multiple patients simultaneously (Bellace et al., 2012: 858).

The YBC-EDS-SRQ provides the definitions of pre-occupations and rituals, and requests that the individuals being interviewed keep in mind these definitions when answering the different categories within the questionnaire. The YBC-EDS-SRQ requires the individual to place a checkmark beside each preoccupation and ritual that applies to them in both categories that are described i.e. 'Current' and 'Worst':

1. 'Current' - These refer to any pre-occupations and / or rituals that are currently experienced i.e. over the past month, including the day being interviewed. For in-patients the ''Current period'' is the one month period prior to hospitalisation; and

2. ‘Worst’ – These refer to any pre-occupations and / or rituals that have been experienced during the interviewers’ ‘Worst period’. This is defined as the one month period of time during which the eating disorder symptoms were at their worst. In-patients should not consider their time spent in hospital as their ‘Worst period’. Instead, the ‘‘Worst period’’ should be any one month period of time outside of the hospital setting during which eating disorder symptoms were at their worst.

Once the pre-occupations and rituals had been identified during ‘Current’ and ‘Worst’ periods, nine additional questions were answered using a rating scale of 0-4. Individuals were required to fill in only one numerical rating for ‘Current’ and one numerical value for ‘Worst’.

In addition, descriptive information, in the participants’ own words, was collected to enable the researcher to identify and understand in more detail the pre-occupations and rituals associated with food in in-patients with eating disorders.

Scoring of the questionnaire was done by determining the pre-occupation and ritual subtotal score for both ‘Current’ and ‘Worst’ periods and adding them to determine the total score for ‘Current’ and ‘Worst’ periods. The Experimental Change Score was also determined by adding the ‘Current’ and ‘Worst’ periods, as indicated in Table 3.1, in order to determine a total score.

Table 3.1. Calculation of YBC-EDS-SRQ Preoccupation Sub-Total Scores:

	'Current'	'Worst'
1. Time occupied by Pre-occupation		
3. Interference due to Pre-occupations		
4. Distress associated with Pre-occupations		
7. Degree of control over Pre-occupations		
Pre-occupations Subtotal Score (Items 1+3+4+7)		

Table 3.2. Calculation of YBC-EDS-SRQ Ritual Sub-Total Scores:

Item	Score	
	'Current'	'Worst'
10. Time occupied by Rituals		
12. Interference due to Rituals		
13. Distress associated with Rituals		
16. Degree of control over Rituals		
Rituals Subtotal Score (Items 10+12+13+16)		

Total Score = Pre-occupations Subtotal + Rituals Subtotal **'Current':** **'Worst':**

Table 3.3. Calculation of YBC-EDS-SRQ Experimental Change Score

Item	Score	
	'Current'	'Worst'
6. Resistance against Pre-occupations		
8. Insight into Pre-occupations		
9. Desire for change		
15. Resistance against Rituals		
17. Insight into Pre-occupations		
18. Desire for change		
Score = (6+8+9+15+17+18) **'Current':** **'Worst':**		

The scores were calculated separately for the 'Current' and 'Worst' scenarios. Each question indicated whether it was regarding scenario 'Current' or 'Worst', and the relevant answer in each case was used in the calculation. The pre-occupation subtotal score was calculated by adding together questions 1, 3, 4 and 7 for each scenario, as indicated in Table 3.1. The ritual subtotal score for each scenario was calculated by adding questions 10, 12, 13 and 16, as indicated in Table 3.2.

The total score for each scenario, namely 'Current' and 'Worst', was calculated by adding the pre-occupations subtotal score and the ritual subtotal score.

The experimental change score for both scenarios namely 'Current' and 'Worst' was calculated by adding together questions 6, 8, 9, 15, 17 and 18, as indicated in Table 3.3. The maximum value, which indicated the highest severity, for pre-occupations and rituals score is 16, and for the total score is 32. A maximum score of 24 would indicate no resistance, no insight and no desire to change either pre-occupations or rituals.

3.4.2.2. Anthropometric Measurements

Anthropometric measurements were obtained according to the techniques described by Lee and Nieman (2007: 170-174). These measurements were performed by the resident dietitian at Tara Hospital. Anthropometric measurements prior to admission as well as current anthropometric measurements i.e. their weight and height as noted in the file were noted. The weight and height were used to calculate the participant's BMIs.

- **Weight**

The weights of the patients were determined using an electronic Tanita Scale (Lee & Nieman, 2007: 173-174).

Scales were placed on a flat, hard surface, allowing them to be positioned securely.

Participants:

- Removed all excess clothing i.e. jackets, shoes and jewellery i.e. wear light indoor clothing;

- Stood still in the middle of the scale's platform without touching anything;
- Had their body weight evenly distributed on both feet;
- Had their arms and hands positioned next to the side of the participant's body;
- Had their weight measured to the nearest 0.1 kg (Lee & Nieman, 2007: 173-174).

- **Height**

The height of the patients was determined using a SECA stadiometer according to the recommendations of Lee & Nieman (2007: 170-172).

Participants:

- Removed all excess clothing i.e. jackets, shoes and jewellery i.e. wear light indoor clothing;
- Stood with heels together, arms and hands positioned next to the side of the participant's body, legs straight, shoulders relaxed, with their head in the Frankfort Horizontal Plane Position i.e. "looking straight forward";
- Had their heels, buttocks, scapulae (shoulder blades) and the back of the head pressed against the vertical surface of the height meter;
- Just before the measurement was taken, the participant inhaled deeply, held their breath and maintained an erect posture i.e. "stood up tall" whilst the dietitian lowered the head board to the highest point of the head with sufficient pressure to compress the participant's hair.
- Had their height measured to the nearest 0.1 cm and with the eye-level with the headboard to avoid errors of parallax (Lee & Nieman, 2007: 170-172).

- **BMI**

The BMI of the patients was determined using the participants' weight and height. The BMI is obtained by dividing the weight in kilograms by height in meters squared. BMI is classified as follows (Lee and Nieman, 2007: 185):

Table 3.4: Body Mass Index (BMI) Classification

Classification	BMI (kg/m^2)	Obesity Class
Underweight	< 18.5	
Normal	18.5-24.9	
Overweight	25-29.9	
Obesity	30-34.9	I
	35-39.0	II
Extreme Obesity	≥ 40.0	III

3.4.3. Procedures and Data Collection

Step 1: Prior to initiation of the study, approval was obtained from:

- Ethics Committee of the Faculty of Health Sciences of the University of the Free State (Appendix D); and
- Research and Ethics Committee of Tara Hospital (Appendix E)

Step 2: Once approval was granted, the researcher scheduled an appointment to meet the dietitian at Tara Hospital. During this appointment, the researcher explained the purpose and details of the study to the dietitian. The researcher also provided all the necessary documentation to the dietitian who was responsible for distributing them to the patients. This documentation included the information document regarding the research study itself as well as the informed consent form (Appendix F).

Step 3: Once participants had read the information document and provided informed consent, the researcher obtained the completed socio-demographic questionnaire in an interview with each of the participants (Appendix B).

Step 4: Anthropometric measurements were taken prior to completion of the questionnaire. For ethical reasons, the resident dietitian was responsible for taking the

participants' anthropometric measurements, weight and height. This information was noted on the socio-demographic profile document.

Step 5: Prior to the commencement of the food pre-occupations and rituals questionnaire, the resident dietitian went through a list of definitions with the participants.

Step 6: Once all the data had been obtained, the resident dietitian, scheduled one-on-one consultations with each of the participants. During this consultation, the participant received the self-administered YBC-EDS-SRQ (Appendix C). The participants had approximately 20-25 minutes to complete the questionnaire.

Step 7: Once the questionnaires were completed, they were inserted into an envelope and stored in a safe place until all questionnaires were completed. Each questionnaire had its own unique number to ensure patient confidentiality.

Step 8: Once all documentation had been completed, the researcher collected the documentation from the dietitian. The information obtained from the socio-demographic profile as well as the responses of the questionnaires were coded accordingly.

3.4.4. Validity and Reliability

According to Leedy and Omrod (2005: 28), the validity of a measurement tool can be defined as "the extent to which the tool measures what it is supposed to measure". Validity depends on the accuracy with which the measuring tool measures and the observer performs the measurements.

Reliability measures the consistency of information generated (Perkin, 2006: 211-226). According to Leedy and Omrod (2005: 29), reliability refers to "the consistency with which the measuring tool yields a specific result when the entity measure has not changed".

3.4.4.1. Validity and Reliability of the Questionnaires

In Bellace et al. (2012: 858-859), convergent validity, test-retest reliability and discriminant validity of the YBC-EDS-SRQ was examined using Pearson correlations. A

very stringent alpha level of 0.001 was used in order to correct for possible false positives among correlation analyses.

Convergent validity of the YBC-EDS-SRQ and the YBC-EDS:

The inter-relations ranged from 0.598 to 0.756, all of which were significant at the $p < 0.001$ level. The correlations during the 'Worst period' were large and all significant at $p < 0.001$, but were slightly smaller than those in the 'Current period'.

Test-Retest Reliability of the YBC-EDS-SRQ:

The correlations ranged from 0.646 to 0.935, all of which were significant at the $p < 0.001$ level. Overall the strongest correlations were found between the two administrations of the Rituals Subtotal Worst and Total Worst Subscales. These correlations indicate a high degree of test-retest reliability for the YBC-EDS-SRQ.

Discriminant Validity:

There were no significant correlations between the various symptom dimensions of the YBC-EDS-SRQ Pre-occupations, Rituals and Total subscale variables.

Questionnaires were distributed by the resident dietitian whom the patients know and trust, therefore enhancing validity and reliability of the information obtained. All participants were literate, and were asked to answer the questionnaire honestly.

3.4.4.2. Validity and Reliability of the Anthropometric Measurements

In order to ensure validity of the results, the same scale and stadiometer were used to determine the participants' weight and height, and the scale was calibrated before each measurement, using a known weight (Lee & Nieman, 2007: 170-174).

In order to ensure reliability of the results, weight and height were measured by the trained dietitian at Tara Hospital according to standard procedures, recommended by Lee and Nieman (2003). Weight and height measurements were taken twice, with the average of the two measurements being noted on the questionnaire, therefore ensuring reliability of the results.

3.5. PILOT STUDY

A pilot study was conducted prior to the commencement of the main research study on an individual participant that met the same inclusion criteria as that of the main research study. The questionnaires were administered 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 completed questionnaires were only included in the main study if no significant alterations i.e. editing, were made. As no alterations were made after the pilot study, the results of that one participant 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 as well as scoring was done by the Department of Biostatistics at the University of the Free State.

3.7. ETHICAL ASPECTS

The research protocol was approved by the Ethics Committee of the Faculty of Health Sciences of the University of the Free State (ECUFS 109/2013) and the Research and Ethics Committee of Tara Hospital. The objectives and procedures of the research study were explained to each of the participants by means of an information document. The information document was discussed with each participant before the participant consented to participate in the research study. Prior to obtaining informed consent, the resident dietitian answered any questions the participant had regarding the research study. Once the participant was fully informed, the participant signed the informed consent form (Appendix F).

All anthropometric measurements were obtained by the resident dietitian as participants felt more comfortable with a dietitian that they know.

No names were made known or written on the questionnaires. A number was allocated to each questionnaire. The one-on-one consultations were conducted in a private room (to obtain socio-demographic information) and the questionnaires related to pre-occupations and rituals were self-administered. Codes were used for data analysis and results. The researcher maintained confidentiality of all the information at all times.

Participants were made aware that participation in the study was voluntary, and allowed participants the right to refuse to participate or decide to withdraw from the research study at any time.

CHAPTER 4:

RESULTS AND DISCUSSION

4.1. INTRODUCTION

Chapter four reports the results related to pre-occupations and rituals related to food in patients with eating disorders as well as the discussion thereof.

4.2. SOCIO-DEMOGRAPHIC INFORMATION

A total of nine participants were included in the research study (In-patients n=5, out-patients n=4).

Of the nine participants, the median age was 17.1 years, with a minimum age of 15.2 years and a maximum age of 42.5 years.

Socio-demographic information related to gender, race, diagnosis as well as previous admittance to Tara Hospital or any other hospital are presented in Table 4.1.

Table 4.1: Socio-demographic information of respondents

Socio-demographic Profile:	Frequency	Percentage
Gender (n=9):		
Female	9	100
Male	0	0
Race (n=9):		
Caucasian	8	88.9
Indian	1	11.1
Current Diagnosis (n=9):		
Anorexia Nervosa – non purging type	5	55.6
Anorexia Nervosa – purging type	1	11.1
Bulimia Nervosa – purging type	3	33.3
Bulimia Nervosa – non purging type	0	0
None (no current diagnosis)	0	0
Previous Diagnosis (n=9):		
Anorexia Nervosa – non purging type	2	22.2
Anorexia Nervosa – purging type	0	0
Bulimia Nervosa – purging type	0	0
Bulimia Nervosa – non purging type	0	0
None	7	77.8
Previous admittance to Tara or any other institution (n=9):		
Yes	2	22.2
No	7	77.8

All nine participants were female. Eight of the nine were Caucasian, while one was of another race i.e. Indian. More than half of participants were currently diagnosed with AN-non purging, with one currently diagnosed with AN-purging type and three currently diagnosed with BN-purging type. With regards to previous diagnosis, seven of the nine participants had not been previously diagnosed or admitted with an eating disorder. This information is supported by the seven of the nine participants who had not been previously admitted to Tara Hospital or any other institution for an eating disorder (Table 4.1).

