

THE WATERFORD MENTAL HEALTH SURVEY

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EXECUTIVE SUMMARY

The primary objective of the Waterford Mental Health Survey was to document the prevalence of co-morbid personality disorders in a sample of inpatients and outpatients attending the HSE mental health service in Waterford and outline the implications of this for service development.

Between July 2011 and June 2014, 100 inpatients and 99 outpatients were evaluated with the Structured Clinical Interviews for DSM-IV axis I and II disorders, the Childhood Trauma Questionnaire, the Global Assessment of Functioning rating scale, the SCORE family assessment instrument, the Camberwell Assessment of Need Short Appraisal Schedule, and the Readiness for Psychotherapy Index. Participants were consenting, consecutive referrals who were not too unwell to engage with the study. The sample interviewed was probably slightly higher functioning than all cases attending the service.

With regard to the primary objective of the study, we found that 98.4% of cases had DSM-IV axis I psychiatric disorders and 39.3% of these had comorbid axis II personality disorders. Between approximately a half and three-quarters of cases with personality disorders had comorbid anxiety, depressive or alcohol and substance use disorders. Compared to those without personality disorders, cases with personality disorders had experienced more child maltreatment; had poorer personal and family functioning and more severe presenting problems; and reported greater unmet service needs and motivation for psychotherapy.

In terms of service development, approximately 2 out of 5 patients attending the public mental health services in Waterford require specialist psychological therapy for personality disorders which addresses low levels of personal and family functioning and past history of child maltreatment. Specialist psychological therapies include dialectical behaviour therapy (Linehan, 1993, 2014), schema therapy (Young et al., 2007), cognitive behaviour therapy

(Beck et al., 2004) and brief psychodynamic psychotherapy such as mentalization-based treatment (Bateman & Fonagy, 2006; Clarkin et al., 2010). A review of psychology staffing levels is required to determine the number of psychologists required to provide this type of service in line with recommendations in the national mental health policy - *Vision for Change* (Department of Health & Children, 2006) - and the HPSI *Psychology briefing paper for the HSE mental health division* (Heads of Psychology Services Ireland, 2014). Intensive initial staff training and ongoing supervision are required for psychologists to provide these specialist evidence-based interventions.

INTRODUCTION

Since the closure of St Senan's Hospital in Wexford, there has been increasing pressure on the adult mental health service in the Waterford area to provide inpatient and outpatient care for service users with complex mental health treatment needs. From a clinical perspective, many present with acute mental health problems associated with psychiatric disorders such as anxiety, depression or psychosis and additional comorbid personality disorders. Service users with these co-morbid presentations require treatments for both their acute mental health problems, and their longstanding personality disorders. The overarching objective of the Waterford Mental health Survey was to accurately establish the proportion of service users with both psychiatric problems and co-morbid personality disorders in a sample of inpatients and outpatients in the Waterford adult mental health service, and the implications of this for the development of psychological services. The project also had a number of subsidiary aims, including documenting the level of personal and family functioning, service needs, and motivation for psychological therapy in service users with personality disorders.

Personality disorders and other mental health problems

Often psychiatric disorders such as anxiety and depression occur against a backdrop of more pervasive and long-standing personality-based difficulties. To address this, distinctions are made between episodic psychiatric disorders on the one hand and persistent personality disorders on the other. This distinction is made in the two major systems used to classify mental health problems: the ICD-10 (WHO, 1992) and DSM-5 (APA, 2013). Because psychiatric disorders and personality disorders were classified on the first and second axis of the multi-axial system used in a previous edition of the DSM (DSM-IV-TR, APA, 2000) these two classes of disorders are also referred to as axis I and axis II disorders. Axis I psychiatric disorders which lead to referral for psychiatric services are typically episodic and the features

