Exploring the Prevalence of Personality Disorder and the Feasibility of using the SAPAS as a Screening Tool for Personality Disorder in an Emergency Department in India

Sen, Piyal, Visiting Clinical Lecturer, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London and Consultant Forensic Psychiatrist, Elysium Healthcare, Chadwick Drive and Eaglestone view, Milton Keynes, United Kingdom.

Barnicot, Kirsten, Centre for Psychiatry, Imperial College, London and Central & North West London NHS Foundation Trust, United Kingdom.

Podder, Priyanka, Research Scholar, Department of Psychology, University of Calcutta, Kolkata, India.

Dasgupta, Indraneel, Clinical Director, Department of Emergency Medicine, Peerless Hospital and B. K. Roy Research Centre, Kolkata, India and Examiner, Royal College of Emergency Medicine, United Kingdom.

Gormley, Mariko, King's College London, London, United Kingdom.

Corresponding Contributor: Priyanka Podder, Research Scholar, Department of Psychology, University of Calcutta, Kolkata, India

Phone: 9681550289

Email: priyankapodder@outlook.com

Acknowledgement: We are very grateful to Prof Paul Moran of the University of Bristol, United Kingdom, for his comments on an earlier draft of the paper.

Declarations: The manuscript has not been presented anywhere yet, there is no conflict of interest among the authors and no funding was received for the study. • Word count of the manuscript: 5656.

Accepted version – Med Sci Law. 2021 May 21:258024211011387. doi: 10.1177/00258024211011387

Abstract

Background: Personality Disorders (PD) lead to frequent Emergency Department (ED) use. Existing studies have evaluated high-risk ED populations in Western settings. PD screening tools like Standardized Assessment of Personality-Abbreviated Scale (SAPAS) have only been validated in Western populations. Aims: To establish prevalence of PD and evaluate the performance of the SAPAS as a screening tool within an Emergency Department setting in India. Settings and Design: Emergency Department of a private multi-speciality hospital in Kolkata, India. All attendees were approached on 2 days per week over 3 months, except those medically unfit. Statistical analysis: Regression analysis and Cronbach's alpha to identify association between Standardized Assessment of PersonalityAbbreviated Scale (SAPAS) and diagnosis of PD. Receiver operating characteristics analysis was used to identify optimal cut-off score for SAPAS. Methods and Material: Standardized Assessment of PersonalityAbbreviated Scale (SAPAS) and International Personality Disorder Examination (IPDE) were translated into Bengali and used as a screening tool for personality disorder and as reference standard for PD diagnosis. Results and Conclusions: 97 out of 120 ED attendees approached participated, 48 men and 49 women, of whom 24% met criteria for PD. A cut-off score of 4 on SAPAS provided best trade-off between sensitivity and specificity for detecting PD. Limitations included small sample, single-site private hospital, lack of information on presenting complaint, exclusion of patients with critical physical health conditions. The prevalence of PD was similar to Western samples and SAPAS showed promise for use in a non-Western setting.

Keywords: *Personality Disorder, Emergency Department, SAPAS, Asian, India*

Accepted version – Med Sci Law. 2021 May 21:258024211011387. doi: 10.1177/00258024211011387

Introduction

Personality Disorders (PDs) are persistent and pervasive disorders[1] with prevalence estimates ranging from 4-10% of the general population.[2, 3, 4] These are associated with reduced life expectancy[5, 6, 7] and detrimental physical health outcomes[8, 9] as well as psychiatric problems, such as rigid and maladaptive pattern of thinking, behaving and experiencing emotions.

PD has been linked to high Emergency Department (ED) usage, partly resulting from high rates of suicidal behaviour and drug use.[10, 11] In one study, it was found that 20.5% of ED attendees were individuals with PD.[12] In another study, a 12-month retrospective data analysis of all mental health related ED visits showed that 5.97% individuals presented with PD.[13] Various physical health conditions, such as ischaemic heart disease and stroke, are also linked to PD, which could potentially increase ED usage. [14, 15] Consequently, PD is an independent risk factor for frequent ED use. [16, 17, 18, 19] Amongst ED attendees, suicidal behaviour,[20, 21, 22] deliberate self-harm,[23, 24] specific physical health complaints[25, 26, 27] and psychiatric health complaints[28, 29, 30] are common, which are all difficulties associated with PD. This has meant that PD is associated with recurrent ED attendances, particularly with the repetition of deliberate self-harm and suicide attempts.[31, 32, 33, 34, 35, 36] Aggressiveness, impulsivity, intense anxiety, elevated levels of depression, deliberate self-harm and suicidal behaviour are common in this population, and all may lead to ED attendance.[37]