Eating disorders have been conceptualised as a condition that effect predominantly Caucasian females from Westernised countries. According to Schebendach (2013: 489), eating disorders are much more common amongst females than males (approximately 90-95% are female). Among males, estimated prevalence is about one tenth to that of females. Within the current study, 100% of the participants were female and no male patients were admitted at the time of the study.

In a study conducted by Lydecker et al. (2011), the authors reported that recent research indicates that other race groups, excluding the Caucasian race, also manifest clinically significant eating disorder pathology and associated risk factors. However, the research also suggests that these race groups are less likely to seek treatment for eating disorders. As a result data, is rarely reported (Lydecker et al., 2011). Eight of the nine participants in the current study were Caucasian.

The initial presentation of an eating disorder generally occurs during adolescence or young adulthood. However, occurrence at any age is not unlikely. Later onset of an eating disorder may develop in response to adverse life events. Newly diagnosed eating disorders account for less than one percent of patients receiving treatment, suggesting that the majority of patients require ongoing treatment once diagnosed (Schebendach, 2013: 489).

4.3. BODY MASS INDEX AND ASSOCIATION WITH DIAGNOSIS

Table 4.2: Body Mass Index (BMI) (n=9)

BMI Classification (kg/m^2)	**Frequency**	**Percentage**
< 18.5	3	33.3
18.5 - 24.9	5	55.7
25 - <30	1	11.1

The use of the BMI has become increasingly accepted in the management of eating disorders especially AN, as individuals with BN generally have a BMI within normal ranges. Although a BMI of 19-25 kg/m^2 is considered to be ideal in healthy individuals, a BMI of 19-20 kg/m^2 represents a low-normal target body weight for individuals with AN (Schebendach, 2013: 490-492).

Three participants had a BMI <18.5 kg/m^2 which indicated that they were underweight, five had a BMI within the normal range and only one had a BMI between 25-30 kg/m^2, indicating overweight (Table 4.2).

Associations between BMI classification and both current and previous diagnosis were determined and are indicated in Tables 4.3 and 4.4.

Table 4.3: Association between BMI Classification and Current Diagnosis (n=9)

BMI Classification (kg/m^2) (n=9)	**n**	**AN non-purging (%)**	**AN purging (%)**	**BN purging (%)**	**BN non-purging (%)**
< 18.5	3	66.7	33.3	0	0
18.5 - 24.9	5	60.0	0	40.0	0
25 - ≤30	1	0	0	100.0	0

Participants with a BMI <18.5 kg/m^2 generally had a current diagnosis of AN. Two of these participants were currently diagnosed with AN non-purging and one with AN purging. Three of the five participants that were diagnosed with AN-non-purging, had a BMI within the normal range of 18.5-24.9 kg/m^2. Two of the five participants that were diagnosed with BN-purging had a BMI of 18.5-24.9 kg/m^2. Only one participant who had been diagnosed with BN-purging had a BMI between 25$\leq$30 kg/m^2 (Table 4.3).

The reported BMI's are typical of individuals with eating disorders, as individuals diagnosed with AN generally have a BMI <18.5 kg/m^2. Individuals diagnosed with BN typically have a BMI within the normal range of 18.5-24.9 kg/m^2 and more often than not <25 kg/m^2 (Schebendach, 2013: 491). The results indicate that three of the nine participants diagnosed with AN non-purging had a BMI between 18.5-24.9 kg/m^2. This is most likely due to the fact that they had already undergone a period of treatment at the time of the study and that their BMI had increased during this time.

Table 4.4: Association between BMI Classification and Previous Diagnosis

BMI Classification (kg/m^2)	**n**	**AN non-purging (%)**	**AN purging (%)**	**BN purging (%)**	**BN non-purging (%)**	**No Previous Diagnosis (%)**
< 18.5	3	33.3	0	0	0	66.7
18.5 - 24.9	5	20	0	0	0	80
25 - <30	1	0	0	0	0	100

One of the nine participants had been previously diagnosed with AN non-purging and had a BMI <18.5 kg/m^2. Within this BMI classification, two had not been previously diagnosed. One of participants with a previous diagnosis of AN non-purging had a BMI within the normal range and four of participants within the normal range had not been previously diagnosed with an eating disorder. The one participants with a BMI between 25$\leq$30 kg/m^2 had not been previously diagnosed with an eating disorder (Table 4.4).

4.4. TIME DIFFERENCE

Table 4.5: Time difference (in days) for 'Current' and ''Worst period'' of Eating Disorders

Time difference (days) (n=9)	**Minimum**	**Median**	**Maximum**
'Current period'	1.0	96.0	217.0
'Worst period'	24.0	125.0	1314.0

With regards to the ''Current period'' (refers to any pre-occupations and / or rituals that are currently experienced i.e. over the past month, including the day being interviewed), the median number of days was 96. 'Worst period' refers to any pre-occupations and /

or rituals that have been experienced during the interviewers' 'Worst period' - defined as the one month period of time during which the eating disorder symptoms were at their worst. The median number of days for the 'Worst period' was 125 (Table 4.5).

From the data obtained, it can be concluded that for most of the participants, the 'Worst period' was the period spent at the specialised institution.

Table 4.6: Time difference (in days) for pre-occupations and rituals for both 'Current' and 'Worst' period of Eating Disorders

Time difference (days) (n=9)	**Minimum**	**Median**	**Maximum**
Total 'Current period'	5.0	31.0	32.0
Total 'Worst period'	5.0	31.0	31.0
Pre-occupations 'Current period'	0.0	31.0	32.0
Pre-occupations 'Worst period'	5.0	31.0	31.0
Rituals 'Current period'	5.0	31.0	32.0
Rituals 'Worst period'	5.0	31.0	31.0

For total 'Current period', including both pre-occupations and rituals, the median number of days during which pre-occupations and rituals were currently being experienced, was 31 days, with a minimum of five days and a maximum of 32 days. For total 'Worst period', the median number of days whereby symptoms of eating disorder were at their worst is 31 days, with a minimum of 5 days and a maximum of 31 days (Table 4.6).

In the current study, the time, in days, during which pre-occupations and rituals were being experienced in both the 'Current' and 'Worst' period's, was generally a one month period. The minimum number of days during which these pre-occupations and rituals were being experienced was less than one week (Table 4.6).

4.5 PRE-OCCUPATIONS

Table 4.7: Food pre-occupations (n=9)

Variable	'Current period'	'Worst period'	Both
Categorise all foods as good or bad: n: %	 0 0.0	 2 25.0	 6 75.0
Think excessively about the fat content of food: n: %:	 0 0.0	 2 33.3	 4 66.7
Think excessively about the energy content of food: n: %:	 1 16.7	 1 16.7	 4 66.7
Think excessively about the sugar / carbohydrate content of food: n: %:	 0 0.0	 4 50.0	 4 50.0
Fear that eating certain food types will lead to immediate body changes (i.e. eating fat will deposit fat onto your hips): n: %:	 0 0.0	 0 0.0	 8 100.0

Food pre-occupations included the categorisation of food as good or bad, thinking excessively about the caloric, fat, sugar and carbohydrate content of food as well as fear that eating certain foods may lead to immediate body changes (Mazure et al., 1994).

For both 'Current' and 'Worst' period's, the majority of participants experienced most of the food pre-occupations. Six of the participants categorised food as good or bad. Four of the nine participants thought excessively about the fat content of food. Four of the nine participants thought about the energy content of food and four of the nine participants though about the sugar and carbohydrate content of food. Eight of the nine participants feared that eating a particular food type would lead to immediate body changes during both the 'Current' and 'Worst period' (Table 4.7).

Only one other study has reported on the pre-occupations and rituals related to food in patients with eating disorders using the Yale-Brown-Cornwell Eating Disorder Scale (Sunday et al., 1994). This is probably due to the fact that the results of the questionnaire are usually used in clinical practice and not so often in a research setting. Unfortunately this fact did limit the published studies with which the results of the current study could be compared.

Sunday et al. (1994: 240) undertook a study at Cornwell University Medical Center-Westchester Division amongst one hundred patients with a primary eating disorder of AN and BN, thus including a sample that was much bigger than the one included in the current study. These authors reported that 70% of their participants were preoccupied with the fat content of food and 55% were preoccupied with the energy content of food.

In the current study, 33.3% of participants during their 'Worst period' only and 66.7% of participants during both their 'Current' and 'Worst period' were preoccupied with the fat content of food. One in six participants (for both the 'Current period' and the 'Worst period') were preoccupied with the energy content of food during their 'Current period' and 'Worst period', whereas 66.7% of participants were preoccupied with the energy content during both these periods (Table 4.7). These results are thus similar to the results reported by Sunday et al. (1994).

Eating pre-occupations included the fear of eating from a full plate of food, fear of eating all the food that is on the plate, fear of consuming liquids or fear of not being able to consume liquids, fear of being unable to eat or fear of being unable to stop or control the amount you are eating as well as fear of eating in front of others (Mazure et al., 1994).

For both 'Current' and 'Worst' period's, the majority of participants experienced most of the eating pre-occupations, with one exception: fear of consuming liquids where three of the nine participants only experienced this eating pre-occupation during their 'Worst period' and one of the nine experienced this pre-occupation during both periods (Table 4.8).

Table 4.8: Eating pre-occupations (n=9)

Variable	'Current period'	'Worst period'	Both
Fear from eating from a full plate of food: n: %	 0 0.0	 0 0.0	 6 100.0
Fear of eating all the food that is on the plate: n: %:	 0 0.0	 2 25.0	 6 75.0
Fear of consuming liquids: n: %:	 0 0.0	 3 75.0	 1 25.0
Fear of not being able to consume liquids: n: %:	 0 0.0	 0 0.0	 2 100.0
Fear of being unable to eat: n: %:	 0 0.0	 0 0.0	 2 100.0
Fear of being unable to stop or control the amount you are eating: n: %:	 1 16.7	 0 0.0	 5 83.3
Fear of eating in front of other people: n: %:	 0 0.0	 2 33.3	 4 66.7

Sunday et al. (1994), reported that approximately 45% of patients in their study were preoccupied with the fear of eating in front of other people. These results are similar to those results found in the current study, where 33.3% of participants were preoccupied with the fear of eating in front of other people during their 'Worst period'. However these results are conflicting when comparing both the 'Current' and 'Worst period', as 66.7% of participants in the current study reported that they were preoccupied with the above mentioned preoccupation which is greater than the 45% reported in the study conducted by Sunday et al. (1994).The small sample size included in the current study makes it difficult to draw firm conclusions.

Table 4.9: Weight and shape pre-occupations (n=9)

Variable	'Current period'	'Worst period'	Both
Fear of being fat or overweight: n: %	 1 12.5	 0 0.0	 7 87.5
Fear of weighing outside of the narrow range of weights, or pre-occupations with a specific weight: n: %:	 0 0.0	 0 0.0	 7 100.0
Excessive concern with a specific body part or aspect of your appearance: n: %:	 0 0.0	 0 0.0	 9 100.0

Weight and shape pre-occupations included the fear of being fat or overweight, fear of weighing outside of the narrow range of weights or pre-occupations with a specific weight as well as the excessive concern with a specific body part or aspect of your appearance (Mazure et al., 1994).

For both 'Current' and 'Worst' period's, the majority of participants in the current study experienced most of the weight and shape pre-occupations. Seven of the nine participants feared weighing outside of the narrow range of weights and all of the nine participants were pre-occupied with a specific weight as well as were excessively concerned with a specific body part or aspect of their appearance (Table 4.9).

Sunday et al. (1994), reported that more than 95% of patients in their study were currently preoccupied with thoughts that they were fat or overweight. These results are similar to those results found in the current study, where 100% of participants were preoccupied with thoughts that they were fat or overweight.

Individuals diagnosed with AN have a typical and distinctive appearance. According to Schebendach (2013: 493-494), their cachetic and prepubescent body habitus often make them look younger than their actual age. This is due to the fact that individuals diagnosed with AN are 'afraid' of maturing from a bodily perspective and would prefer to maintain a childlike appearance (Schebendach, 2013: 493-494). On the other hand,

individuals diagnosed with BN are generally of a normal weight, despite their pre-occupations with weight and achieving and maintaining a 'normal' body weight (Schebendach, 2013: 493-494).

Table 4.10: Clothing pre-occupations (n=9)

Variable	'Current period'	'Worst period'	Both
Excessive concern with a particular size of clothing i.e. will not buy clothing that is specific size even if it fits: n: %	 0 0.00	 1 25.0	 3 75.0
Fear of wearing certain types of clothes i.e. fear of wearing underwear or bathing suit: n: %:	 1 14.3	 2 28.6	 4 57.1
Fear of wearing tight or loose fitting clothing: n: %:	 1 16.7	 1 16.7	 4 66.7

Clothing pre-occupations included excessive concern with a particular size of clothing; fear of wearing certain types of clothes, as well as fear of wearing tight or loose fitting clothing (Mazure et al., 1994).

For both 'Current' and 'Worst' period's, the majority of participants experienced most of the clothing pre-occupations. Within this category of pre-occupations, a small percentage of participants experienced these symptoms during the 'Current period', one of the nine participants feared wearing certain types of clothes and one of the nine participants feared wearing tight or loose fitting clothing (Table 4.10).