of many are circumscribed. These conditions are characterized by atypical episodes of psychological functioning which deviate from an individual's normal pattern of experience and behaviour. In contrast, axis II personality disorders are longstanding, pervasive, enduring, inflexible patterns of behaviour, cognition and affect that differ markedly from prevailing cultural expectations and which lead to significant personal distress or significant impairment in social functioning. A summary of clinical features of personality disorders listed in DSM-5 and assessed in the Waterford Mental Health Survey are given in Table 1. With personality disorders there are marked difficulties in two or more of the following domains: cognition, affect, impulse control, behaviour, and interpersonal functioning. With cognition, there may be peculiarities or difficulties in the way self, others and events are interpreted. At an affective level the range, intensity, lability and appropriateness of emotional responses may be out of keeping with cultural expectations. There may be serious difficulties with impulse control leading to highly erratic or impulsive behaviour, markedly inhibited behaviour, or peculiar behaviour. With respect to interpersonal behaviour there are typically serious difficulties making and maintaining stable and fulfilling interpersonal relationships. Most people find the rigid behavioural patterns of people with personality disorders aversive and so avoid them. In the long-term, the social isolation or negative responses of others to people with personality disorders causes them personal distress. A hallmark of personality disorders is the fact that the cognitive, affective, behavioural and interpersonal difficulties constitute a longstanding and rigid pattern of psychological functioning. Usually personality disorders can be traced back to adolescence or early adulthood. Furthermore, individuals with personality disorders have great difficulty learning from life experiences or therapeutic interventions how to alter their rigid behaviour patterns. They repeatedly make the same mistakes and find it very challenging to learn from their errors. Personality disorders run a chronic course and are associated with a poor outcome. In the Collaborative Longitudinal Personality Disorders

Study, Skodol et al., (2005) found that personality disorders were characterized by functional impairment in personal, social, educational and occupational domains; a poor response to treatment for comorbid depression; a high risk of suicide; and extensive health service usage.

Economic costs

Patients with personality disorders are of particular concern because their psychiatric disorders such as anxiety and depression are less responsive to psychiatric treatment. They have difficulty adhering to treatment regimes and co-operating with mental health professionals. Thus, patients with personality disorders tend to be very frequent users of psychiatric services compared with patient without such disorders (Skodol et al., 2005). Unfortunately, they obtain limited benefits from this frequent service use. This is particularly true of individuals with borderline personality disorder (Hörz et al., 2010). The economic cost of meeting the treatment needs of patients with personality disorders is, therefore, significant. In a Dutch study of 1,740 people with comorbid psychiatric disorders and personality disorders treated at 6 specialist mental health services, Soeteman et al. (2008) found that the average costs in the 12 months prior to treatment were €11,126 per patient. Two thirds of these were direct medical costs and the remainder were due to productivity losses.

Psychological treatment of personality disorders

The high costs associated with routine treatment of people with comorbid psychiatric disorders and personality disorders is a strong argument in favour of developing effective, specialist, evidence-based services for patients with personality disorders which help them address their pervasive adjustment problems and make their acute psychiatric problems more accessible to briefer treatment. Duggan et al. (2007) reviewed 27 randomized

controlled trials of psychological treatments for personality disorders. They concluded that there was evidence for the effectiveness of specific psychological treatments for certain personality disorders, notably, dialectical behaviour therapy (Linehan, 1993, 2014), schema therapy (Young et al., 2007), cognitive behaviour therapy (Beck et al., 2004) and brief psychodynamic psychotherapy, such as mentalization based treatment (Bateman & Fonagy, 2006; Clarkin et al., 2010). Intensive initial staff training and ongoing supervision are required for psychologists to provide these specialist evidence-based interventions. One objective of the Waterford Mental health Survey was to determine the need for these types of specialist psychological services for patients with personality disorders within the Waterford area, and the resource implications of this.

Childhood trauma and personality disorders

The role of genetic and environmental factors in the aetiology of personality disorders is complex (Kendler et al., 2008). Currently a diathesis-stress or stress-vulnerability model of the aetiology of personality disorder is widely accepted. This model proposes that personality disorder develop in genetically vulnerable individuals who are exposed to particular adverse stressful developmental experiences, in the absence of adequate supports to cope with this stress. There is considerable evidence for a link between recollections of childhood trauma, abuse and maltreatment on the one hand and personality disorders in adulthood on the other. For example, in a study of 409 cases, Lobbestael et al. (2010) found that physical abuse was associated with antisocial personality disorder, while sexual abuse was associated with paranoid, schizoid, borderline, and avoidant personality disorders. Emotional abuse was associated with paranoid, schizotypal, borderline, dependent, avoidant and obsessive-compulsive personality disorders. One aim of the Waterford Mental Health Survey was to document the link between recollections of childhood trauma and personality

disorders in adulthood within an Irish context.

Epidemiology of personality disorders

International studies have shown that in the normal population about 1 in 10 people have personality disorders and almost a third have a psychiatric disorder. Results of 6 international community surveys showed that 10% of the populations studied had personality disorders (Lenzenweger, 2008). In the USA National Co-morbidity Survey and Replication study the 12 month prevalence rate for psychiatric disorders (other than personality disorders) was about 30%.