There are different types of PD with differing presentations, some of which are associated more with self-harm and suicide attempts than others, and they might not all have the same rate of ED presentation. Self-harm and suicide are highly prevalent in Borderline Personality Disorder (BPD) in particular, and there are frequent ED presentations as a result of psychiatric crises. [35, 33, 28] Other PD types that are associated with self-harm, suicide and ED presentation are Avoidant PD, Antisocial PD and Paranoid PD. [35, 28] However, in the 11th revision of the International Classification of Diseases (ICD-11), personality disorder has been reconceptualised under a single overarching definition, and classification by types is not mandatory. [38, 39] Therefore, it may make sense to approach screening for personality disorder in the ED by first of all using a screen for any personality disorder under its single overarching definition, followed by a more detailed assessment of positive screens to classify personality presentation by type.

Most studies in ED settings to date have assessed the prevalence of PD in selected groups, such as patients presenting with self-harm or traumatic head injury.[35] Thus, the overall prevalence of PD in an ED setting is unclear. Knowledge of the overall prevalence of PD in ED settings could provide a better understanding of the mental health needs of ED attendees. This, in turn, could lead to better planning of treatment pathways between ED and mental health services.

For non-Western countries such as India, PD research is scarce, particularly in settings like EDs. There is some research within outpatient clinical settings,[40, 41, 42] but there are outstanding questions regarding the validity of Western tools in assessing PD in an Indian population,[43] and the available prevalence estimates require replication.[44]

Previous PD research in India India has used the ICD-10 International Personality Disorder Examinations (IPDE) as a validated diagnostic tool.[45] This requires a trained clinician and is

Accepted version – Med Sci Law. 2021 May 21:258024211011387. doi: 10.1177/00258024211011387

time consuming.[46] By contrast, the Standardized Assessment of Personality-Abbreviated Scale (SAPAS) is a brief screening tool, which is shorter and easier to use.[47] The validity of this tool has not yet been widely researched in a non-Western country. One study using a psychiatric out-patient population in India found that the use of SAPAS was feasible;[48] but it recommended translation into the local language to improve the validity of the findings.

The primary aim of this study was therefore to establish the prevalence of PD within an ED setting in India. The secondary aim was to evaluate the feasibility of using SAPAS to screen for PD in an ED population, and to establish the optimal cut-off score for PD diagnosis in this population.

Methods

Study Design and settings

Participants were recruited from the Emergency Department (ED) of Peerless Hospital & B.K. Roy Research Centre, a private 400-bedded Multi-Specialty hospital in Kolkata, India. This Department treats approximately 15,000 - 20,000 patients annually. Besides Kolkata, the hospital is also regularly accessed by patients from neighbouring countries, such as Bangladesh and Nepal.

The planned study sample size was n = 100, based on the sample size required to detect possible prevalence rates between 5% and 33% with a reasonable degree of confidence. Specifically, our calculations were based on the formula recommended by the UK National Institute for Health Research Design Service,[49] where p is the expected prevalence, n is the intended sample size, and the 95% confidence interval around the prevalence estimate is $1.96 \times \sqrt{(p \times (1-p) / n)}$. This gives a confidence interval of +/- 4% around the minimum expected prevalence rate of 5%, and +/- 9% around the maximum expected prevalence rate of 33%. Examining this post-hoc, we achieved a sample of 97 and the prevalence rate was 24%, giving a confidence interval of +/- 8%. For our sensitivity and specificity analyses, an a priori sample size calculation was not possible as the required sample size varies widely depending on the prevalence,[50] which was not yet known during the study design phase. Examining this posthoc, the confidence interval widens as the sensitivity or specificity decreases, and our obtained prevalence rate of 24% and sample size of 97 enables us to detect a sensitivity or specificity of 0.95 with +/- 5% accuracy and a sensitivity or specificity of 0.75 with +/- 10% accuracy.[50]

Inclusion & exclusion criteria

The ED attendees were seen on 2 days of each week, over a 3-month period. The inclusion criteria were that they were over 18 years old, had the capacity to give written informed consent and all had a working knowledge of Bengali. All who attended ED within the specified study times were approached, except those deemed unfit by their ED physicians due to serious medical concerns.

Ethical approval

Ethics approval was obtained prior to the commencement of the study from the Peerless Hospital & B. K. Roy Research Centre Ethics Committee.