Individuals diagnosed with an eating disorder, especially those diagnosed with AN, generally wear loose fitting clothing in order to hide their underweight physique, as well as generally overdress in warmer attire, a possible mechanism to expend additional calories. Another mechanism to expend additional energy is also to underdress in an effort to expend additional energy through shivering (NEDO, 2013).

Table 4.11: Miscellaneous pre-occupations (n=9)

Variable	'Current period'	'Worst period'	Both
Pre-occupations about hoarding food i.e. collecting, hiding or stashing food: n: %	 0 0.00	 2 40.0	 3 60.0
Pre-occupations about exercising: n: %:	 0 0.00	 0 0.0	 5 100.0

Miscellaneous pre-occupations included pre-occupations about hoarding food as well as exercise (Mazure et al., 1994).

For both 'Current' and 'Worst' period's, the majority of participants experienced most of the miscellaneous pre-occupations. Three of participants experienced pre-occupations about hoarding food and five of the nine participants were pre-occupied about exercise (Table 4.11).

Individuals diagnosed with AN or BN will hoard or hide food as opposed to actually consuming it, a common symptom of starvation in AN. In BN, the individuals are more likely to hoard and hide food in order to partake in binge related pre-occupations at a later stage when they are not in the company of others (NEDO, 2013).

4.6. RITUALS

Table 4.12: Eating rituals (n=9)

Variable	'Current period'	'Worst period'	Both
Need to consume food at a specific rate i.e. can only take a bite every 2 minutes: n: %	 1 33.3	 0 0.0	 2 66.7
Need to chew each mouthful of food a specific number of times: n: %:	 1 50.0	 0 0.0	 1 50.0
Need to cut each piece of food into a specific size: n: %:	 0 0.0	 0 0.0	 3 100.0

Table 4.12: Eating rituals (n=9) - continued

Variable	'Current period'	'Worst period'	Both
Need to consume only certain colours or types of food: n: %:	 0 0.0	 1 50.0	 1 50.0
Need to avoid certain types of food i.e. fats or meats: n: %:	 0 0.0	 1 14.3	 6 85.7
Need to consume each type of food on your plate completely and in a specific order i.e. must eat all of your vegetables before you can eat your potatoes: n: %:	 1 16.7	 1 16.7	 4 66.7
Need to consume fluids in a certain way or amount i.e. need to drink 2 glasses of water before each meal: n: %:	 0 0.0	 3 50.0	 3 50.0
Need to eat meals by yourself: n: %:	 0 0.0	 2 40.0	 3 60.0
Need to leave food on the plate when done; cannot consume all the food on your plate: n: %:	 0 0.0	 1 20.0	 4 80.0
Need to manipulate or stir your food i.e. play with your food while eating: n: %:	 0 0.0	 0 0.0	 2 100.0
Need to fill your glass or plate only partially: n: %:	 0 0.0	 2 40.0	 3 60.0
Need to have the table set in a specific way before: n: %:	 1 100.0	 0 0.0	 0 0.0
Need to wipe your mouth with a napkin a fixed number of times after each bite of food: n: %:	 0 0.0	 1 100.0	 0 0.0
Need for food not to touch your lips while eating: n: %:	 0 0.0	 0 0.0	 0 0.0
Need for no part of your body to touch the table or plate while eating: n: %:	 0 0.0	 0 0.0	 0 0.0
Need for absolute consistency of food expected i.e. an orange would not do if you were expecting an apple: n: %:	 0 0.0	 2 50.0	 2 50.0

Eating rituals include numerous rituals associated with food and the consumption thereof (Mazure et al., 1994). With regards to eating rituals, the majority of participants did not answer all of the questions associated with eating rituals. As this was dependent on the question, it may mean that they did not necessarily experience any of these eating rituals during their 'Current', 'Worst period' or both periods (Table 4.12).

If participants answered the question related to eating rituals (n-values differ for each of these questions since all participants did not answer all questions), most experienced these pre-occupations during their 'Worst period' or during both the 'Current' and 'Worst period'.

Sunday et al. (1994), reported that 60% of patients were compelled to avoid some foods. In the current study, a higher percentage, namely 85.7% of participants were compelled to avoid some foods, indicating that this practice was common in both samples.

Table 4.13: Food rituals (n=9)

Variable	'Current period'	'Worst period'	Both
Need to compute the energy content of all foods eaten: n: %	 0 0.0	 3 60.0	 2 40.0
Need to compute the fat content of all food eaten: n: %:	 0 0.0	 2 66.7	 1 33.3
Fear of wearing tight or loose fitting clothing: n: %:	 1 14.3	 2 28.6	 4 57.1
Need to cook for others in a ritualised way: n: %:	 0 0.0	 0 0.0	 3 100.0

Food rituals included the need to compute the energy and fat content of all food eaten, the fear of wearing tight or loose fitting clothes as well as the need to cook for others in a ritualised way (Mazure et al., 1994).

In the study by Sunday et al. (1994), the above mentioned factors were not discussed (in their study, the questionnaire was completed in an interview and not self-administered) and therefore we are unable to compare the results of the current study with theirs for this section.

For both 'Current' and 'Worst' period's, the majority of participants experienced most of the above-mentioned food rituals. In certain instances, participants experienced these rituals only during their 'Worst' period's i.e. computing the energy (n=3) and fat content (n=2) of all foods eaten (Table 4.13).

Kilojoule counting is an obsessional counting and calculation of the overall energy content of a meal or meals. Kilojoule counting can indicate increasing pre-occupations with eating or food. This may be seen through reading recipes, food labels, counting the amount of grams of fat and sugar. Other means of kilojoule counting may include the obsessional weighing and measuring of food and ultimately further limiting acceptable amounts of foods to be consumed. In certain instances, when the pre-determined amount of calories is exceeded, the individuals will participate in compensatory behaviours such as exercise in order to 'undo' the amount of kilojoules consumed (NEDO, 2013).

Table 4.14: Binging rituals (n=9)

Variable	'Current period'	'Worst period'	Both
Need to begin each binge with a certain type of food or with a food of a certain colour: n: %	 0 0.0	 4 100.0	 0 0.0
Need to eat only certain types of foods during a binge: n: %:	 0 0.0	 2 40.0	 3 60.0
Need to cook for others in a ritualised way: n: %:	 0 0.0	 0 0.0	 3 100.0
Need to eat all food that is present i.e. can leave no food uneaten during a binge: n: %:	 0 0.0	 0 0.0	 4 100.0

Binge rituals included the need to begin each binge with a certain type of food or with a food of a certain colour, need to eat only certain types of foods during a binge, need to cook for others in a ritualised way as well as the need to eat all food that is available at the time (Mazure et al., 1994). For 'Worst' and both 'Current' and 'Worst' period's, the majority of participants experienced most of the binge rituals. No participant experienced the binge rituals during their 'Current period' only. However, in most instances, besides the need to begin each binge with a certain type of food or with a food of a certain colour whereby four of the nine participants experienced this ritual during their 'Worst period', the majority of binge rituals where experienced during both periods (Table 4.14).

A binge is the consumption of an unusually large amount of food consumed in a discrete period, approximately two hour period. During this period there is a complete lack of control over the eating period (Schebendach, 2013: 491).

According to Schebendach (2013: 491), individuals generally perform ritualistic behaviours during a binging episode. Individuals with BN will typically binge on energy dense foods such as desserts or savoury snacks. However, binges may also include healthy foods such as 'free' vegetables i.e. salads or fruits.

Table 4.15: Purging rituals (n=9)

Variable	'Current period'	'Worst period'	Both
Need to purge in a specific way or position i.e. must use two fingers while inducing vomiting: n: %	 0 0.0	 2 25.0	 3 75.0
Need to purge a specific amount of food: n: %:	 0 0.0	 1 20.0	 4 80.0
Need to purge within a specific amount of time after eating: n: %:	 0 0.0	 1 20.0	 4 80.0
Need to purge in a specific place: n: %:	 0 0.0	 0 0.0	 2 100.0

Purge rituals included the need to purge in a specific way or position, need to purge a specific amount of food, within a specific time as well as in a specific place (Mazure et al., (1994).

For both ‘Current’ and ‘Worst’ period’s, the majority of participants experienced most of the purge rituals. None of the participants experienced the purge rituals during their ‘Current period’ only (Table 4.15).

Purging includes regularly engaging in self-induced vomiting or the misuse of laxatives, enemas or diuretics (Schebendach, 2013: 492). The purging rituals generally take place after a binge episode whereby the pre-determined amount of calories is exceeded. The individual will participate in the above mentioned compensatory behaviours in order to ‘undo’ the amount of calories consumed (NEDO, 2013).

Table 4.16: Body rituals (n=9)

Variable	‘Current period’	‘Worst period’	Both
Need to have thighs not touching while sitting or standing: n: %	 0 0.0	 2 33.3	 4 66.7
Need to continually check that wrist can be spanned with your fingers: n: %:	 1 25.0	 1 25.0	 2 50.0
Need to feel hip bones repeatedly: n: %:	 0 0.0	 2 33.3	 4 66.7
Need to see a specific bone i.e. collar bones or ribs: n: %:	 0 0.0	 1 16.7	 5 83.3
Ritualised bathroom habits i.e. pushing on your lower stomach while urinating or defecating: n: %:	 0 0.0	 1 20.0	 4 80.0
Need to overdress in order to force yourself to sweat: n: %:	 0 0.0	 1 50.0	 1 50.0

Body rituals included the need to have thighs not touching while sitting or standing, need to continually check that wrist can be spanned with your fingers, need to feel hip bones repeatedly, need to see a specific bone, need to perform ritualised bathroom habits as well as the need to overdress in order to force yourself to perspire (Mazure et al., 1994).

For both 'Current' and 'Worst' period's, the majority of participants experienced most of the body rituals. In certain instances, some participants either participated in the body ritual during their 'Current period' only or during their 'Worst period' only (Table 4.16).

The above mentioned body rituals are performed in order for the individuals to assess their body. Body checking is the obsessive thought and behaviour regarding appearance. For individuals diagnosed with an eating disorder and experiencing severe body dysmorphia, these body rituals may present as frequent weighing, pinching or wrapping hands around stomach, waist, thighs and arms as well as either looking in the mirror or avoiding mirrors entirely. These rituals may be performed numerous times throughout the day (NEDO, 2013).

Table 4.17: Weight rituals (n=9)

Variable	'Current period'	'Worst period'	Both
Need to repeatedly weigh yourself: n: %	 0 0.0	 2 33.3	 4 66.7
Need to weigh yourself in a ritualised way i.e. at a specific time of day or just after eating: n: %:	 0 0.0	 0 0.0	 4 100.0

Weight rituals included the need to repeatedly weigh yourself as well as the need to weigh yourself in a ritualised way (Mazure et al., 1994).

Two of the nine participants experienced the need to repeatedly weigh themselves only during their 'Worst period', whereas four of participants performed this body ritual during both the 'Current' and 'Worst period'. Four of participants performed weighing

themselves in a ritualised way during both their ‘Current’ and ‘Worst period’ (Table 4.17).

Individuals diagnosed with an eating disorder will often repeatedly weigh themselves. This may take place before and after a meal is eaten in order to determine the effect the food had on weight, as well as before and after exercise in order to see how many grams were lost during the exercise routine (NEDO, 2013).

Table 4.18: Exercise rituals (n=9)

Variable	‘Current period’	‘Worst period’	Both
Need to exercise after meals: n: %	 0 0.0	 1 20.0	 4 80.0
Need to exercise in a specific way or at a specific time: n: %:	 0 0.0	 0 0.0	 4 100.0
Ritualised exercise pattern i.e. must do 50 sit-ups, if interrupted at 49, must start all over again: n: %:	 0 0.0	 0 0.0	 5 100.0
Need to be moving at all times i.e. pacing or fidgeting: n: %:	 0 0.0	 2 50.0	 2 50.0
Need to shiver to expend calories, instead of putting on additional clothing when cold: n: %:	 0 0.0	 1 50.0	 1 50.0

Exercise rituals included the need to exercise after meals, need to exercise in a specific way or at a specific time, need to perform ritualised exercise patterns, need to be moving at all times as well as the need to shiver to expend calories (Mazure et al., 1994).

No participants performed exercise rituals during their ‘Current period’ only. The majority of rituals where either performed during the ‘Worst period’ only or during both the ‘Current’ and ‘Worst’ period’s. However, participants performed most of the exercise rituals during both the ‘Current’ and ‘Worst’ period’s (Table 4.18).

Individuals will generally participate in exercise as a means of compensatory behaviours in order to expend excess calories. Individuals will either participate in exercise routines in order to miss a meal or in order to expend the calories eaten during a meal (NEDO, 2013).

Table 4.19: Hoarding rituals (n=9)

Variable	'Current period'	'Worst period'	Both
Hoarding food in a ritualised way i.e. hiding food in your bedroom: n: %	 0 0.0	 2 50.0	 2 50.0
Collecting and saving pictures of food, articles on food or recipes: n: %:	 0 0.0	 0 0.0	 2 100.0

Hoarding rituals included the hoarding of food in a ritualised way and collecting and saving pictures of food, articles on food or recipes (Mazure et al., 1994). Two of the nine participants' hoarded food in a ritualised way during their 'Worst period' only, and two of the nine participants performed this ritual during both the 'Current' and 'Worst' period's. Two of participants collected and saved pictures of food, articles on food as well as recipes during both their 'Current' and 'Worst' period's (Table 4.19). Individuals diagnosed with AN or BN will often hoard or hide food as opposed to actually consuming the food. In BN the individuals are more likely to hoard and hide food in order to partake in binge related pre-occupations (NEDO, 2013).