In the community about a quarter of people with psychiatric disorders have comorbid personality disorders, whereas up to half of all mental health service users with psychiatric disorders have comorbid personality disorders. In the USA National Comorbidity Replication study, it was found that a quarter of people in this community-based study with psychiatric disorders had personality disorders (Lenzenweger, 2007). In a review of 16 studies of clinical populations of inpatients and outpatients, Zimmerman et al. (2008) concluded that about half of all mental health service users in these studies with psychiatric disorders had co-morbid personality disorders. A key issue to be addressed in the proposed study is the prevalence of personality disorders in both inpatient and outpatient settings in the Waterford area.

Objective and aims

The primary objective of the Waterford Mental Health Survey was to document the prevalence of co-morbid personality disorders in a sample of inpatients and outpatients attending the HSE mental health service in Waterford and outline the implication of this for service development. Within the context of this overall objective there were number of specific aims.

The first aim was to establish the overall rate of axis I psychiatric disorders, and rates among inpatients and outpatients.

The second aim was to establish the overall rate of axis II personality disorders, and rates among inpatients and outpatients.

The third aim was to establish rates of comorbid axis II personality disorders among cases with axis I disorders.

The fourth aim was to establish rates of comorbid axis I disorder among cases with axis II personality disorders.

The fifth aim was to compare rates of axis I disorders in cases with and without axis II personality disorders.

The sixth aim was to establish overall rates of different types of child maltreatment, and rates of child maltreatment among cases with and without personality disorders, cases with different types of personality disorders and inpatient and outpatients.

The seventh aim was to document the level of personal and family functioning, service needs, and motivation for therapy in cases with and without personality disorders.

The eighth aim was to document the level of personal and family functioning, service needs, and motivation for therapy among inpatients and outpatients.

The final aim was to compare rates of high motivation for psychotherapy among cases with and without personality disorders, and inpatients and outpatients; and to document correlates of high motivation for psychotherapy.

METHOD

This study was conducted between July 2011 and June 2014 at the adult mental health service in the Waterford super-sector of the Health Service Executive. This particular mental health service is part of the Irish public health service in the south east of Ireland.

Participants

Consecutive inpatient and outpatient public service referrals were admitted to the study. Figure 1 provides details of recruitment of patients into the study and those who were excluded. Referrals to the survey included 221 inpatients and 428 outpatients. The following exclusion criteria were applied: under 18 years; unable or unwilling to provide informed consent; intellectual disability; acquired brain injury; and inappropriately referred to the mental health service with problems such as homelessness or neurological illness. Data from a total of 199 cases were analysed. There were data from 100 of 179 (or 63.1%) eligible inpatients and 99 of 189 (or 52.4%) eligible outpatients. Data from one outpatient who was interviewed was excluded from analyses after data collection had been completed because missing data in this case exceeded the 20% cut-off.

Demographic and clinical characteristics are given in Table 2. 52.8% were males and 47.2% were female. The mean age was 40.2 years (SD = 14.0, Range = 18-75 years). 37.2% were married, cohabiting or in a relationship. 54.3% had children. 33.2% lived alone. About a fifth had university level education. 46.2% were unemployed and the remainder came from a range of socio-economic groups. Participants had attended mental health services for an average of 7.3 years, and the average duration of past inpatient treatment was about 3 months. Just under a third (30.7%) of participants were experiencing their first episode of mental health problems.

Inpatient and outpatient groups had very similar profiles in terms of age, marital status, length of time living with current partner, presence and number of children, living arrangements, educational level, socioeconomic status and duration of psychiatric treatment. Gender and experience of first episode of mental health problems were the only demographic and clinical variables on which inpatients and outpatients differed significantly.

Compared with outpatients, more inpatients were male (62% vs 43.4%, Chi square (df = 1, N = 199) = 6.88, p = .009). Compared with outpatients, fewer inpatients were assessed during their first episode (20% vs 41.4%, Chi square (df = 1, N = 199) = 10.40, p = .001).

Patients with and without personality disorders had very similar profiles in terms of gender, marital status, presence and number of children, living arrangements, educational level, socioeconomic status and duration of psychiatric treatment. Age, length of relationship with current partner, and experience of first episode of mental health problems were the only demographic and clinical variables on which patients with and without personality disorders differed significantly. Compared with patients without personality disorders, those with personality disorders were younger (personality disorder (PD) Mean = 35.68 (SD = 12.31), no personality disorder (NPD): Mean = 43.31 (SD = 14.07), $t(194) = 3.89$, $p = .0001$); had been with partners for a shorter period of time (PD: Mean = 12.66 (SD = 9.78), NPD: Mean = 19.28 (SD = 13.78), $t(194) = 3.72$, $p = .0003$), and fewer patients with personality disorders were assessed during their first episode of mental health problems (22.1% vs 35.3%, Chi square (df = 1, N = 199) = 3.88, $p = .048$).