Procedure

Data collection was conducted on Wednesdays and Saturdays, across a 3-month period. It was collected by only one researcher, a licensed Clinical Psychologist with 7 years of working experience following the completion of training. The researcher is specifically trained in conducting various psychological assessments, including IPDE, as well as psychotherapy, under supervision. These days of the week were also chosen to encompass both weekdays and weekend days, to allow for any variation in the nature of the presenting population on weekends. Six hours of each day (i.e., 2pm to 8pm) was considered for conducting the study and only one person administered the instruments. On the days of the study, all attendees in the ED were approached for participation, except those considered to be medically unfit by the ED medical team. The participants were provided with information about the study using a participant information sheet, and full written informed consent was obtained. A background information sheet was filled in for all participants, collecting information on age, gender, educational level, marital status, and address. All presentations were included. All participants who consented to take part then completed both the SAPAS questionnaire, the IPDE screening questionnaire, and the semi-structured interview. There was gap of a day between the administration of two tests, because it was thought that administering both tests on a single day could be tiresome for participants. On the first day, written informed consent was obtained, and background information was collected. Patients then attended the hospital the next day for their treatment, and the IPDE screening questionnaire, and semi-structured interview, were administered, involving the participants and their caregivers.

Measures

Screening measure: The SAPAS includes eight questions that can measure aspects of emotion, behaviour and relationships associated with a diagnosis of personality disorder. The total possible score is 8, with each item scored either 0 or 1. In UK outpatient psychiatric samples, scores of 3 and above on the interview version of the SAPAS have been shown to correctly identify the presence of PD in 90% of patients, with a sensitivity and specificity of 0.94 and 0.85 respectively.[50] Further research in UK and Dutch community samples has suggested that a cut-off of 4 may be optimal for providing the best balance between sensitivity and specificity.[6, 51] The tool is freely available online and there are no copyright issues. Permission has been taken from the author who devised the scale (Prof. Paul Moran of the University of Bristol, United Kingdom) before using it for this study.

A Bengali version of the SAPAS was developed and used for the study, as this was the language most commonly understood by the study sample. The tool was translated and adapted in order to achieve a Bengali version of the English tool that is conceptually equivalent. For this process, the forward translation was done. A bilingual expert was approached to identify inadequate expressions of the concepts in the translated version, look for discrepancies and then the completed translated version of the scale was arrived at, which was followed by backward translation. This version was then sent to the originator of the questionnaire and no changes were recommended.

Preliminary evidence of concurrent validity of the SAPAS in this population has been established by demonstrating a positive association of SAPAS scores with another measure of PD psychopathology: the IPDE. It needs to be emphasized that several previous studies have demonstrated the reliability and validity of the SAPAS in different populations - e.g.

psychiatric outpatients,[47] patients with substance abuse,[52, 53, 54] patients with depression,[55, 56] probationers [57] and incarcerated adolescent boys.[58]

Reference standard: The ICD-10 IPDE was developed by Loranger and colleagues for World Health Organization[59] using field testing in 12 countries. It can be used to diagnose individuals with PD in the subcategories of Paranoid, Schizoid, Dissocial, Impulsive, Borderline, Histrionic, Anankastic, Anxious and Dependent PD. It starts with a 59-item questionnaire to screen individuals who can be identified as at risk of diagnosable PD. Those who screen positive proceed to the semi-structured interview with 67 questions. The individuals as well as their caregivers can be interviewed, focusing on the aspects of work, self, interpersonal relationships, affects and reality testing. There are specific scoring criteria with cut-off scores to formally diagnose each subcategory of PD. The ICD-10 classificatory system is used for the diagnosis. The tool has high inter-rater reliability (intra-class correlation coefficient range 0.84 to 0.92) and agrees with diagnoses made by SCID-II. In India, a study with the Hindi version of IPDE in the northern part of the country found that the ICD-10 IPDE has significant reliability and is an appropriate tool for diagnosing PD in an Indian population.[45] A Bengali version of IPDE was developed for the study as the study sample comprised of individuals who could speak Bengali adequately. The process of validation of the Bengali version was similar to that of the above tool. Permission was sought from the World Health Organization (WHO) for translation of the IPDE and it was granted. The translation (with permission) was done for both the screening questionnaire and the semi-structured interview of the IPDE.

Statistical Analysis

All analyses were conducted using STATA version 14.2 (StataCorp 2015). The association between participants' total SAPAS score and the odds of meeting criteria for personality disorder according to the IPDE was assessed using a logistic regression model. The internal consistency of the SAPAS was assessed by calculating Cronbach's alpha. A non-parametric receiver operating characteristics analysis was conducted to establish the extent to which the SAPAS was able to distinguish between participants meeting IPDE criteria for personality disorder and those who do not do so. To identify the optimal cut-off score providing the best balance between sensitivity and specificity, the positive predictive value, negative predictive value, sensitivity and specificity of the SAPAS for identifying IPDE personality disorder at cut-off scores ranging from 0 to 8 was calculated.