Table 4.20: List-making rituals (n=9)

Variable	'Current period'	'Worst period'	Both
Making lists of body weight: n: %	 0 0.0	 3 75.0	 1 25.0
Making lists of food eaten and / or calories consumed: n: %:	 0 0.0	 2 50.0	 2 50.0

List making rituals include making lists of body weight as well as of foods eaten or kilojoules consumed (Mazure et al., 1994).

Three of the participants made lists of their body weight during their ‘Worst period’ only, and one of the nine participants preformed this ritual during both the ‘Current’ and ‘Worst’ period’s. Two of participants made lists of food eaten or calories eaten during their ‘Worst period’ only and two participants performed this ritual during both the ‘Current’ and ‘Worst period’ (Table 4.20).

4.7. PRE-OCCUPATIONS YBC-EDS-SRQ NINE QUESTION RATING SCALE ACCORDING TO ‘CURRENT’ AND ‘WORST PERIOD’

The YBC-EDS-SRQ nine questions considered the participants pre-occupations during their ‘Current’ and ‘Worst period’. This showed that in most instances, the pre-occupations occupied a greater amount of time throughout a day during the participants’ ‘Worst period’ i.e. greater than eight hours per day or were too numerous to count. Pre-occupations, during the ‘Worst period’, were also absent for a smaller proportion of the day when compared to the ‘Current period’ during which participants felt that their pre-occupations were absent for more than eight hours per day.

Table 4.21: Pre-occupations rating scale according to ‘Current’ and ‘Worst period’ (n=9)

Pre-occupations	‘Current period’		‘Worst period’	
Question	**n**	**%**	**n**	**%**
How much of your time per day, including meal times, was occupied by pre-occupations?				
• None:	0	0.0	1	11.1
• Less than 1 hour a day (occur no more than 8 times a day):	2	22.2	1	11.1
• Between 1 and 3 hours a day (occur more than 8 times a day):	2	22.2	1	11.1
• More than 3 and up to 8 hours a day (occur more than 8 times a day):	3	33.3	1	11.1
• Greater than 8 hours a day (too numerous to count):	2	22.2	5	55.6
On average, what is the longest block of time in which pre-occupations are absent?				
• No pre-occupations:	1	11.1	1	11.1
• More than 8 consecutive waking hours a day:	2	22.2	2	22.2
• More than 3 and up to 8 consecutive hours a day:	5	55.6	1	11.1
• More than 1 and less than 3 consecutive hours a day:	0	0	1	11.1
• Less than 1 consecutive hour a day:	1	11.1	4	44.4

Table 4.21: Pre-occupations rating scale according to 'Current' and 'Worst period' (n=9) - continued

Pre-occupations	'Current period'		'Worst period'	
Question	**n**	**%**	**n**	**%**
How much of these pre-occupations interfere with your social or work / school functioning?				
• No interference:	1	11.1	1	11.1
• Mild interference with activities i.e. social, school or work, but overall performance not impaired:	2	22.2	1	11.1
• Moderate interference with activities i.e. social, school or work, but still manageable:	4	44.4	2	22.2
• Severe interference, causes substantial impairment:	1	11.1	2	22.2
• Extreme interference:	1	11.1	3	33.3
How much distress do your pre-occupations cause you?				
• None:	0	0.0	0	0.0
• Mild, not very disturbing:	3	33.3	2	22.2
• Moderate, disturbing but still manageable:	3	33.3	4	44.4
• Severe, very disturbing:	2	22.2	0	0.0
• Extreme, near constant and disabling distress:	1	11.1	3	33.3
Are these pre-occupations consistent with the way you see yourself?				
• No, they are not at all part of who I am:	0	0.0	0	0.0
• Mostly NOT a part of who I am:	1	11.1	1	11.1
• They are somewhat a part and somewhat not a part of who I am:	4	44.4	2	22.2
• They are a part of me, but not completely:	3	33.3	3	33.3
• Yes, they are completely a apart of who I am:	1	11.1	4	44.4
How often do you resist these pre-occupations as they enter your mind?				
• Always try to resist, OR symptoms are so minimal you do not feel the need to try to resist them:	0	0.0	0	0.0
• Try to resist most of the time i.e. more than half of the time:	5	55.5	2	22.2
• Try to resist some of the time:	2	22.2	2	22.2
• Never try to resist but do give in reluctantly:	1	11.1	2	22.2
• Never try to resist, willingly yield to all pre-occupations:	1	11.1	3	33.3

Table 4.21: Pre-occupations rating scale according to 'Current' and 'Worst period' (n=9) - continued

Pre-occupations	'Current period'		'Worst period'	
Question	**n**	**%**	**n**	**%**
How much control do you have over your pre-occupations?				
• Complete control:	1	11.1	1	11.1
• Much control, usually able to stop or divert pre-occupations with some effort and concentration:	1	11.1	0	0.0
• Moderate control, sometimes able to stop or divert pre-occupations:	5	55.5	3	33.3
• Little control, rarely successful in stopping or diverting pre-occupations:	1	11.1	1	11.1
• No control, rarely able to even momentarily alter thinking:	1	11.1	4	44.4
Are your pre-occupations reasonable or make sense to you?				
• Not at all, the pre-occupations are senseless and excessive, OR the pre-occupations are minimal:	2	22.2	2	22.2
• Not much sense, I see the absurdity or excessiveness of the pre-occupations:	1	11.1	0	0.0
• Somewhat YES and somewhat NO:	5	55.5	3	33.3
• YES, the pre-occupations mostly make sense:	3	33.3	1	11.1
• YES, the pre-occupations make complete sense:	0	0.0	3	33.3
How much effort would you be willing to expend to stop these pre-occupations?				
• I would do just about anything to stop them, OR the pre-occupations are so minimal that you do not feel the need to stop them:	4	44.4	4	44.4
• I would be willing to do some work to stop the pre-occupations:	0	0.0	0	0.0
• Somewhat, I would like to be bothered less by the pre-occupations but would not be willing to put much in much effort toward that goal:	1	11.1	1	11.1
• I would make almost no effort to stop the pre-occupations:	1	11.1	1	11.1
• I would not do anything to stop the pre-occupations, at times they are comforting and reassuring to me:	3	33.3	3	33.3

- **Time spent per day, including meal times, that were occupied by pre-occupations:**
  Five out of the nine participants during their 'Worst period' compared to two of the nine participants during their 'Current period', spent more than eight hours per day occupied with pre-occupations.
- **Longest block of time in which pre-occupations were absent:**
  Four out of nine participants during their 'Worst period' compared to one out of nine participants during their 'Current period' had less than one consecutive hour whereby pre-occupations were absent.
- **Interference of pre-occupations with social or work / school functioning:**
  Three out of the nine participants during their 'Worst period' compared to one of the nine participants during their 'Current period' felt that their pre-occupations caused extreme interference as well as distress during social or work / school hours.
- **Distress caused by pre-occupations:**
  Three out of the nine participants during their 'Worst period' compared to one of the nine participants during their 'Current period' felt that their pre-occupations caused distress.
- **Pre-occupations and the way participants see themselves:**
  Four of the nine participants reported that during their 'Worst period' their pre-occupations were a complete part of who they are.
- **Resistance of pre-occupations as they enter participants mind:**
  Three of the nine participants felt they could not resist their pre-occupations and willingly yielded to these pre-occupations during their 'Worst period'.
- **Control over pre-occupations:**
  Five of the nine participants felt they had moderate control over their pre-occupations as well as could resist these pre-occupations most of the time during their 'Current period' compared to four participants who felt they had no control over their pre-occupations.
- **Pre-occupations and reason with participants:**
  Five participants reported that their pre-occupations made somewhat sense to them as well as did not make any sense during their 'Current period' compared to three of

nine participants who reported that the pre-occupations made somewhat sense and somewhat no sense during their ‘Worst period’.

- **Effort to expend or stop pre-occupations:**
  Three of the nine participants in both the ‘Current’ and ‘Worst’ period’s felt they would not do anything to stop their pre-occupations as they provided comfort to the participants. On the other hand, four of the nine participants in both the ‘Current’ and ‘Worst’ period’s reported that they would do anything to put a stop to the pre-occupations or felt their pre-occupations were so minimal that they barely had any influence.

Table 4.22: Median, minimum and maximum of pre-occupations during ‘Current’ and ‘Worst’ period’s

Pre-occupations:						
Question	**Minimum**		**Median**		**Maximum**	
	‘Current period’	‘Worst period’	‘Current period’	‘Worst period’	‘Current period’	‘Worst period’
How much of your time per day, including meal times, was occupied by pre-occupations?	1.0	0.0	3.0	4.0	4.0	4.0
On average, what is the longest block of time in which pre-occupations are absent?	0.0	0.0	2.0	3.0	4.0	4.0
How much of these pre-occupations interfere with your social or work / school functioning?	0.0	0.0	2.0	3.0	4.0	4.0
How much distress do your pre-occupations cause you?	1.0	1.0	2.0	2.0	4.0	4.0
Are these pre-occupations consistent with the way you see yourself?	1.0	1.0	2.0	3.0	4.0	4.0
How often do you resist these pre-occupations as they enter your mind?	1.0	1.0	1.0	3.0	4.0	4.0
How much control do you have over your pre-occupations?	0.0	0.0	2.0	3.0	4.0	4.0
Are your pre-occupations reasonable or make sense to you?	0.0	0.0	2.0	2.0	3.0	4.0
How much effort would you be willing to expend to stop these pre-occupations?	0.0	0.0	1.0	2.0	4.0	4.0

- **Time spent per day, including meal times, that were occupied by pre-occupations:**
  A median of option 3.0 (more than three and up to eight hours per day – occur more than eight times per day) for the 'Current period' and option 4.0 (greater than eight hours per day – too numerous to count) for the 'Worst period' was found.
- **Longest block of time in which pre-occupations were absent:**
  Median of option 2.0 (more than three and up to eight hours per day) for the 'Current period' and option 3.0 (more than one, less than three consecutive hours) for the 'Worst period'.
- **Interference of pre-occupations with social or work / school functioning:**
  Median of option 2.0 (moderate interference with activities i.e. social, school or work, but still manageable) for the 'Current period' and option 3.0 (severe interference, causes substantial impairment) for the 'Worst period'.
- **Distress caused by pre-occupations:**
  Median of option 2.0 (moderate, disturbing but still manageable) for both the 'Current' and 'Worst' period's.
- **Pre-occupations and the way participants see themselves:**
  Median of option 2.0 (they are somewhat a part and somewhat not a part of who I am) for the 'Current period' and option 3.0 (they are a part of me, but not completely) for the 'Worst period'.
- **Resistance of pre-occupations as they enter participants mind:**
  Median of option 1.0 (try to resist most of the time i.e. more than half of the time) for the 'Current period' and option 3.0 (never try to resist but do give in reluctantly) for the 'Worst period'
- **Control over pre-occupations:**
  Median of option 2.0 (moderate control, sometimes able to stop or divert pre-occupations) for the 'Current period' and option 3.0 (little control, rarely successful in stopping or diverting pre-occupations) for the 'Worst period'
- **Pre-occupations and reason with participants:**
  Median of option 2.0 (somewhat YES and somewhat NO) for both the 'Current' and 'Worst' period's.

- **Effort to expend or stop pre-occupations:**

  Median of option 1.0 (I would be willing to do some work to stop the pre-occupations) for the 'Current period' and option 2.0 (Somewhat, I would like to be bothered less by the pre-occupations but would not be willing to put in much effort toward that goal) for the 'Worst period'.

4.8. RITUALS YBC-EDS-SRQ NINE QUESTION RATING SCALE ACCORDING TO 'CURRENT' AND 'WORST PERIOD'

The YBC-EDS-SRQ nine questions considered the participants rituals during their 'Current' and 'Worst period'. Results showed that in most instances, the rituals occupied a greater amount of time throughout a day during the participants' 'Worst period' i.e. greater than eight hours per day or were too numerous to count. Rituals, during the 'Worst period', were also absent for a smaller proportion of the day when compared to the 'Current period' during which participants felt that their rituals were absent for more than eight hours per day.