Assessment protocol

The assessment protocol included the following instruments, all of which have adequate reliability and validity:

Structured clinical Interviews for DSM-IV-TR axis I disorders (SCID I, First et al., 1996). This structured clinical interview gives information on mood, anxiety, psychotic, alcohol and substance use, eating and adjustment disorders. The SCID I also includes demographic and service use questions.

Structured clinical Interviews for DSM-IV-TR axis II disorders (SCID II, First et al., 1997). This structured clinical interview indicates the presence of the following DSM

personality disorders: paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent and obsessive-compulsive.

Global Assessment of Functioning rating scale (GAF, Luborsky, 1962). This 100-point rating scale gives a single score indicating overall level of functioning.

Systemic Clinical Outcome and Routine Evaluation (SCORE, Cahill et al., 2010; Fay et al., 2013). This 28-item self-report scale yields a total score and scores for family strengths, difficulties and communication for participants' current families. Responses to items are given on 6-point likert scales. It also yields ratings on 10-point scales for the severity and impact of a current major family problem.

Childhood Trauma Questionnaire (CTQ, Bernstein & Fink, 1998). This 28-item self-report scale assesses recollections of childhood maltreatment. It yields scores on continuous scales for physical, sexual and emotional abuse; physical and emotional neglect; and denial. Responses to items are given on 5-point likert scales. The following cut-off scores for CTQ scales were used in classifying cases as maltreated: physical abuse 11, sexual abuse 9; emotional abuse 13, physical neglect 10, emotional neglect 14, and total child maltreatment 52. These cut-off scores were two standard deviations above the mean for combined male and female normative community samples from a large community study of 1007 18-65 year old men and women in Memphis, USA (Scher et al., 2001).

Camberwell Assessment of Need Short Appraisal Schedule – Patient version (CANSAS, Trauer et al., 2008). This 22-item scale assesses service needs in 22 areas. It yields a summary score for unmet needs. Responses to items are given on 3-point scales (no need, met need and unmet need).

Readiness for Psychotherapy Index (RPI, Ogrondniczuk et al., 2009). This 20-item scale assesses motivation to engage in psychotherapy. It yields an overall score and scores in 4 areas: disinterest, distress, perseverance and openness. Responses to items are given

on 5-point likert scales. Cases scoring above 10.8 on the Readiness for Psychotherapy Index were classified as highly motivated for psychotherapy. 10.8 was the mean total score of 84 patients in individual psychotherapy reported in Ogrondniczuk et al. 2009. The mean for cases receiving no treatments was 8.9, for those on medication only was 10.3 and for those in group therapy was 10.95.

Procedure

The study was conducted with ethical approval of the Irish Health Service Executive and University College Dublin and informed consent of participants. Recruitment was conducted in collaboration with administrative and clinical staff at inpatient and outpatient centres. Research team interviewers were trained in administration and scoring of all instruments, notably the SCID I and II diagnostic interviews. All interviewers had primary degrees in psychology. Interviews were conducted at Waterford Regional Hospital or Saint Patrick's Hospital, Waterford.

Data management

Data were entered item-by-item into an SPSS file and verified by checking ranges for all items. There were missing values in 38 cases. However, in these cases fewer than 20% of items were missing. In cases with missing data, for multi-item scales, scale means were substituted for missing items. No values were substituted for missing diagnoses. Items were combined into multi-item scales and all continuous variables were checked for normality. With few exceptions continuous variables in this study were normally distributed, justifying the use of parametric statistical tests.

Inter-rater reliability of DSM diagnoses based on the SCID I and II was assessed for a convenience sample of 19 cases. Kappa co-efficients were computed, using data from pairs

of raters for these 19 cases. Kappa values ranged from 0.6 to 1.0, with the majority of values being above 0.7. The GAF had high inter-rater reliability. The intraclass coefficient from pairs of raters for 19 cases was 0.98. For self-report scales (CTQ, CANSAS, SCORE, and RPI) there were acceptable levels of internal consistency reliability with alpha coefficients ranging from 0.72 - 0.95.