Results

Description of the sample

A total of 120 people were approached for participating in the study; among them, 3 were excluded due to lack of capacity and 20 individuals refused to consent for the study. 97 individuals consented to take part in the study (consent rate 80%). The sample consisted of 48 men and 49 women aged between 18 and 61 years (M 37.7 years, SD 12.0). The participant characteristics are given below.

Among the participants, in terms of dwelling area, 29% (N=28), 41% (N=40) and 30% (N=29) resided in rural, suburban and urban areas respectively; 66% (N=52) and 33% (N=45) studied upto a Bachelor degree or higher and below the former respectively; in terms of employment status, 51% (N=49) were employed, 24% (N=23) were housewives, 15% (N=15) were students,

9% (N=9) were unemployed and 1% (N=1) were retired. 71% (N=69) had Bengali as the first language and 29% (N=28) had Hindi. 74% (N=72) were staying in a nuclear family, i.e., a family that consists of two parents and their number of children only while 26% (N=25) were not living in a nuclear family. 70% (N=68) were married, 25% (N=24) were single and 5% (N=5) were divorced or separated. In terms of religion, 86% (N=83) were Hindus, 11% (N=11) were Muslims and 3% (N=3) were Christians.

SAPAS scores

SAPAS scores ranged from 0 to 8 with a mean score of 3.2 (s.d. 1.8). The internal consistency between responses to the 8 items was poor, with a Cronbach's Alpha of 0.48. A receiver operating characteristics plot of sensitivity versus specificity generated an area under the curve of 0.80, 95% CI [0.71, 0.88] (Figure I).

Insert Figure I. Receiver operating characteristics curve here

IPDE diagnosis of Personality Disorder

24 participants met criteria for a Personality Disorder, according to the IPDE, whereby the number of participants in respective categories of diagnoses were:

- Paranoid Personality Disorder - 1
- Paranoid Personality Disorder with Schizoid Personality Disorder - 1
- Schizoid Personality Disorder - 2
- Dissocial Personality Disorder - 1
- Emotionally Unstable Personality Disorder- Impulsive type- 4
- Emotionally Unstable Personality Disorder- Borderline type- 1
- Emotionally Unstable Personality Disorder- Impulsive type with Borderline type - 2
- Dependent Personality Disorder - 4
- Anxious (avoidant) Personality Disorder - 2
- Anankastic Personality Disorder - 4
- Anxious (avoidant) Personality Disorder with Anankastic Personality Disorder - 1
- Histrionic Personality Disorder - 1

A logistic regression showed that the odds of meeting IPDE criteria for personality disorder increased as the SAPAS score increased (OR = 2.37, 95% CI [1.50, 3.76], $p < 0.01$).

The prevalence of PD according to the SAPAS varies depending on the cut-off score used. As the aim was to determine the optimal cut-off score for use in this new population, a single SAPAS-determined prevalence has not been given, but instead, Table 1 (given below) shows the prevalence of PD according to the SAPAS at different possible cut-off scores.

SAPAS cut-off scores

Insert Figure II. Sensitivity versus specificity at SAPAS cut-off points 0 to 8 here

Table 1 shows the positive predictive value, negative predictive value, sensitivity and specificity of the SAPAS for identifying personality disorder as diagnosed by the IPDE, at cut-offs between 0 and 8. Figure II depicts specificity versus sensitivity at different SAPAS cut-off scores. This demonstrates that a cut-off score between 4 and 5 provides the best compromise

between sensitivity and specificity. To prioritise successful detection of patients with personality disorder, a cut-off score of 4 may be recommended as this yield a sensitivity of 0.91 and a specificity of 0.53, and sensitivity falls off rapidly at higher cut-off scores. Whilst the specificity of the measure at a cut-off of 4 is sub-optimal and using a cut-off score of 5 markedly improves specificity (0.87), the resulting drop in sensitivity to 0.56 at this cut-point may be considered unacceptable.

Insert Table 1 here

The original SAPAS study[47] was conducted in a UK psychiatric outpatient population. In contrast, this study was conducted in a population of ED attendees and is more readily comparable to those of Fok and colleagues,[6] who evaluated the SAPAS in a UK general community population with very similar findings to the present study. For instance, at a cut-off point of 4, Fok and colleagues found a specificity of 0.53 – identical to this study's finding – and a sensitivity of 0.69. Thus, at a cut-off point of 4, the SAPAS demonstrates identical performance in the present study to that of Fok and colleagues in terms of specificity, and demonstrates superior performance relative to their study in terms of sensitivity.