Table 4.23: Rituals rating scale according to 'Current' and 'Worst period' (n=9)

Rituals	'Current period'		'Worst period'	
Question	**n**	**%**	**n**	**%**
How much of your time per day was spent performing rituals?				
• None:	3	33.3	2	22.2
• Less than 1 hour a day (occur no more than 8 times a day):	2	22.2	2	22.2
• Between 1 and 3 hours a day (occur more than 8 times a day):	2	22.2	0	0.0
• More than 3 and up to 8 hours a day (occur more than 8 times a day):	1	11.1	1	11.1
• Greater than 8 hours a day (too numerous to count):	1	11.1	4	44.4
On average, what is the longest block of time in which rituals are absent?				
• No rituals:	2	22.2	1	11.1
• More than 8 consecutive waking hours a day:	4	44.4	2	22.2
• More than 3 and up to 8 consecutive hours a day:	0	0.0	0	0.0
• More than 1 and less than 3 consecutive hours a day:	1	11.1	1	11.1
• Less than 1 consecutive hour a day:	2	22.2	5	55.6

Table 4.23: Rituals rating scale according to 'Current' and 'Worst period' (n=9) - continued

Rituals	'Current period'		'Worst period'	
Question	**n**	**%**	**n**	**%**
How much do your rituals interfere with your social or work / school functioning?				
• No interference:	2	22.2	2	22.2
• Mild interference with activities i.e. social, school or work, but overall performance not impaired:	1	11.1	0	0.0
• Moderate interference with activities i.e. social, school or work, but still manageable:	5	55.6	2	22.2
• Severe interference, causes substantial impairment:	0	0.0	3	33.3
• Extreme interference:	1	11.1	2	22.2
How anxious would you feel if prevented from performing your rituals?				
• None:	2	22.2	2	22.2
• Mild, slight anxiety if prevented	3	33.3	1	11.1
• Moderate, anxiety would mount but remain manageable until rituals could be performed:	2	22.2	1	11.1
• Severe, very disturbing, increase in anxiety:	2	22.2	3	33.3
• Extreme, incapacitating anxiety:	0	0.0	2	22.2
Are these rituals consistent with the way you see yourself?				
• No, they are not at all part of who I am:	4	44.4	3	33.3
• Mostly NOT a part of who I am:	2	22.2	0	0.0
• They are somewhat a part and somewhat not a part of who I am:	1	11.1	1	11.1
• They are a part of me, but not completely:	1	11.1	3	33.3
• Yes, they are completely a apart of who I am:	1	11.1	2	22.2
How often do you resist these rituals?				
• Always try to resist, OR symptoms are so minimal you do not feel the need to try to resist them:	3	33.3	3	33.3
• Try to resist most of the time i.e. more than half of the time:	3	33.3	1	11.1
• Try to resist some of the time:	0	0.0	0	0.0
• Never try to resist but do give in reluctantly:	2	22.2	1	11.1
• Never try to resist, willingly yield to all rituals:	1	11.1	4	44.4

Table 4.23: Rituals rating scale according to 'Current' and 'Worst period' (n=9) - continued

Rituals	'Current period'		'Worst period'	
Question	**n**	**%**	**n**	**%**
How much control do you have over your rituals?				
• Complete control:	1	11.1	1	11.1
• Much control, usually able to exercise control over rituals with some effort and concentration:	4	44.4	2	22.2
• Moderate control, can control with difficulty:	2	22.2	1	11.1
• Little control, can delay only with difficulty:	1	11.1	1	11.1
• No control, rarely able to even momentarily delay activity:	1	11.1	4	44.4
Are your rituals reasonable or make sense to you?				
• Not at all, rituals are senseless and excessive, OR the rituals are minimal:	4	44.4	3	33.3
• Not much sense, I see the absurdity or excessiveness of the rituals:	0	0.0	1	11.1
• Somewhat YES and somewhat NO:	4	44.4	0	0.0
• YES, the rituals mostly make sense:	0	0.0	1	11.1
• YES, the rituals make complete sense:	1	11.1	4	44.4
How much effort would you be willing to expend to stop these rituals?				
• I would do just about anything to stop them, OR the rituals are so minimal that you do not feel the need to stop them:	4	44.4	4	44.4
• I would be willing to do some work to stop the rituals:	3	33.3	0	0.0
• I would not be willing to put much effort towards stopping the rituals:	0	0.0	1	11.1
• I would make almost no effort to stop the rituals:	1	11.1	1	11.1
• I would not do anything to stop the rituals, at times they are comforting and reassuring to me:	1	11.1	3	33.3

- **Time spent per day performing rituals:**

  Four out of the nine participants during their 'Worst period' compared to one of the nine participants during their 'Current period' spent more than eight hours per day performing rituals.

- **Longest block of time in which rituals were absent:**
  Five out of nine participants during their 'Worst period' compared to two out of nine participants during their 'Current period' had less than one consecutive hour whereby rituals were absent.
- **Interference of rituals with social or work / school functioning:**
  During their 'Worst period', three out of the nine participants felt that their rituals caused severe interference compared to two participants who felt that their rituals caused extreme interference during their 'Worst period'. Five of the nine participants reported only moderate interference during their 'Current period'.
- **Anxiety caused by rituals:**
  During their 'Worst period', three out of the nine participants felt that their rituals caused severe anxiety compared to two participants who felt that their rituals caused extreme anxiety during their 'Worst period'. Three participants felt that their rituals caused mild anxiety if avoided during the 'Current period'.
- **Rituals and the way participants see themselves:**
  Two of the nine participants reported that during their 'Worst period' their rituals were a complete part of who they are compared to three participants who felt that their rituals were not a part of who they are at that time. Four of the nine participants felt that during their 'Current period', their rituals were not a part of who they are.
- **Resistance of rituals as they enter participants mind:**
  Four of the nine participants felt they could resist these rituals or try to resist them most of the time during their 'Current period' compared to four participants who felt they could not resist their rituals and willingly yielded to these rituals during their 'Worst period'.
- **Control over rituals:**
  Four of the nine participants felt they had much control over the rituals during their 'Current period' compared to four participants who felt they had no control over their rituals during their 'Worst period'.
- **Rituals and sense to participants:**
  Four participants reported that their rituals are senseless as well as made somewhat sense to them as well as did not make any sense during their 'Current period'

compared to three of nine participants who reported that their rituals are senseless during their 'Worst period' and four participants felt their rituals made complete sense during their 'Worst period'.

- **Effort to stop rituals:**

  Four of the nine participants in both the 'Current' and 'Worst' period's felt they would do anything to put a stop to the rituals or felt their rituals were so minimal that they barely had any influence. During their 'Worst' period's, three of the nine participants felt they were unwilling to stop their rituals as they were a source of comfort.

The following section relates to Table 4.21 and Table 4.23 which depict the pre-occupations and rituals of the YBC-EDS-SRQ 18 question (nine questions each) rating scale according to 'Current' and 'Worst' period's. These questions were also included in the study by Sunday et al., (1994).

Research has suggested that the obsessional thinking and compulsions related to eating disorder symptomology are different from the obsessions and compulsions seen in individuals with obsessive compulsive disorder. Individuals suffering from an eating disorder may not view the eating disorder related to pre-occupations and rituals as senseless, may not wish to stop them and may not view them as ego-dystonic (Sunday et al., 1994).

- **Eating related pre-occupations:**

Sunday et al. (1994: 240) have reported that eating related pre-occupations occupied a significant percentage of days in the patients included in their study. In that study, 74% of the patients spent more than three hours per day preoccupied with eating disorder related thoughts and 42% spent more than eight hours per day with these pre-occupations. Sixty two percent of the patients spent less than three consecutive hours per day completely free of eating disorder related pre-occupations and 37% did not even experience one hour free of pre-occupations per day.

In the results obtained during the current study, three (33.3%) out of nine participants during their 'Current period' and one (11.1%) out of nine participants during their 'Worst period' spent more than three hours per day and up to eight hours per day occupied by

pre-occupations. Two (22.2%) out of nine participants during their ‘Current period’ and five (55.6%) out of nine participants during their ‘Worst period’ spent more than eight hours per day with these pre-occupations. More than half (n=5, 55.6%) of participants during their ‘Current period’ and one (11.1%) out of nine participants during their ‘Worst period’ spent less than three hours per day completely free of these pre-occupations. More than 10% (11.1%) of participants during their ‘Current period’ and four (44.4%) out of nine participants during their ‘Worst period’ spent less than one hour per day completely free of these pre-occupations (Table 4.21). These findings are similar to the findings reported by Sunday et al. (1994) as eating related pre-occupations occupied a significant percentage of days during both the ‘Current’ and ‘Worst’ period’s experienced by participants.

- **Eating related rituals:**

Sunday et al. (1994), further reported that eating related rituals were less time-consuming than pre-occupations. Patients experienced longer ritual-free intervals than preoccupation-free intervals. In the above study, 49% of patients spent more than three hours per day engaged in eating disordered rituals and 16% more than eight hours. Forty-one percent had less than three consecutive hours free of the rituals and 15% had less than one hour per day free of rituals related to their eating disorder.

In the results obtained during the current study, of the nine participants, one (11.1%) participant during both their ‘Current’ and ‘Worst period’ spent more than three hours per day and up to eight hours per day occupied by rituals. One (11.1%) out of nine participants during their ‘Current period’ and four (44.4%) out of nine participants during their ‘Worst period’ spent more than eight hours per day with these rituals. About one in ten (11.1%) of participants during both their ‘Current’ and ‘Worst period’ spent less than three hours per day completely free of these rituals and two (22.2%) out of nine participants during their ‘Current period’ and five (55.6%) out of nine participants during their ‘Worst period’ spent less than one hour per day completely free of these rituals (Table 4.23). These findings differ from those reported by Sunday et al. (1994) as eating related rituals occupied a significant percentage of days in the participants during

both their ‘Current’ and ‘Worst’ period’s and a smaller percentage of participants experienced longer ritual-free intervals when compared to Sunday et al. (1994).

- **Interference of pre-occupations and rituals in daily activities:**

Sunday et al. (1994) reported that pre-occupations interfered with the daily functioning of patients more so than rituals. Almost 30% of patients in their study found that pre-occupations caused moderate interference, 21% experienced severe interference and 26% mild interference. Eighteen percent of patients found that rituals caused moderate interference, 15% experienced severe interference and 25% mild interference. Severity of distress caused by pre-occupations was very similar in distribution to interference due to pre-occupations. Rituals were found to be moderately distressing amongst 33% of patients, severely distressing for 25% and only mildly distressing for 14%.

In the results obtained for the current study, of the nine participants, two (22.2%) participants and one (11.1%) participant during their ‘Current’ and ‘Worst period’ respectively found that pre-occupations caused mild interference in their daily functioning, four (44.4%) out of nine participants and two (22.2%) out of nine participants during both their ‘Current’ and ‘Worst period’ respectively found that pre-occupations caused moderate interference. One (11.1%) out of nine participants and two (22.2%) out of nine participants during both their ‘Current’ and ‘Worst period’ respectively experienced severe interference due to pre-occupations. The severity of distress caused by pre-occupations was very similar in distribution to the interference due to pre-occupations with three (33.3%) and two (22.2%) of these participants during both their ‘Current’ and ‘Worst’ period’s experiencing mild distress, three (33.3%) and four (44.4%) out of nine participants experienced moderate distress and two (22.0%) of the participants during their ‘Current period’ experienced severe distress due to their pre-occupations (Table 4.21).

With regards to rituals, interference and anxiety, one (11.1%) out of the nine participants and none (0.0%) of the nine participants in the current study during their ‘Current’ and ‘Worst period’, respectively, found that rituals caused mild interference in the daily functioning. Five (55.6%) out of nine participants and two (22.2%) out of nine participants during their ‘Current’ and ‘Worst period’ respectively found that rituals

caused moderate interference. None (0.0%) of the nine participants and three (33.3%) out of nine participants during their 'Current' and 'Worst period' respectively experienced severe interference of their daily functioning due to rituals. Rituals were found to be moderately distressing amongst two (22.2%) of the participants and one (11.1%) of the participants during their 'Current' and 'Worst' period's respectively, severely distressing for two (22.2%) and three (33.3%) of participants during their 'Current' and 'Worst' period's respectively and only mildly distressing for three (33.3) and one (11.1%) of participants during their 'Current' and 'Worst period' respectively (Table 4.23).

Similarly to Sunday et al. (1994), pre-occupations did interfere with the daily functioning of patients more so than rituals during the individuals' 'Current period'. However during the 'Worst period', both pre-occupations and rituals caused similar interference in the participants daily functioning. A finding that is different to that reported by Sunday et al. (1994). This could possibly be due to the smaller sample size that was used in the current study compared to the one hundred patients who participated in the study by Sunday et al. (1994).

- **Resistance of preoccupation and rituals**

In the study conducted by Sunday et al. (1994), the patients' attempts to resist the pre-occupations ranged from some to all of the time for 72% of the patients. Despite this resistance, 50% of these patients were not successful and felt they had little or no control over the pre-occupations. Fifty-eight percent of the patients resisted their rituals in the range of some to all of the time. Forty-nine percent had little or no control over their rituals.

In the current study, the participants' attempt to resist the pre-occupations ranged from some to all of the time for five (55.5%) of the participants during their 'Current period' and two (22.2%) of the participants during their 'Worst period'. Despite this resistance, one (11.1%) out of nine participants had little control and one (11.1%) out of nine participants had no control in stopping or diverting their pre-occupations during their 'Current period'. One (11.1%) out of nine participant had little control and four (44.4%) out of nine participants had no control during their 'Worst period' (Table 4.21). With

regards to rituals, six (66.6%) out of nine participants during their ‘Current period’ and four (44.4%) out of nine participants during their ‘Worst period’ resisted their rituals in the range of some to all of the time. Two (22.2%) out of nine participants had little or no control over their rituals during their ‘Current period’ and five (55.5%) out of nine participants had little or no control during their ‘Worst period’ (Table 4.23). These findings are similar to those reported by Sunday et al. (1994).

- **Insight into pre-occupations and rituals:**

In the results reported by Sunday et al. (1994), 59% of patients had excellent to good insight into pre-occupations and 67% of patients had excellent to good insight into rituals. Twenty percent of the patients however felt that neither the pre-occupations nor the rituals were excessive or senseless.