RESULTS

Overall rates of axis I psychiatric disorders

The first aim of the study was to establish the overall rate of axis I psychiatric disorders, and rates among inpatients and outpatients. Rates of current and lifetime axis I psychiatric disorders for all cases, inpatients and outpatients are given in Table 3. Rates of current and lifetime axis I psychiatric disorders for all cases are also presented in Figure 2. Of 199 cases, 196 (98.4%) met the diagnostic criteria for at least one current or lifetime axis I disorder. The rates were 64.8% for anxiety disorders, 55.8% for depressive disorders, 46.2% for alcohol and substance use disorders, 22.1% for psychotic disorders, 9.5% for bipolar disorders, 4% for eating disorders and 2% for adjustment disorders. Three cases did not meet criteria for a current or lifetime DSM axis I diagnosis. All three had subclinical mood disorders. One had made a recent suicide attempt and another had schizoid personality disorder. Psychotic disorder was the only category for which prevalence rates among inpatients and outpatients differed. Compared with outpatients, more inpatients had psychotic disorders (31.0% vs 13.1%, Chi square (df = 1, N = 199) = 9.44, p = .002). (Appendix A contains a detailed breakdown of rates of specific current and lifetime diagnoses.)

Overall rates of axis II personality disorders

The second aim of the study was to establish the overall rate of axis II personality disorders,

and rates among inpatients and outpatients. Rates of axis II personality disorders for all cases, inpatients and outpatients are given in Table 4. Rates of axis II personality disorders for all cases are also presented in Figure 3. Of 10 personality disorders the top 5 most prevalent were avoidant (13.6%), obsessive compulsive (9.5%), borderline (9.5%), paranoid (8.5%) and antisocial (8%). Prevalence rates for remaining personality disorders were below 5%. The rate for narcissistic was 3.5%; for dependent was 3%, for schizoid was 2.5%, for schizotypal was 1%, for histrionic was 0.5%, and for personality disorder not otherwise specified was 0.5%. Rates of personality disorders were similar among inpatients and outpatients with the exception of antisocial personality disorder. Compared with outpatients, more inpatients had antisocial personality disorder (13% vs. 3%, Chi square (df = 1, N = 199) = 5.41, p = .02 with Yates correction).

The 77 patients with comorbid personality disorders were classified into 3 groups depending on whether they had predominantly cluster A, B or C personality disorders, as described in Table 1. Rates of cluster A, B and C personality disorders are presented in Figure 4. Eight (10.4%) patients had predominantly cluster A personality disorders, 26 (33.8%) predominantly cluster B personality disorders, and 31 (40.3%) predominantly cluster C personality disorders. The remaining 12 cases could not be classified using this system because they met the diagnostic criteria for equal numbers of personality disorders in 2 or more clusters. For example, one case met the criteria for both paranoid personality disorder (which belongs to cluster A) and avoidant personality disorder (which belongs to cluster C).

Co-morbidity rates: Rates of personality disorders among cases with axis I disorders

The third aim of the study was to establish rates of comorbid axis II personality disorders among cases with axis I disorders. Table 5 contains comorbidity rates expressed as numbers and percentages of cases with current or lifetime axis I psychiatric disorders with

comorbid axis II personality disorders. Rates of comorbid axis II personality disorders among cases with axis I psychiatric disorders are also presented in Figure 5. 77 of 196 cases with axis I disorders had comorbid axis II personality disorders, giving an overall comorbidity rate of 39.3%. The rates of comorbid personality disorders in broad categories of axis I disorders were 87.5% for eating disorders, 52.6% for bipolar disorders, 51.1% for alcohol and substance use disorders, 46.5% for anxiety disorders, 45.5% for psychotic disorders, and 39.6% for depressive disorders.

Co-morbidity rates: Rates of axis I disorders among cases with personality disorders

The fourth aim of the study was to establish rates of comorbid axis I disorder among cases with axis II personality disorders. Figure 6 shows that among cases with personality disorders some axis I disorders were more common than others. Of 77 cases with personality disorders, 77.9% had anxiety disorders, 61% had alcohol and substance use disorders, 57.1% had depressive disorders, 26% had psychotic disorders, 13% had bipolar disorders and 9% had eating disorders.

Rates of axis I disorders in cases with and without personality disorders

The fifth aim of the study was to compare rates of axis I disorders in cases with and without axis II personality disorders. Table 6 presents rates of axis I disorders in cases with and without personality disorders. Compared with cases without personality disorders, those with personality disorders had higher rates of anxiety disorders (77.9% vs. 58.0%, Chi square (df = 1, N = 199) = 8.26, p = .004), alcohol and substance use disorders (61% vs. 37.8%, Chi square (df = 1, N = 199) = 10.12, p = .0014) and eating disorders (0.8 vs. 9.0%, Chi square (df = 1, N = 199) = 6.16, p = .013 with Yates correction).