*Correctly classified against International Personality Disorder Examination (IPDE) diagnosis, which was treated as the gold standard.

Discussion

A previous study using the SAPAS in an out-patient psychiatric setting in India had found that the SAPAS tended to over-diagnose PD with a cut-off score of 4, and had recommended translation of the SAPAS into Bengali, the local language, with evaluation of the sensitivity and specificity at different cut-off points to optimize its use.[48] This study does that, and translation of the SAPAS into Bengali undoubtedly leads to an improvement in its ability to accurately diagnose PD, as demonstrated by the improved positive predictive value compared to the previous study. It also concludes that a cut-off score of 4 does provide the best balance between sensitivity and specificity when used in an ED population. Our findings are comparable with an evaluation of the SAPAS in a UK general community population, which also recommended 4 as the optimal cut-off point, identifying a specificity of 0.53 – identical to our finding – and a sensitivity of 0.69 using this score.[6] In both ours and Fok's study, the specificity at a cut-off of 4 was lower than the value of 0.89 found in the original SAPAS validation study conducted in a psychiatric population.[47] We concur with the explanation offered by Fok and colleagues: that screening measures developed in psychiatric samples are often found to be more effective in psychiatric samples than non-psychiatric samples,[60] and that this may stem from the lower prevalence of illness in the general population compared with clinical settings, differences between illness-positive individuals in the general community setting and those in a clinical setting, and/or the differences between illness-negative individuals in the general community setting and those in a clinical setting.[61] The relatively poor internal consistency between the items in the SAPAS is again consistent with Fok and colleagues' general population study[6] and also with an evaluation in psychiatric outpatients[52] and may be expected given the heterogeneous and multidimensional construct of personality disorder being measured,[58, 53, 6] with each SAPAS item measuring a different facet of personality dysfunction using a binary "yes" or "no" response. There was a positive association between SAPAS scores and IPDE diagnostic status, thus demonstrating validity of

SAPAS as a tool to screen for PD in an Indian population. The prevalence is also much higher than the previous study in an Indian psychiatric out-patient sample, which only found a prevalence of 11.1%, likely to be an under-estimate, as it did not use a translated version of the SAPAS and IPDE.

The finding of a positive diagnosis of PD in almost 1 in 4 (24%) of the ED attendees, suggests that it is an important disorder to screen for in this population, given our knowledge from studies in Western populations that a diagnosis of PD is an independent risk factor for ED attendance and for poorer ED treatment outcomes.[35] This prevalence rate is very similar to that found in a United States study of individuals attending the ED for any reason, which identified a PD prevalence rate of 23%.[62, 25] Thus, in both Western and non-Western samples, PD may be an important risk factor for ED attendance, both for physical health and psychiatric emergencies. Research to date on the link between PD and physical health problems has been restricted to Western samples; the findings of the present study suggests that it will be important to understand the size and nature of this relationship in non-Western samples as well. Furthermore, the mechanisms by which PD may increase risk for physical illness are poorly understood, with initial findings suggesting a potential role for underlying stress-linked biological vulnerability factors such as elevated inflammatory markers and exaggerated immune reactivity – which may interact with other behavioural risk factors linked to the condition such as smoking, excessive alcohol and drug use, overuse of medication, poor eating habits and lack of exercise.[15] Again, such research has been entirely limited to Western samples, and it is not known whether other factors, such as socioeconomic disadvantage or experiences of interpersonal victimisation and violence, may be more important.

Limitations of our study include a relatively small sample size, data collected by a sole researcher from only one site, lack of information on presenting complaint, exclusion of patients with critical physical health conditions, and the nature of the hospital, which was a private hospital in Kolkata. These factors may limit the generalizability of the findings and further work is required to understand the balance between physical and mental health problems in causing the observed high PD prevalence rate amongst ED attendees. Further, the educational level of the current sample are not representative of the local population. This might be because 71% of the sample belonged to urban and suburban areas, hence educational levels might be higher compared to rural populations. This is a limitation in the context of the generalizability of the population of this private hospital to the region in general. Although the researcher is a licensed Clinical Psychologist trained in IPDE, there is the risk of assessor bias since one assessor conducted the assessments with no blinding. Sampling bias might be present owing to the gap of a day in conducting the tests and the 6 hours slot of data collection on each day. Although we found a positive association between the SAPAS and IPDE measures of personality dysfunction, providing preliminary evidence of convergent validity – and previous research has established the test-retest reliability and convergent validity in a variety of psychiatric and offender populations[55, 53, 54, 58, 47, 57] – nonetheless, further reliability testing and validation of the measure in this new population is required.