In the results obtained during the current study, out of the nine participants, three (33.3%) of the participants had excellent insight into their pre-occupations; with three (33.3%) of the participants experiencing this insight during their ‘Worst period’ (Table 4.21). Five (55.5%) out of nine participants had excellent insight into their rituals with four (44.4%) out of nine participants experiencing this insight during their ‘Worst period’ (Table 4.23). Four out of seven participants (44.4%) felt the pre-occupations were senseless and excessive or the pre-occupations were minimal (Table 4.21) and 7 (77.7%) of the participants felt the rituals were senseless and excessive or the rituals were minimal (Table 4.23). These findings correspond with those reported by Sunday et al. (1994).

- **Willingness to expend or stop pre-occupations and rituals:**

In Sunday et al. (1994), more than 75% of patients wanted to change so that they would no longer be influenced or bothered by the pre-occupations and rituals and were willing to work hard to effect such a change. However, approximately 20% did not want to change and, in fact, actually found their pre-occupations and/or rituals to be comforting.

In the current study, eight (88.8%) of the participants would do just about anything to stop the pre-occupations and/or rituals and were willing to work hard to effect such a change. However, approximately six (66.6%) of the participants during the ‘Current’ and

‘Worst period’ and four (44.4%) of the participants during their ‘Current’ and ‘Worst period’ did not want to change their pre-occupations and/or rituals respectively, as they found them to be actually comforting. This finding may lead to the possibility of lapses and relapses due to possible resistance to treatment (Table 4.21 and Table 4.23). These results relating to the participants willingness to stop their pre-occupations and rituals were thus similar to those reported by Sunday et al. (1994).

Table 4.24: Median, minimum and maximum of rituals during ‘Current’ and ‘Worst’ period’s

Rituals:						
Question	**Minimum**		**Median**		**Maximum**	
	‘Current period’	‘Worst period’	‘Current period’	‘Worst period’	‘Current period’	‘Worst period’
How much of your time per day was spent performing rituals?	0.0	0.0	1.0	3.0	4.0	4.0
On average, what is the longest block of time in which rituals are absent?	0.0	0.0	1.0	4.0	4.0	4.0
How much do your rituals interfere with your social or work / school functioning?	0.0	0.0	2.0	3.0	4.0	4.0
How anxious would you feel if prevented from performing your rituals?	0.0	0.0	1.0	3.0	4.0	4.0
Are these rituals consistent with the way you see yourself?	0.0	0.0	1.0	3.0	4.0	4.0
How often do you resist these rituals?	0.0	0.0	1.0	3.0	4.0	4.0
How much control do you have over your rituals?	0.0	0.0	1.0	3.0	4.0	4.0
Are your rituals reasonable or make sense to you?	0.0	0.0	2.0	2.0	4.0	4.0
How much effort would you be willing to expend to stop these rituals?	0.0	0.0	1.0	3.0	4.0	4.0

- **Time spent per day performing rituals:**

  A median of option 1 (less than one hour a day - occur no more than eight times a day) for the ‘Current period’ and option 3 (more than three and up to eight hours a day - occur more than eight times a day) for the ‘Worst period’.

- **Longest block of time in which rituals were absent:**
  Median of option 1.0 (more than eight consecutive waking hours a day) for the 'Current period' and option 4.0 (more than one, less than three consecutive hours) for the 'Worst period'.
- **Interference of rituals with social or work / school functioning:**
  Median of option 2.0 (moderate interference with activities i.e. social, school or work, but still manageable) for the 'Current period' and option 3.0 (severe interference, causes substantial impairment) for the 'Worst period'.
- **Anxiety caused by rituals:**
  Median of option 1.0 (mild, slight anxiety if prevented) for the 'Current period' and option 3.0 (severe, very disturbing increase in anxiety) for the 'Worst period'.
- **Rituals and the way participants see themselves:**
  Median of option 1.0 (mostly <u>not</u> a part of who I am) for the 'Current period' and option 3.0 (they are a part of me, but not completely) for the 'Worst period'.
- **Resistance of rituals as they enter participants mind:**
  Median of option 1.0 (try to resist most of the time i.e. more than half of the time) for the 'Current period' and option 3.0 (never try to resist but do give in reluctantly) for the 'Worst period'
- **Control over rituals:**
  Median of option 1.0 (moderate control, sometimes able to stop or divert pre-occupations) for the 'Current period' and option 3.0 (little control, rarely successful in stopping or diverting pre-occupations) for the 'Worst period'
- **Rituals and reason with participants:**
  Median of option 2.0 (somewhat YES and somewhat NO) for both the 'Current' and 'Worst' period's.
- **Effort to expend or stop rituals:**
  Median of option1.0 (I would be willing to do some work to stop the pre-occupations) for the 'Current period' and option 3.0 (I would make almost no effort to stop the rituals) for the 'Worst period'

4.9. PRE-OCCUPATIONS AND RITUALS YBC-EDS-SRQ NINE QUESTION RATING SCALE ACCORDING TO 'CURRENT' AND 'WORST PERIOD'

Table 4.25: Pre-occupations and rituals rating scale according to 'Current' and 'Worst period' (n=9)

Pre-occupations and Rituals	'Current period'		'Worst period'	
Question	**n**	**%**	**n**	**%**
How much have you avoided doing anything, going places, or being with anyone because of your pre-occupations or out of concern you will perform your rituals?				
• No deliberate avoidance:	2	22.2	1	11.1
• Mild, minimal avoidance:	4	44.4	1	11.1
• Moderate, some avoidance clearly present:	1	11.1	4	44.4
• Severe, much avoidance:	2	22.2	1	11.1
• Extreme, very extensive avoidance:	0	0.00	2	22.2

With regards to the question: 'How much have you avoided doing anything, going places, or being with anyone because of your pre-occupations or out of concern that you will not be able to perform your rituals?', four of the nine participants reported mild, minimal avoidance during their 'Current period' and four of the nine participants reported moderate, some avoidance clearly present during their 'Worst period'.

Sunday et al. (1994: 240), reported that eating related pre-occupations occupied a significant percentage of days in the patients included in their study. In that study, patients generally reported that the pre-occupations and rituals did not cause them to avoid many activities, less than 20% acknowledged severe or extreme avoidance and about 35% said they avoided nothing.

In the current study, participants generally reported that the pre-occupations and rituals did not cause them to avoid many activities, two (22.2%) of the participants acknowledged severe or extreme avoidance and three (33.3%) said they avoided nothing (Table 4.25). These results obtained from the current study are similar to those reported by Sunday et al. (1994).

Table 4.26: Median, minimum and maximum of pre-occupations and rituals during 'Current' and 'Worst' period's

Pre-occupations and Rituals:						
Question	**Minimum**		**Median**		**Maximum**	
	'Current period'	'Worst period'	'Current period'	'Worst period'	'Current period'	'Worst period'
How much have you avoided doing anything, going places, or being with anyone because of your pre-occupations or out of concern you will perform your rituals?	0.0	0.0	1.0	2.0	3.0	4.0

For the question: 'How much have you avoided doing anything, going places, or being with anyone because of your pre-occupations or out of concern you will perform your rituals?', the 'Current period' had a median of 1.0 (mild or minimal avoidance). The 'Worst period' had a median of 2.0. (moderate, some avoidance clearly present).

Upon completing the questionnaire, many of the participants were surprised by the number of hours they spent per day occupied with these thoughts and behaviours. As a result, the information obtained from the YBC-EDS-SRQ can provide actual examples to those individuals responsible for the treatment. This is extremely useful, particularly in those participants who deny the severity of their eating disorder, as the information obtained from the questionnaire can be used to provide or improve insight.

4.10. PRE-OCCUPATIONS AND RITUALS YBC-EDS-SRQ SCORES

Table 4.27: Pre-occupations and Rituals Score

Pre-occupations and Rituals:										
	Minimum		Median		Maximum		Mean		Standard Deviation	
	'Current period'	'Worst period'	'Current period'	'Worst period'	'Current period'	'Worst period'	'Current period'	'Worst period'	'Current period'	'Worst period'
Pre-occupations Sub-Total Score	5.0	5.0	13.0	14.0	16.0	17.0	8.6	10.7	3.8	4.7
Rituals Sub-total Score	2.0	4.0	16.0	21.0	21.0	28.0	6.2	9.4	4.6	6.2
Total Score	8.0	11.0	28.0	34.0	36.0	45.0	14.8	20.1	8.1	10.3
Experimental Change Score	1.0	1.0	9.0	18.0	20.0	22.0	8.4	13.0	6.6	9.2

The maximum value, which indicated the highest severity, for the pre-occupations and rituals score is 16, and for the total score is 32. A maximum score of 24 would indicate no resistance, no insight and no desire to change either pre-occupations or rituals.

For the pre-occupations sub-total score, the 'Current period' had a mean score of 8.6. The 'Worst period' had a mean score of 10.7.

For the rituals sub-total score, the 'Current period' had a mean score of 6.2. The 'Worst period' had a mean score of 9.4.

For the total score, the 'Current period' had a mean score of 14.8, while the 'Worst period' had a mean score of 20.1.

For the experimental change score, the 'Current period' had a mean score of 8.4 and the 'Worst period' had a mean score of 13.0.

In the study reported by Sunday et al. (1994), the preoccupation score for AN – restrictive type was 7.96 and for AN – purging type it was 9.21. For BN, the preoccupation score was 9.27. With regards to the ritual score for the above mentioned, the results were as follows, AN – restrictive type 6.93, AN – purging type 7.48 and BN 7.53. The total score for AN – restrictive type was 14.89, AN – purging type was 16.69 and BN was 16.60. According to Sunday et al. (1994), the mean response in these results was one of a moderate level of eating disorder symptom severity.

The results obtained from the current study (Table 4.27.) are similar to those obtained by Sunday et al. (1994) therefore we can make the same deduction as the researchers in that study did, namely that there is a moderate level of eating disorder symptom severity related to pre-occupations and rituals in the current study.

CHAPTER 5:

CONCLUSIONS AND RECOMMENDATIONS

5.1. INTRODUCTION

In this chapter, the conclusions as well as the recommendations for the study will be discussed.

5.2. CONCLUSIONS

5.2.1. Conclusions related to the YBC-EDS-SRQ

The research study conducted at the specialised institution, Tara Hospital, applied the YBC-EDS-SRQ as a tool in the assessment of the pre-occupations and rituals related to food in patients with eating disorders. This questionnaire is self-administered. As a result, participants were able to acknowledge thoughts and behaviours that they were not able to spontaneously generate during other means of treatment.

Standardised assessments of patients' pre-occupations and rituals are often viewed as challenging and time-consuming to conduct and patients do not often view these assessments as beneficial in the treatment of their condition. The questionnaire therefore serves to reduce the feelings of hostility of patients surrounding their eating disorder and establish an increased relationship with these patients (Sunday et al., 1994).

The YBC-EDS-SRQ provides clinicians and researchers with an effective means of evaluating the severity of eating disorder related symptoms and impairment related to a wide range of pre-occupations and rituals experienced by patients struggling with an eating disorder.

Since the instrument is most often used in the clinical setting, only one other publication has reported on the results obtained using this questionnaire in a research setting. The study by Sunday et al. (1994) was undertaken in a sample of 100 participants with eating disorders in the United States. The results obtained during the current study (that included only nine participants) were similar to those reported by Sunday et al. (1994),

indicating that pre-occupations and rituals experienced by adolescents and women with eating disorders are do not differ across continents.

5.2.2. Conclusions related to the research results

In agreement with the available literature on eating disorders, participants in this study were Caucasian and had BMIs in the expected categories that were typical of individuals with eating disorders.

The YBC-EDS-SRQ nine questions considered the participants pre-occupations and rituals during their 'Current' and 'Worst period'. The results showed that in most instances, the pre-occupations and rituals occupied a greater amount of time throughout a day during the participants' 'Worst period'. Pre-occupations and rituals, during the 'Worst period', were also absent for a smaller proportion of the day when compared to the 'Current period'. Participants generally reported that pre-occupations and rituals did not cause them to avoid many of their daily activities.

Consistent with the results obtained in the study by Sunday et al. (1994), the pre-occupations and rituals of the participants in the current study were mostly ego-syntonic which has important implications for treatment. This is due to the pre-occupations and rituals being viewed by the participants as an integral part of their personality. As a result, it may be difficult for participants to adjust their identity once the pre-occupations and rituals have been stopped. If the participants viewed their pre-occupations and rituals as ego-dystonic following treatment, there would ultimately be a decreased relapse rate.

The pre-occupations sub-total score (maximum value of 16) had a mean score of 8.6 and 10.7 for the 'Current' and 'Worst' period's respectively. The rituals sub-total score (maximum value of 16) had a mean score of 6.2 and 9.4 for the 'Current' and 'Worst' period's respectively. For the total score (maximum value of 32), the 'Current period' had a mean score of 14.8, while the 'Worst period' had a mean score of 20.1. For the experimental change score (the total scores for both 'Current' and 'Worst' period's for questions 6, 8, 9, 15, 17 & 19), the 'Current period' had a mean score of 8.4 and the 'Worst period' had a mean score of 13.0. The results therefore indicate a moderate level

of eating disorder symptom severity related to pre-occupations and rituals in the current study sample.

The results of this study confirmed that even though weight may be within a normal, healthy range and bingeing and purging episodes have ceased, patients with eating disorders still continue to be preoccupied with thoughts about food, eating, and their bodies and therefore may still participate in ritualised behaviours surrounding eating and their bodies.