Child maltreatment

The sixth aim of the study was to establish overall rates of different types of child maltreatment, and rates of child maltreatment among cases with and without personality disorders, cases with different types of personality disorders and inpatient and outpatients. The following cut-off scores for CTQ scales were used in classifying cases as maltreated: physical abuse 11, sexual abuse 9, emotional abuse 13, physical neglect 10, emotional neglect 14, and total child maltreatment 52. These cut-off scores were two standard deviations above the mean for combined male and female normative community samples from a large community study of 1007 18-65 year old men and women in Memphis, USA (Scher et al., 2001). Just under a third (32.2%) of the sample scored above the cut-off score on the CTQ total maltreatment index, and could be classified as having experienced significant child abuse or neglect. From Figure 7 it may be seen that for specific forms of maltreatment the rates were 35.2% for emotional abuse, 32.7% for emotional neglect, 26.6% for physical neglect, 24.6% for sexual abuse, and 23.6 % for physical abuse.

From Table 7 it may be seen that rates of emotional abuse and neglect were significantly higher among cases with personality disorders (48.1% and 44.2%), than those without comorbid personality disorders (26.9% and 24.4%). From Table 8 it may be seen that mean scores on all CTQ scales were significantly higher among cases with personality disorders, except for physical neglect. Significant effect sizes ranged from $d = 0.31$ to 0.50 . The largest effect size occurred for emotional abuse.

There were no differences in rates of child maltreatment or mean CTQ scores between inpatients and outpatients, or between cases with predominantly cluster A, B or C personality disorders.

Profiles of cases with and without personality disorders

The seventh aim of the study was to document the level of personal and family functioning, service needs, and motivation for psychotherapy in cases with and without personality disorders. From Table 9 it may be seen that cases with personality disorders had distinct profiles compared to those without personality disorders. Mean scores of cases with and without personality disorders differed significantly on the GAF; the SCORE total and main problem severity and impact scales; the CANSAS, and the RPI total. Effect sizes ranged from $d = 0.26$ to 0.86 . Cases with personality disorders showed poorer global functioning on the GAF; poorer family adjustment on the SCORE total; higher ratings of main problem severity and impact on the SCORE; higher levels of unmet needs on the CANSAS; and greater motivation for psychotherapy on the RPI. The largest effect size occurred on the CANSAS index of unmet needs ($d = 0.86$), indicating that this was the domain in which there was greatest difference between cases with and without personality disorders. Cases with personality disorders had far greater unmet service needs.

Profiles of inpatients and outpatients

The eighth aim of the study was to document the level of personal and family functioning, service needs, and motivation for therapy among inpatients and outpatients. From Table 10 it may be seen that inpatients and outpatients had distinct profiles. Mean scores of inpatients and outpatients differed significantly on the GAF; the SCORE main problem severity and impact scales; and the RPI total. Effect sizes on these scales ranged from $d = 0.34$ to 0.96 . Inpatients showed poorer global functioning on the GAF; higher ratings of main problem severity and impact on the SCORE; and greater motivation for psychotherapy on the RPI. The largest effect size occurred on the GAF ($d = 0.96$), indicating that this was the domain in which there was greatest difference between inpatients and outpatients. Inpatients had much lower levels of global functioning.

Motivation for psychotherapy

The final aim of the study was to compare rates of high motivation for psychotherapy among cases with and without personality disorders, and inpatients and outpatients; and to document correlates of high motivation for psychotherapy. Cases scoring above 10.8 on the Readiness for Psychotherapy Index were classified as highly motivated for psychotherapy because 10.8 was the mean total score of 84 patients in individual psychotherapy reported in Ogrondniczuk et al. 2009. Compared with cases without personality disorders, more cases with personality disorders were highly motivated to engage in psychotherapy (31.6% vs 15.3%, Chi square (df = 1, N = 194) = 7.26, p = .01). Compared with outpatients, more inpatients were highly motivated to engage in psychotherapy (27.3% vs 15.3%, Chi square (df = 1, N = 197) = 4.20, p = .04). Correlations were calculated between the RPI total on the one hand and CTQ, GAF, SCORE, and CANSAS scales on the other. The only significant correlations occurred between the RPI total and the SCORE main problem severity ($r = 0.23$, $p = .01$) and CANSAS unmet need ($r = 0.22$, $p = .01$). Motivation to engage in psychotherapy was associated with greater problem severity and higher levels of unmet service needs. Those who were more motivated to engage in psychotherapy had more severe problems and more unmet service needs. While these correlations are statistically significant, they are still quite low and may not represent clinically significant findings as they account for less than 5% of the variation.