Despite the limitations, our study is the first of its kind in an Asian population and demonstrates that PD is a significant issue in Asian ED attendees, and that the SAPAS, when translated into the local language, shows promise as a screening tool for PD in such a setting. This tool could be used by ED physicians in situations where a psychiatric aetiology for the presenting

complaints is suspected. The next stage would be to try and replicate the study in an Asian public hospital ED department and to gather further data on reasons for ED attendance in this population. The replication needs to include blind assessments and more than one researcher.

References

[1] Tyrer P, Reed GM and Crawford MJ. Classification, assessment, prevalence and the effect of personality disorder. Lancet 2015; 385: 717-26.

[2] Lenzenweger MF. Epidemiology of personality disorders. Psychiatry Clin North Am 2008; 32: 395-403.

[3] Coid J, Yang M, Tyrer P, et al. Prevalence and correlates of personality disorder in Great Britain. Br J Psychiatry 2006; 188: 423-31.

[4] Torgerson S, Kringlen E and Cramer V. The prevalence of personality disorders in a community sample. Arch Gen Psychiatry 2001; 58: 590-6.

[5] Keuroghlian AS, Frankenburg FR and Zanarini MC. The relationship of chronic medical ilnesses poor health-related lifestyle choices and health care utilization to recovery status in borderline patients over a decade of prospective follow-up. J Psychiatry Res 2013; 47: 1499-506.

[6] Fok ML, Seegobin S, Frissa S, et al. Validation of the standardised assessment of personality-abbreviated scale in a general population sample. Personal Ment Health 2015; 9: 250-7.

[7] Fok ML, Hayes RD, Chang CK, et al. Life expectancy at birth and all-cause mortality among people with personality disorder. J Psychosom Res 2012; 73: 104-7.

[8] Skoodol AE, Gunderson JG, Shea MT, et al. The collaborative longitudinal personality disorders study (CLPS): Overview and implications. J Pers Disord 2005; 19: 487-504.

[9] Zanarini MC, Frankenburg FR, Hennen J, et al. The McLean Study of Adult Development (MSAD): Overview and implications of the first six years of prospective follow-up. J Pers Disord 2005; 19: 505-23.

[10] Ansell EB, Sanislow CA, McGlashan TH, et al. Psychosocial impairment and treatment utilization by patients with borderline personality disorder, other personality disorders, mood and anxiety disorders, and a healthy comparison group. Compr Psychiatry 2007; 48: 329-36.

[11] Black DW, Blum N, Pfohl B, et al. Suicidal behavior in borderline personality disorder: prevalence, risk factors, prediction, and prevention. J Pers Disord 2004; 18: 226-39.

[12] Lewis KL, Fanaian M, Kotze B, et al. Mental Health presentations to acute psychiatric services: 3-year study of prevalence and readmission risk for personality disorders compared with psychotic, affective, substance or other disorders. BJPsych Open 2019; 5: e1.

[13] Penfold S, Groll D, Mauer-Vakil D, et al. A retrospective analysis of personality disorder presentations in a Canadian University-affiliated hospital's emergency department. BJPsych Open 2018; 2: 394-9.

Accepted version – Med Sci Law. 2021 May 21:258024211011387. doi: 10.1177/00258024211011387

[14] Moran P, Stewart R, Brugha T, et al. Personality disorder and cardiovascular disease: results from a national household survey (CME). J Clin Psychiatry 2007; 68: 69-74.

[15] Dixon-Gordonn KL, Whalen DJ, Layden BK, et al. A systematic review of personality disorders and health outcomes. Can Psychol 2015; 56: 168-90.

[16] Twomey CD, Baldwin DS, Hopfe M, et al. A systematic review of the predictors of health service utilisation by adults with mental disorders in the UK. BMJ Open 2015; 5: e007575.

[17] Chang G, Weiss AP, Orav EJ, et al. Predictors of frequent emergency department use among patients with psychiatric illness. Gen Hosp Psychiatry 2014; 36: 716-20.

[18] Byrne M, Murphy AW, Plunkett PK, et al. Frequent attenders to an emergency department: a study of primary health care use, medical profile, and psychosocial characteristics. Ann Emerg Med 2003; 41: 309-18.

[19] Lucas RH and Sanford SM. An analysis of frequent users of emergency care at an urban university hospital. Ann Emerg Med 1998; 32: 563-8.