5.3. RECOMMENDATIONS

5.3.1 Recommendations related to practice

With regard to the use of the instrument:

- The questionnaire can be used with success as a primary assessment tool to guide the treatment of eating disorders within practice.
- The questionnaire should be administered during the initial stages of treatment as well as during treatment and finally at the cessation of treatment. This will allow health professionals working with the patient to be more aware of specific rituals and pre-occupations related to food. These specific rituals and pre-occupations can then be targeted in a treatment strategy, which has the potential to assist with reducing the lapses and relapses that occur commonly amongst patients with eating disorders.

5.3.2 Recommendations for further research

Studies aimed at determining the pre-occupations and rituals related to food in patients with eating disorders may be enhanced by:

- Including a larger sample size,
- Assessing pre-occupations and rituals related to food in male participants with eating disorders;

- Including participants from both government and private institutions to differentiate between the patients that are treated there;
- Including a longer follow-up period of participants.

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APPENDICES:

APPENDIX A

DSM-IV-TR Diagnostic Criteria (Gonzalez et al, 2007:615, Table 1 and Table 2, Schebendach, 2008:565, Box 22-1; Sue et al, 2006:529, Figure 16.1)

Anorexia Nervosa
• Individual refuses to maintain body weight at or above a minimally normal weight for age and height (that is weight loss or failure to make expected weight gain during period of growth leading to body weight less than 85% of what is expected – Restriction of energy intake relative to requirements, leading to significantly low body weight in the context of age, sex, developmental trajectory, and physical health. Significantly low weight is defined as a weight loss that is less than minimally normal or, for children and adolescents, less than that minimally expected. • Individual has an intense fear of gaining weight or becoming fat, or persistent behaviour that interferes with weight gain, even though he / she is currently underweight. • Individual's body weight or shape is experienced in a disturbed manner, or the individual denies the seriousness of the current low body weight. Self-evaluation is unreasonably influenced by body shape and weight. • Prevalence of amenorrhoea (the absence of at least three consecutive menstrual cycles) in postmenarcheal females – eliminated in the DSM-5 • Subtypes include: 1. **Binge eating / 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). 2. **Restricting type:** During the current episode of AN, the individual has not regularly engaged in binge eating and / or purging behaviour.
Bulimia Nervosa:
• Individual experiences recurrent episodes of binge eating characterised by the following: 1. Eating, in a discrete period (i.e. 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 (i.e. a feeling that one

cannot stop eating or control what or how much one is eating).

- Individual engages in recurrent inappropriate compensatory behavior in order to prevent weight gain and to maintain a minimally normal body weight such as self-induced vomiting, misuse of laxatives, diuretics, enemas or other medication, fasting, or excessive exercise.
- Binge eating and inappropriate compensatory behaviour both occur on average, at least twice a week for at least a three month period.
- Self-evaluation is unreasonably influenced by body shape and weight.
- The disturbance does not occur exclusively during episodes of AN.
- Subtypes include:
  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.

APPENDIX B

SOCIO-DEMOGRAPHIC DOCUMENT

Respondent number:__________ [ ][ ] 1-2

D D M M Y Y

Date of interview: _________________(DDMMYY) [ ][ ][ ][ ][ ][ ] 3-8

Birth date:__________________(DDMMYY) [ ][ ][ ][ ][ ][ ] 9-14

Gender: [ ] 15

1. Male
2. Female

Race: [ ] 16

1. Caucasian
2. Black
3. Coloured
4. Other

Current diagnosis: [ ] 17

1. Anorexia Nervosa – non purging type
2. Anorexia Nervosa – purging type
3. Bulimia Nervosa – purging type
4. Bulimia Nervosa – non-purging type

Previous diagnosis: [ ] 18

1. Anorexia Nervosa – non-purging type
2. Anorexia Nervosa – purging type
3. Bulimia Nervosa – purging type
4. Bulimia Nervosa – non-purging type
5. None

Have you been admitted to Tara or any other institution for eating disorders before: [ ] 19

1. Yes
2. No

If yes, give details – reason for admittance ________________________________ [ ][ ] 20-21

[ ][ ] 22-23

[ ][ ] 24-25

Current Weight: ______,_____________kg

| | | | . | | 26-29

Current Height: ______,______________ cm

| | | | . | | 30-33

APPENDIX C

YALE-BROWN-CORNWELL EATING DISORDER SCALE SELF REPORT QUESTIONNAIRE

Respondent number:__________ 1-2

D D M M Y Y

Date of interview: __________________(DDMMYY) 3-8

Please identify your Current and Worst periods below:

"Current Period": Date range that defines the past month

"Worst Period": Date range that defines your worst one-month period of symptoms (i.e. month of September during 9th grade at age 14)

Current Period (date range):

D D M M Y Y

Start date: 9-14

End date: 15-20

Worst Period (date range):

D D M M Y Y

Start date: 21-26

End date: 27-32

Is your Current Period the same as your Worst Period?

1. Yes
2. No

33

Pre-occupations: Tick whether you have experienced the listed pre-occupations during your current or worst period (you can also mark both)

Current	Worst		Code
		Food Pre-occupations	
1) ______	______	Categorise all foods as ‘good’ or ‘bad’	34
2) ______	______	Think excessively about the fat content of food	35
3) ______	______	Think excessively about the caloric content of food	36
4) ______	______	Think excessively about the sugar / carbohydrate content of food	37
5) ______	______	Fear that eating certain food types will lead to immediate body changes (i.e. eating fat will deposit fat onto your hips)	38
		Eating Pre-occupations	
1) ______	______	Fear from eating from a full plate of food	39
2) ______	______	Fear of eating all the food that is on a plate of food	40
3) ______	______	Fear of consuming liquids	41
4) ______	______	Fear of not being able to consume fluids	42
5) ______	______	Fear of being unable to eat	43
6) ______	______	Fear of being unable to stop or control the amount you are eating	44
7) ______	______	Fear of eating in front of other people	45
		Weight and Shape Pre-occupation	
1) ______	______	Fear of being fat or overweight	46
2) ______	______	Fear of weighing outside of a narrow range of weights, or pre-occupations with a specific weight	47
3) ______	______	Excessive concern with a specific body part or aspect of your appearance	48

Clothing Pre-occupations

1) ______	______	Excessive concern with a particular size of clothing i.e. will ot buy clothing that is not a specific size even if it fits	☐	49
2) ______	______	Fear of wearing certain types of clothes i.e. fear of wearing underwear or a bathing suit	☐	50
3) ______	______	Fear of wearing tight or loose fitting clothing	☐	51

Miscellaneous Pre-occupations

1) ______	______	Preoccupations about hoarding food i.e. collecting, hiding or stashing food	☐	52
2) ______	______	Preoccupations about exercising	☐	53

Rituals: Tick whether you have experienced the listed rituals during your current or worst period (you can also mark both)

<u>**Current**</u> <u>**Worst**</u>

Eating Rituals

1) ______	______	Need to consume food at a specific rate i.e. can only take a bite every 2 minutes	☐	54
2) ______	______	Need to chew each mouthful of food specific number of times	☐	55
3) ______	______	Need to cut eat piece of food into a specific size	☐	56
4) ______	______	Need to consume only certain colours or types of food	☐	57
5) ______	______	Need to avoid certain types of food i.e. fat or meats	☐	58
6) ______	______	Need to consume each type of food on your plate completely and in a specific order i.e. must eat all of your vegetables before you can eat your potatoes	☐	59

7) ______ ______ Need to consume fluids in a certain way or amount i.e. need to drink 2 glasses of water before each meal ☐ 60

8) ______ ______ Need to eat meals by yourself ☐ 61

9) ______ ______ Need to leave food on the plate when done eating; cannot consume all the food on your plate ☐ 62

10) ______ ______ Need to manipulate or stir your food i.e. play with your food while eating ☐ 63

11) ______ ______ Need to fill your glass or plate only partially ☐ 64

12) ______ ______ Need to have the table set in a specific way before ☐ 65

13) ______ ______ Need to wipe your mouth with a napkin a fixed number of times after each bite of food ☐ 66

14) ______ ______ Need for food not to touch your lips while eating ☐ 67

15) ______ ______ Need for no part of your body to touch the table or plate while eating ☐ 68

16) ______ ______ Need for absolute consistancy of food expected i.e. an orange would not do if you were expecting an apple ☐ 69

Food Rituals

1) ______ ______ Need to compute the caloric content of all foods eaten ☐ 70

2) ______ ______ Need to compute the fat content of all foods eaten ☐ 71

3) ______ ______ Fear of wearing tight or loose fitting clothing ☐ 72

4) ______ ______ Need to cook for others in a ritualised way ☐ 73

Binging Rituals

Note: "Binges" are episodes of eating that some people experience. They are defined by eating what most would consider to be a large amount of food in two hours or less, while experiencing a loss of control i.e. feeling that you cannot stop eating or control what or how much you are eating.

1) ______	______	Need to begin each binge with a certain type of food or with a food of a certain colour	☐	74
2) ______	______	Need to eat only certain types of foods during a binge	☐	75
3) ______	______	Need to cook for others in a ritualised way	☐	76
4) ______	______	Need to eat all food that is present i.e. can leave no food uneaten during a binge	☐	77

Purging Rituals

Note: "Purging" refers to behaviours that some people engage in, in an attempt to influence weight or shape and / or to counteract the effects of overeating. Purging behaviours include self-induced vomiting, and / or laxative, diuretic or enema misuse.

1) ______	______	Need to purge in a specific way or position i.e. must use two fingers while inducing vomiting	☐	78
2) ______	______	Need to purge a specific amount of food	☐	79
3) ______	______	Need to purge within a specific amount of time after eating	☐	80
4) ______	______	Need to purge in a specific place	☐	81

Body Rituals

1) ______	______	Need to have thighs not touch while sitting or standing	☐	1
2) ______	______	Need to continually check that wrist can be spanned with your fingers	☐	2
3) ______	______	Need to feel hip bones repeatedly	☐	3
4) ______	______	Need to see a specific bone i.e. collar bone or ribs	☐	4
5) ______	______	Ritualised bathroom habits i.e. pushing on your lower stomach while urinating or defecating	☐	5

6) ______ ______ Need to overdress in order to force yourself to sweat ☐ 6

Weight Rituals

1) ______ ______ Need to repeatedly weigh yourself ☐ 7

2) ______ ______ Need to weigh yourself in a ritualised way i.e. at a specific time of day or just after eating ☐ 8

Exercise Rituals

1) ______ ______ Need to exercise after meals ☐ 9

2) ______ ______ Need to exercise in a specific way or at a specific time ☐ 10

3) ______ ______ Ritualised exercise pattern i.e. must do 50 sit-ups, if interrupted at 49, must begin all over again ☐ 11

4) ______ ______ Need to be moving at all times i.e. pacing or fidgeting ☐ 12

5) ______ ______ Need to shiver to expend calories, instead of putting on addittional clothing when cold ☐ 13

Hoarding or Saving Rituals

1) ______ ______ Hoarding food in a ritualised way i.e. hiding food in your bedroom ☐ 14

2) ______ ______ Collecting and saving pictures of food, articles on food or recipes ☐ 15

Listmaking Rituals

1) ______ ______ Making lists of body weight ☐ 16

2) ______ ______ Making lists of foods eaten and / or calories consumed ☐ 17

Thank you for taking the time to complete the YBC-EDS checklist. Now please proceed to the next section, below, in order to answer the questions about your pre-occupations and rituals.

If you have not checked off any of the pre-occupations or rituals, you are now finished with the scale. Thank you.

Pre-occupations

Now that you have identified your pre-occupations during Current and Worst periods, please keep those in mind as you answer the next nine questions i.e. questions 1-9.

As a reminder, your “Current Period” is defined as the past month, including today. For patients think about the one-month period prior to your hospitalisation. Your “Worst Period” is defined as the one-month period of time during which your eating disorder symptoms were at their worst. For patients DO NOT consider the time when you were in the hospital as your Worst Period. Instead, consider your “Worst Period” to be any one-month period of time outside of the hospital during which your eating disorder symptoms were at their worst.

Please rate each of the following nine items for BOTH your Current and Worst Periods. Using the 0-4 rating scales under each of the questions. Please fill in ONLY ONE numerical rating for “Current” and ONE numerical rating for “Worst”.

Please define your Current and Worst periods below (these should be the same as the time periods you defined previously):

“Current Period”: Date range that defines the past month

“Worst Period”: Date range that defines your worst one-month period of symptoms (i.e. month of September during 9th grade at age 14)

Current Period (date range):

	D	D	M	M	Y	Y	
Start date:							18-23
End date:							24-29

Worst Period (date range):

	D	D	M	M	Y	Y	
Start date:							30-35
End date:							36-41

If your “CurrentPeriod” and “Worst Period” are the same period of time, please place a numerical rating in both the “Current” and “Worst” columns.