CONCLUSIONS

The primary objective of the Waterford Mental Health Survey was to document the prevalence of co-morbid personality disorders in a sample of inpatients and outpatients

attending the HSE mental health service in Waterford and outline the implications of this for service development.

Between July 2011 and June 2014, 100 inpatients and 99 outpatients were evaluated using reliable and valid assessment instruments. Participants were consenting, consecutive referrals who were not too unwell to engage with the study. The sample interviewed was probably slightly higher functioning than all cases attending the service.

With regard to the primary objective of the study, we found that 98.4% of cases had DSM-IV axis I psychiatric disorders and 39.3% of these had comorbid axis II personality disorders. Between approximately a half and three-quarters of cases with personality disorders had comorbid anxiety, depressive or alcohol and substance use disorders. Compared to those without personality disorders, cases with personality disorders had experienced more child maltreatment; had poorer personal and family functioning and more severe presenting problems; and reported greater unmet service needs and motivation for psychotherapy.

In terms of service development, approximately 2 out of 5 patients attending the public mental health services in Waterford require specialist psychological therapy for personality disorders which addresses low levels of personal and family functioning and past history of child maltreatment. Specialist psychological therapies include dialectical behaviour therapy (Linehan, 1993, 2014), schema focused therapy (Young et al., 2007), cognitive behaviour therapy (Beck et al., 2004) and brief psychodynamic psychotherapy such as mentalization based treatment (Bateman & Fonagy, 2006; Clarkin et al., 2010). A review of staffing levels is required to determine the number of psychologists required to provide this type of service in line with recommendations in the national mental health policy - *Vision for Change* (Department of Health & Children, 2006) - and the HPSI *Psychology briefing paper for the HSE mental health division* (Heads of Psychology Services Ireland, 2014). Intensive initial

staff training and ongoing supervision are required for psychologists to provide these specialist evidence-based interventions.

The study also provided useful information on patients attending HSE mental health services in Waterford. Some key findings are listed below.

The overall axis I disorder rates were 64.8% for anxiety disorders, 55.8% for depressive disorders, 46.2% for alcohol and substance use disorders, 22.1% for psychotic disorders, 9.5% for bipolar disorders, 4% for eating disorders and 2% for adjustment disorders. More inpatients than outpatients had psychotic disorders.

The overall personality disorder rates were 13.6% for avoidant, 9.5% for obsessive compulsive, 9.5% for borderline, 8.5% for paranoid, 8% for antisocial, 3.5% for narcissistic, 3% for dependent and for schizoid, 1% for schizotypal, and 0.5% for histrionic and for personality disorder not otherwise specified. Inpatients and outpatients had similar rates of different types of personality disorders, except for antisocial personality disorder, which was more common among inpatients. Ten per cent had predominantly cluster A, 33.8% predominantly cluster B, and 40.3% predominantly cluster C personality disorders.

The rates of comorbid personality disorders in broad categories of axis I disorders were 87.5% for eating disorders, 52.6% for bipolar disorders, 51.1% for alcohol and substance use disorders, 46.5% for anxiety disorders, 45.5% for psychotic disorders, and 39.6% for depressive disorders.

Of 77 cases with personality disorders, 77.9% had comorbid anxiety disorders, 61% had comorbid alcohol and substance use disorders, 57.1% had comorbid depressive disorders, 26% had comorbid psychotic disorders, 13% had comorbid bipolar disorders and 9% had comorbid eating disorders.

Compared with cases without personality disorders, those with personality disorders had higher rates of anxiety disorders, alcohol and substance use disorders and eating

disorders.

About a third of the sample reported having experienced significant child abuse or neglect. The rates were 35.2% for emotional abuse, 32.7% for emotional neglect, 26.6% for physical neglect, 24.6% for sexual abuse, and 23.6% for physical abuse. Child maltreatment, especially emotional abuse and neglect was more common among cases with personality disorders. There were no differences in child maltreatment between inpatients and outpatients, or between cases with predominantly cluster A, B or C personality disorders.

Cases with personality disorders showed far greater unmet service needs, poorer personal and family functioning, higher ratings of main problem severity and impact, and greater motivation for psychotherapy.

Inpatients showed poorer global functioning, higher ratings of main problem severity and impact and greater motivation for psychotherapy.

Compared to cases without personality disorders, more cases with personality disorders were highly motivated to engage in psychotherapy. Compared to outpatients, more inpatients were highly motivated to engage in psychotherapy. Those who were more motivated to engage in psychotherapy had more severe problems and more unmet service needs.