[20] Ando ST, Matsumoto S, Kanata A, et al. One-year follow up after admission to an emergency department for drug overdose in Japan. Psychiatry Clin Neurosci 2013; 67: 441-50.

[21] Blasco-Fontecilla H, Baca-Garcia E, Dervic K, et al. Specific features of suicidal behavior in patients with narcissistic personality disorder. J Clin Psychiatry 2009; 70: 1583-7.

[22] Yamada T, Kawanishi C, Hasegawa H, et al. Psychiatric assessment of suicide attempters in Japan: A pilot study at a critical emergency unit in an urban area. BMC Psychiatry 2007; 7: 64.

[23] Bilen K, Ottosson C, Castren M, et al. Deliberate self-harm patients in the emergency department: Factors associated with repeated self-harm among 1524 patients. J Emerg Med 2011; 28: 1019-25.

[24] Olfson M, Marcus SC and Bridge JA. Emergency department recognition of mental disorders and short-term outcome of deliberate self-harm. Am J Psychiatry 2013; 170: 1442-50.

[25] Wagner JA, Pietrzak RH and Petry NM. Psychiatric disorders are associated with hospital care utilization in persons with hypertension: Results from the National Epidemiologic Survey on alcohol and related conditions. Soc Psychiatry Psychiatr Epidemiol 2008; 43: 878-88.

[26] Richmond TS, Hollander JE, Ackerson TH, et al. Psychiatric disorders in patients presenting to the emergency department for minor injury. Nurs Res 2007; 56: 275.

[27] Koponen S, Taiminen T, Hiekkanen H, et al. Axis I and II psychiatric disorders in patients with traumatic brain injury: A 12-month follow-up study. Brain Int 2011; 25: 1029-34.

[28] Penfold S, Groll D, Mauer-Vakil D, et al. A retrospective analysis of personality disorder presentations in a Canadian university-affiliated hospital's emergency department. Br J Psychiatry Open 2016; 2: 394-9.

[29] Ando S, Matsumoto T, Kanata S, et al. One-year follow up after admission to an emergency department for drug overdose in Japan. Psychiatry Clin Neurosci 2013; 67: 441-50.

[30] Berrino A, Ohlendorf P, Duriaux S, et al. Crisis intervention at the general hospital: An appropriate treatment choice for acutely suicidal borderline patients. Psychiatry Res 2011; 186: 287-92.

[31] Hu N, Glauert RA, Li J, et al. Risk factors for repetition of a deliberate self-harm episode within seven days in adolescents and young adults: A population-level record linkage study in Western Australia. Aust N Z J Psychiatry 2016; 50: 154-66.

[32] McCullum-Smith C, Clark B, Blair C, et al. Rapid follow-up for patients after psychiatric crisis. Community Ment Health J 2015; 51: 139-44.

[33] Olfson M, Marcus SC and Bridge JA. Emergency department recognition of mental disorders and short-term outcome of deliberate self-harm. Am J Psychiatry 2013; 170: 1442-50.

[34] Smith MW, Stocks C and Santora PB. Hospital readmission rates and emergency department visits for mental health and substance abuse conditions. Community Ment Health J 2015; 51: 190-7.

[35] Collins A, Barnicot K and Sen P. A systematic review and meta-analysis of personality disorder prevalence and patient outcomes in Emergency departments. J Pers Disord 2020; 1: 1-24.

[36] Hamilton JE, Desai PV, Hoot NR, et al. Factors Associated with the Likelihood of Hospitalization Following Emergency Department Visits for Behavioral Health Conditions. Acad Emerg Med 2016; 23: 1257-66.

[37] Shaikh U, Qamar I, Jafry F, et al. Patients with Borderline Personality Disorder in Emergency Departments. Front Psychiatry 2017; 8: 136.

[38] Tyrer P, Crawford M, Mulder R, et al. The rationale for the reclassification of personality disorder in the 11th revision of the international classification of diseases (ICD-11). Pers Ment Health 2011; 5: 246–259.

[39] Tyrer P, Mulder R, Kim YR, et al. The Development of the ICD-11 Classification of Personality Disorders: An Amalgam of Science, Pragmatism, and Politics. Annu Rev Clin Psychol 2019; 15: 481-502.

[40] Nath S, Patra DK, Biswas S, et al. Comparative study of personality disorder associated with deliberate self harm in two different age groups (15-24 years and 45-74 years). Indian J Psychiatry 2008; 50: 177.

[41] Menon P, Chaudhari B, Saldanha D, et al. Childhood sexual abuse in adult patients with borderline personality disorder. Indian J Psychiatry 2016; 25: 101-6.