Pre-occupations

1. **How much of your time per day, including meal times, was occupied by pre-occupations?**
   0) None
   1) Less than one hour a day (occur no more than eight times a day)
   2) Between one and three hours a day (occur more than eight times a day)
   3) More than three and up to eight hours a day (occur more than eight times a day)
   4) Greater than eight hours a day (too numerous to count)

Current:__________ 42

Worst: __________ 43

2. **On average, what is the longest block of time in which pre-occupations are absent?**
   0) No pre-occupations
   1) More than eight consecutive waking hours a day
   2) More than three and upto eight consecutive hours a day
   3) More than one and less than three consecutive hours a day
   4) Less than one consecutive hour a day

Current: __________ 44

Worst: __________ 45

3. **How much of these pre-occupations interfere with your social or work / school functioning?**
   0) No interference
   1) Mild interference with activities i.e. social, school or work, but overall performance not impaired
   2) Moderate interference with activities i.e. social, school or work, but still manageable
   3) Severe interference, causes substantial impairment
   4) Extreme interference, incapacitating

Current: __________ 46

Worst: __________ 47

4. How much distress do your pre-occupations cause you?

0) None
1) Mild, not very disturbing
2) Moderate, disturbing but still manageable
3) Severe, very disturbing
4) Extreme, near constant and disabling distress

Current: __________ 48

Worst: __________ 49

5. Are these pre-occupations consistent with the way you see yourself?

0) No, they are not at all part of who I am
1) Mostly not a part of who I am
2) They are somewhat a part and somewhat not a part of who I am
3) They are a part of me, but not completely
4) Yes, they are completely a part of who I am

Current: __________ 50

Worst: __________ 51

6. How often do you resist these pre-occupations as they enter your mind?

0) Always try to resist, or symptoms are so minimal you do not feel the need to try to resist them
1) Try to resist most of the time i.e. more than half of the time
2) Try to resist some of the time
3) Never try to resist but do give in reluctantly
4) Never try to resist, willingly yield to all pre-occupations

Current: __________ 52

Worst: __________ 53

7. **How much control do you have over your pre-occupations?**
   0) Complete control
   1) Much conrtol, usually able to stop or divert pre-occupations with some effort and concentration
   2) Moderate control, sometimes able to stop or divert pre-occupations
   3) Little control, rarely successful in stopping or diverting pre-occupations
   4) No control, rarely able to even momentarily alter thinking

Current: __________ 54

Worst: __________ 55

8. **Are your pre-occupations reasonable or make sense to you?**
   0) Not at all, the pre-occupations as senseless and excessive, <u>or</u> the pre-occupations are minimal
   1) Not much sense, I see the absurdity or excessiveness of the pre-occupations
   2) Somewhat YES and somewhat NO
   3) YES, the pre-occupations mostly make sense
   4) YES, the pre-occupations make complete sense

Current: __________ 56

Worst: __________ 57

9. **How much effort would you be willing to expend to stop these pre-occupations?**
   0) I would do just about anything to stop them, <u>or</u> the preo-occupations are so minimal that you do not feel the need to stop them
   1) I would be willing to do some work to stop the pre-occupations
   2) Somewhat, I would like to be bothered less by the pre-occupations but would not be willing to put in much effort toward that goal
   3) I would make almost no effort to stop the pre-occupations
   4) I would not do anything to stop the pre-occupations, at times they are comforting and reassuring to me

Current: __________ 58

Worst: __________ 59

Rituals

Now that you have identified your rituals during Current and Worst periods, please keep those in mind as you answer the next nine questions i.e. questions 10-18.

As a reminder, your “Current Period” is defined as the past month, including today. For patients think about the one-month period prior to your hospitalisation. Your “Worst Period” is defined as the one-month period of time during which your eating disorder symptoms were at their worst. For patients DO NOT consider the time when you were in the hospital as your Worst Period. Instead, consider your “Worst Period” to be any one-month period of time outside of the hospital during which your eating disorder symptoms were at their worst.

Please rate each of the following nine items for BOTH your Curren and Worst Periods. Using the 0-4 rating scales under each of the questions. Please fill in ONLY ONE numerical rating for “Current” and ONE numerical rating for “Worst”.

Please identify your Current and Worst periods below: (Please note that these should be the same as the time periods you defined previously)

Current Period (date range):

	D	D	M	M	Y	Y	
Start date:							60-65
End date:							66-71

Worst Period (date range):

	D	D	M	M	Y	Y	
Start date:							72-77
End date:							78-83

If your “CurrentPeriod” and “Worst Period” are the same period of time, please place a numerical rating in bothe the “Current” and “Worst” columns.

10. How much of your time per day was spent perorming rituals?

0) None
1) Less than one hour a day (occur no more than eight times a day)
2) Between one and three hours a day (occur more than eight times a day)
3) More than three and up to eight hours a day (occur more than eight times a day)
4) Greater than eight hours a day (too numerous to count)

Current: __________ 1

Worst: __________ 2

11. On average, what is the longest block of time in which rituals are absent?

0) No pre-occupations
1) More than eight consecutive waking hours a day
2) More than three and up to eight consecutive hours a day
3) More than one and less than three consecutive hours a day
4) Less than one consecutive hour a day

Current: __________ 3

Worst: __________ 4

12. How much do your rituals interfere with your social or work / school functioning?

0) No interference
1) Mild interference with activities i.e. social, school or work, but overall performance not impaired
2) Moderate interference with activities i.e. social, school or work, but still manageable
3) Severe interference, causes substantial impairment
4) Extreme interference, incapacitating

Current: __________ 5

Worst: __________ 6

Where do you feel most anxious?

1) School or work
2) Social function
3) Both

7

13. How anxious would you feel if prevented from performing your rituals?

0) None
1) Mild, slight anxiety if prevented
2) Moderate, anxiety would mount but remain manageable until rituals could be performed
3) Severe, very disturbing increase in anxiety
4) Extreme, incapaciting anxiety

Current: __________

Worst: __________

8
9

14. Are these rituals consistent with the way you see yourself?

0) No, they are not at all part of who I am
1) Mostly not a part of who I am
2) They are somewhat a part and somewhat not a part of who I am
3) They are a part of me, but not completely
4) Yes, they are completely a part of who I am

Current: __________

Worst: __________

10
11

15. How often do you resist these rituals?

0) Always try to resist, or symptoms are so minimal you do not feel the need to try to resist them
1) Try to resist most of the time i.e. more than half of the time
2) Try to resist some of the time
3) Never try to resist but do so reluctantly
4) Never try to resist, willingly yield to all rituals

Current: __________

12
13

Worst: ___________

16. How much control do you have over your rituals?

0) Complete control
1) Much control, usually able to exercise control over rituals with some effort and concentration
2) Moderate control, can control with difficulty
3) Little control, can delay only with difficulty
4) No control, rarely able to even momentarily delay activity

Current: ___________ 14

Worst: ___________ 15

17. Are your rituals reasonable or make sense to you?

0) Not at all, the rituals are senseless and excessive, or the rituals are minimal
1) Not much sense, I see the absurdity or excessiveness of the rituals
2) Somewhat YES and somewhat NO
3) YES, the rituals mostly make sense
4) YES, the rituals make complete sense

Current: ___________ 16

Worst: ___________ 17

18. How much effort would you be willing to expend to stop these rituals?

0) I would do just about anything to stop them, or the rituals are so minimal that you do not feel the need to stop them
1) I would be willing to do some work to stop the rituals
2) I would not be willing to put much effort towards stopping the rituals
3) I would make almost no effort to stop the rituals
4) I would not do anything to stop the rituals, at times they are comforting and reassuring to me

Current: ___________ 18

Worst: ___________ 19

Please note this is the last question on the scale. When answering this last question i.e. question 19, please consider BOTH the pre-occupations and rituals that you checked off on your checklist, during the time periods you defined as your “Current” and “Worst” periods.

If your “CurrentPeriod” and “Worst Period” are the same period of time, please place a numerical rating in both the “Current” and “Worst” columns.

19. How much have you avoided doing anything, going any places, or being with anyone because of your pre-occupations or out of concern you will perform your rituals?

0) No deliberate avoidance
1) Mild, minimal avoidance
2) Moderate, some avoidance clearly present
3) Severe, much avoidance
4) Extreme, very extensive avoidance

Current: __________ 20

Worst: __________ 21

You are now finished with the questionnaire. Thank you

APPENDIX D

ETHICS APPROVAL LETTER

Research Division
Internal Post Box G40
(051) 4052812
Fax (051) 4444359

E-mail address: StraussHS@ufs.ac.za

Ms H Strauss/hv

2013-09-25

REC Reference nr 230408-011
IRB nr 00006240

MS DL HAMBLOCH
c/o PROF C WALSH
DEPT OF NUTRITION AND DIETETICS
FACULTY OF HEALTH SCIENCES
UFS

Dear Ms Hambloch

ECUFS 109/2013
MS DL HAMBLOCH **DEPT OF NUTRITION AND DIETETICS**
PROJECT TITLE: PREOCCUPATIONS AND RITUALS RELATED TO FOOD IN IN-PATIENTS WITH EATING DISORDERS

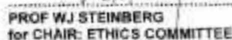
- You are hereby kindly informed that the Ethics Committee took cognisance with approval of the following and it will be condoned at the meeting scheduled for 17 October 2013:
  - ***Amendments to the protocol***

  [Prof Walsh did not take part in the discussion of this study]
- Committee guidance documents: Declaration of Helsinki, ICH, GCP and MRC Guidelines on Bio Medical Research. Clinical Trial Guidelines 2000 Department of Health RSA; Ethics in Health Research: Principles Structure and Processes Department of Health RSA 2004; Guidelines for Good Practice in the Conduct of Clinical Trials with Human Participants in South Africa, Second Edition (2006); the Constitution of the Ethics Committee of the Faculty of Health Sciences and the Guidelines of the SA Medicines Control Council as well as Laws and Regulations with regard to the Control of Medicines.
- Any amendment, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.
- The Committee must be informed of any serious adverse event and/or termination of the study.
- Research may not be conducted before the condition(s) has/have been met. Thus, this letter only serves as conditional approval.
  - ***Signed permission letters have to be submitted from the following:***

    a) Research and Ethics Committee of TARA Hospital

    b) Clinical Head or Management of the TARA Hospital
- All relevant documents e.g. signed permission letters from the authorities, institutions, changes to the protocol, questionnaires etc. have to be submitted to the Ethics Committee before the study may be conducted (if applicable).
- A progress report should be submitted within one year of approval of long term studies and a final report at completion of both short term and long term studies.
- Kindly refer to the ETOVS/ECUFS reference number in correspondence to the Ethics Committee secretariat.

Yours faithfully



PROF WJ STEINBERG
for CHAIR: ETHICS COMMITTEE

cc Prof C Walsh

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APPENDIX E

PERMISSION:

To conduct research study at Tara Hospital

To: Dr. Chundra,

I am a student currently registered for a Master's degree in Nutrition and Dietetics at the University of the Free State.

This is a letter requesting permission to include Tara Hospital as the institution to obtain participants for my research study: **A description of the preoccupations and rituals related to food in patients with eating disorders.**

In order to determine the preoccupations and rituals related to food in patients with eating disorders, the following objectives will be assessed:

- To determine a demographic profile of in-patients with eating disorders as well as those who have been discharged from the ward but are being followed up in the outpatient clinic;
- To determine current anthropometry including weight and height;
- To calculate body mass index (BMI); and
- To describe the preoccupations related to food in in-patients with AN and BN, as well as those who have been discharged from the ward but are being followed up in the outpatient clinic
- To describe the rituals related to food in in-patients with AN and BN, as well as those who have been discharged from the ward but are being followed up in the outpatient clinic

Patients from the Eating Disorder Ward at Tara Hospital will be asked to participate in the research study. Eating Disorders will be characterised based on the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders.

Patients will be asked to answer the Yale-Brown-Cornwell Eating Disorder Scale Questionnaire (please find attached). This will be conducted under the supervision of either the dietitian of Tara Hospital or by the researcher. This will take approximately 15 minutes.

The study population will include all patients within the Eating Disorder Ward of Tara Hospital regardless of their age, gender or race.

The questionnaire will be completed at Tara Hospital, once the participants have been informed about the study and provided their written consent.

The study protocol will be submitted to the Ethics Committee of the Faculty of Health Sciences at the University of the Free State for approval.

All information will be kept strictly confidential and no information will be used for purposes other than those for the research study.

On the completion of the study, Tara Hospital will receive all the findings obtained during the study and may request that the findings be presented at a meeting.

Please let me know if you require any further information.

Sincerely,

Danielle Hambloch

M.Sc. Dietetics Student (2010151666)

University of the Free State

APPENDIX F

CONSENT FORM

Research Study Participation

You are requested to participate in the following research study: To determine: **A description of the pre-occupations and rituals related to food in patients with eating disorders.**

The research study will require you to complete the Yale-Brown-Cornwell Eating Disorder Scale Self Report Questionnaire; this will be done under the supervision of either the dietitian of the institution or the researcher during your individual sessions with the dietitian. The questionnaire will be completed in a private room at the specialised institution.

You have been informed about the research study: **A description of the pre-occupations and rituals related to food in patients with eating disorders**, by: ………………………………

If you have any questions or enquiries please contact the researcher Danielle Hambloch at any time at daniellehambloch@gmail.com / danny@intelihealth.co.za or via text messaging to (+27) 82 603 3596; and the researcher will respond either via email or text message. You may also contact the Secretariat of the Ethics Committee of the Faculty of Health Sciences, UFS at the telephone number (051) 405-2812 if you have any questions about your rights as a research participant.

Your participation in the research study 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 at all times. Results of the group may be published and presented at a meeting or congress. Participants' will be notified of the finding through the dietitian at the institution.

The research study, including the above mentioned information has been clearly described to me. I, ……………………………………………………………………………………………… hereby voluntarily agree to participate in the research study: **A description of the pre-occupations and rituals related to food in patients with eating disorders**, and understand what my involvement in the study entails.

……………………………………….…..	**…………………………………………**
Signature of Participant	**Date**
……………………………………….…..	**…………………………………………**
Signature of Witness	**Date**