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Table 1. Personality disorders

CLUSTER A. ODD, ECCENTRIC GROUP

Paranoid personality disorder

People with paranoid personality disorder have a pervasive distrust of others. They interpret the motives of others in negative, malevolent, conspiratorial, or exploitative terms. They are angry, combative and unforgiving of those whom they view as having harmed them. They constantly question the loyalty of close friends, partners or spouses.

Schizoid personality disorder

People with schizoid personality disorder show a pervasive pattern of detachment from social relationships. They have a preference for solitary activities and introspection. They have a restricted range of emotions. They have few relationships and others find them cold and indifferent.

Schizotypal personality disorder

People with schizotypal personality disorder have unusual perceptual experiences, eccentric thoughts and speech, inappropriate or constricted affect, peculiar or eccentric behaviour, and a lack of close relationships. They may have ideas of reference and experience depersonalization and derealisation. They may hold paranormal convictions about magic forces, telepathy, aliens and so forth.

CLUSTER B. DRAMATIC, EMOTIONAL, ERRATIC GROUP

Antisocial personality disorder

People with antisocial personality disorder show a pervasive disregard for the rights of others and consistently violate these rights. They are consistently impulsive, aggressive, destructive, deceitful and engage in theft and lying. They have not internalized rules for moral and ethical behaviour and are motivated by personal profit and pleasure seeking. Their impulsivity and recklessness may find expression in an erratic occupational history, poor financial planning, and risk-taking which may lead to injury. They show little remorse for violating trust in close relationships.

Borderline personality disorder

People with borderline personality disorder are highly impulsive and show a pattern of pervasive instability in interpersonal relationships, self-image and mood. They have a core belief that they will be abandoned and experience an intense fear of abandonment. Their beliefs about self and others alternate between extremes of idealization and devaluation. They have a propensity to experience intense uncontrolled aggression towards those who they perceive as abandoning them. They also experience intense low mood and engage in self-harm to elicit continued caregiving or to distract themselves from their internal psychological distress.

Histrionic personality disorder

People with histrionic personality disorder are characterized by a pervasive pattern of dramatic and excessively emotional attention seeking. They believe that they are entitled to be the centre of attention and to have their needs for attention and admiration met, regardless of the cost to others. Their self-presentation is deliberately seductive and they create situations in which they are the centre of attention. Shallowness characterizes their opinions and relationships.

Narcissistic personality disorder

People with narcissistic personality disorder have a pervasive pattern of grandiosity, need for admiration, and lack of empathy for others. They have an overinflated view of their own accomplishments and believe that they are entitled to the best of everything and to associate only with people whom they perceive to be outstanding like themselves. They use their charm in social situations or their power in work situations to extract compliments and special treatment from others. They have difficulty sustaining long-term relationships because they have a limited capacity for empathy and so do not appreciate the negative effect that their grandiosity and need for admiration has on others.

CLUSTER C. ANXIOUS, FEARFUL GROUP

Avoidant personality disorder

People with avoidant personality disorder show a pervasive pattern of social inhibition and shyness. They believe that they are inferior to others, unlikable and socially unskilled. They experience intense anxiety in unfamiliar social situations and believe that they will be criticized, rejected, ridiculed, shamed or humiliated by others. They avoid situations, occupations, job promotions and past-times that involve significant interpersonal contact with unfamiliar people and live a constricted social lifestyle.

Dependent personality disorder

People with dependent personality disorder show a pervasive pattern of submissiveness and clinginess. They believe that they must be taken care of by others (such as parents and partners) and that if separated from others their safety and security will be jeopardized. They experience extreme anxiety when separated from parents or partners. They have difficulty making decisions without receiving advice and reassurance from others. They have difficulty disagreeing with others, particularly parents or partners, lest this lead to loss of support. They arrange for others to take responsibility for major areas of their lives and rarely initiate projects on their own.

Obsessive-compulsive personality disorder

People with obsessive compulsive personality disorder show a pervasive pattern of preoccupation with orderliness, perfectionism, ethics, interpersonal control, and fiscal economy. They believe that for safety and security to be maintained in all areas of life a carefully constructed set of rules must be followed to perfectionistic standards. They experience anxiety when their perfectionistic rules covering all areas of activity are not followed. There is extreme difficulty finishing tasks on time. They are unable to engage in flexible problem-solving, because of rigid adherence to personal rules and because of ethical scruples. They become isolated because they place such harsh demands on others to reach such high standards and because they have difficulty expressing tender feelings.

Figure 1. Recruitment of cases