[42] Sarkar S, Patra P, Mridha K, et al. Personality disorders and its association with anxiety and depression among patients of severe acne: a cross-sectional study from Eastern India. Indian J Psychiatry 2016; 58: 378-82.

[43] Sharan P. An overview of Indian research in personality disorders. Indian J Psychiatry 2010; 52: S250.

[44] Gupta S and Mattoo SK. Personality disorders: prevalence and demography at a psychiatric outpatient in North India. Int J Soc Psychiatry 2010; 58: 146-52.

[45] Sharan P, Kulhara P, Verma SK, et al. Reliability of the ICD-10 International Personality Disorder Examination (IPDE) (Hindi version); a preliminary study. Indian J Psychiatry 2002; 44: 362.

[46] Dahl AA and Andreoli A. Problems in the field of personality disorders. In: Loranger AM, Janca A and Sartorius N (eds) Assessment and diagnosis of personality disorders. The ICD-10 International Personality Disorder Examination (IPDE). Cambridge, UK: Cambridge University Press, 1997, pp.3-9.

[47] Moran P, Lese M, Lee T, et al. Standardised Assessment of Personaility-Abbreviated Scale (SAPAS): preliminary validation of a brief screen for personality disorder. Br J Psychiatry 2003; 183: 228-32.

[48] Innocent S, Podder P, Ram JR, et al. Using the SAPAS to identify risk for personality disorders among psychiatric outpatients in India: a feasibility study. Pers Ment Health 2018; 12: 15-24.

[49] Hooper R. Justifying sample size for a feasibility study. National Institute for Health Research Research Design Service, https://www.rds-london.nihr.ac.uk/wpcms/wpcontent/uploads/2019/02/Justifying-sample-size-for-feasibility-study-updated-22-Feb2019.pdf (2019, accessed August 2019).

[50] Hajian-Tilaki K. Sample size estimation in diagnostic test studies of biomedical informatics. J Biomed Inform 2014; 48: 193–204.

[51] Germans S, Heck GLV and Moran P, Hodiamont PPG. The Standard Assessment of Personality-Abbreviated Scales (SAPAS): Preliminary validation of a brief screening test for personality disorder in a Dutch population. Pers Ment Health 2008; 2: 70–6.

[52] Gonzalez C. Screening for personality disorder in drug and alcohol dependence. Psychiatry Res 2014; 217: 121-3.

[53] Hesse M and Moran P. Screening for personality disorder with the Standardised Assessment of Personality: Abbreviated Scale (SAPAS): further evidence of concurrent validity. BMC Psychiatry 2010; 10: 10.

[54] Hesse M, Rasmussen J and Pedersen MK. Standardised assessment of personality – a study of validity and reliability in substance abusers. BMC Psychiatry 2008; 8: 7.

[55] Bukh JD, Bock C, Vinberg M, et al. Clinical utility of Standardised Assessment of Personality — Abbreviated Scale (SAPAS) among patients with first episode depression. J Affect Dis 2010; 127: 199–202.

[56] Gorwood P, Rouillon F, Even C, et al. Treatment response in major depression: effects of personality dysfunction and prior depression. Br J Psychiatry 2010; 196: 139-42.

[57] Pluck G, Sirdifield C, Brooker C, et al. Screening for personality disorder in probationers: validation of the Standardised Assessment of Personality—Abbreviated Scale (SAPAS). Pers Ment Health 2012; 6: 61–8.

[58] Kongerslev M, Moran P, Bo S, et al. Screening for personality disorder in incarcerated adolescent boys: preliminary validation of an adolescent version of the Standardised Assessment of Personality – Abbreviated Scale (SAPAS-AV). BMC Psychiatry 2012; 12: 94.

[59] Loranger AM. International Personality Disorder Examination (IPDE). In: Loranger AM, Janca A and Sartorius N (eds) Assessment and diagnosis of personality disorders. The ICD-10 International Personality Disorder Examination (IPDE). Cambridge, UK: Cambridge University Press, 1997, pp.43-51.

[60] Morse JQ and Pilkonis PA. Screening for personality disorders. [Comparative Study Research Support, N.I.H., Extramural]. J Pers Disord 2007; 21: 179–98.

[61] Ransohoff DF and Feinstein AR. Problems of spectrum and bias in evaluating the efficacy of diagnostic tests. N Engl J Med 1978; 299: 926–30.

[62] Stewart, SH. Alcoholics in acute medical settings have increased risk for other drug, mood, and personality disorders. Int J Psychiatry Med 2007; 37: 59-67.