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Mental health and imprisonment: Measuring cross-cutting symptoms among convicts in Punjab, Pakistan

Nimrah Ishfaq*, Anila Kamal

National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan

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ABSTRACT

Background: DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure—Adult (APA, 2013) is a self-reported instrument to measure comorbidity of psychiatric symptomology. Translation and validation of this instrument contribute to the literature, both in terms of its availability in native language Urdu and its usefulness in the prison settings of Pakistan.

Aim: The purpose of the present study is to translate DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure—Adult (APA, 2013) and to measure comorbid psychiatric symptomology among convicted criminals of Central Jail Bahawalpur (CJB) and Central Jail Sahiwal (CJS).

Materials and Method: Cross-sectional design was used and guideline proposed by Mapi Institute (Acquadro et al., 2012) was used for the translation and adaptation process. Data were collected from 362 imprisoned convicts.

Statistical analysis: For construct validity, Confirmatory Factor Analysis (CFA) was done by taking domains as continuous variables. The analysis was conducted using AMOS. Cross-tabulation analysis was conducted to see the association of comorbid psychiatric symptomology with respect to crime-related variables by using SPSS.

Results and Conclusion: Goodness of fit showed that the translated version of the instrument has a satisfactory to good construct validity. For domains with more than one items, Guttmann and Alpha reliability analysis showed satisfactory reliability of domains (.52–.71) and Alpha reliability of .89 for the overall instrument. Sleep disturbance and anger related symptoms showed a high prevalence in the current sample. Current and previous crime-related variables do associate significantly with comorbid psychiatric symptomology.

1. Introduction

Violence and instability, either structural or political, have been linked to an increased prevalence of psychiatric disorders in many countries (WHO, 2005). Pakistan is also among those countries, who have challenges in measuring, handling, and controlling mental health problems (Gadit, 2005, 2007; Khalily, 2010). Intense, multiple, and continuous exposure to violence, instability, and threat to life elevate the levels of psychopathology in society (Khalily et al., 2011). Different forms of stress are related to criminal activities, in either linear or reciprocal manner. Strain theories highlighted the causal relationship between stress and crime (Agnew, 1992) Experience of stress due to criminal activity is being reported in form of psychological conditions (Artello and Williams, 2014). Non-responsiveness and out dated health care system with the exacerbated mental health issues, highlights that prevailing health care system is insufficient and not appropriately trained with respect to current mental health issues prevailing in Pakistan (Afridi, 2008; Khalily, 2011).

Assessment of convicts with mental health issues or disorders is a sensitive and detailed procedure which requires an in-depth understanding of the psychopathology and comprehension of the laws with respect to medical diagnoses (Qadir et al., 2017). A study (Dawood et al., 2017) highlights the possibility for the presence of mental illness even before the conviction and intensity of these disorders might get elevated during imprisonment. During imprisonment factors like overcrowding or lack of privacy, imposed loneliness or meaningless activities, inadequate facilities, behavioral issues of employees and fellow prisons, or insecurity about future can lead to the development of severe psychological disorders (Durcan and Zwemstra, 2014). In Pakistan, mental health care for prisoners is much complicated and problematic than the general population in terms of facilities, rehabilitation, and follow up (Husain, 2014; Karim et al., 2004; Rahman et al., 2015; Tareen and Tareen, 2016). Lack of official statistics available for the prisoners with mental illness is being reported, though professionals

* Corresponding author.
E-mail addresses: nimrah_ishfaq@hotmail.com (N. Ishfaq), dranilakamal@gmail.com (A. Kamal).

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suggested that there is increasing psychiatric morbidity among prisoners (Abbasi and Khan, 2009; Ceylan, 2019; Hassan et al., 2017). Dawood, Khan, and Rashid (2017) reported that 39.58% of the prisoners in their sample suffered from psychological disorders, where 29.17% suffered from anxiety and depression. Anxiety and depression are leading psychological disorders not only in prison (Bilal and Saeed, 2011) but also in general population of Pakistan (Gadit, 2007; Husain et al., 2007) and other countries of Asia (Shirzadi et al., 2019). In Asia, psychiatric illness can be considered as root cause of adverse self-harming behaviors like suicide (Suryadevara and Tandon, 2018) and is linked to stigmatization in legal settings (Majeed et al., 2018). So, there is a high need that psychologists play their role in the assessment of mental health issues in the prison setting. Instruments that could be used at the initial level (to develop baselines or screening for further inquiry) or to monitor progress over a certain time period. This could be done by either developing or translating and adapting standardize instruments which are easy to administer, cost and time effective into native Urdu language due to literacy rate among prisoners in Pakistan (Mufti, 2010).

Cross-cutting assessments in DSM 5 (APA, 2013) were proposed to measure important symptoms which could be present or common in all individuals present in any settings irrespective of any diagnosis for mental illness (LeBeau et al., 2015). Cross-cutting assessments are not related to any specific disorder rather they cut across the boundaries of any single disorder (Jones, 2012). It was emphasized that cross-cutting symptoms could be in any number of disorders. (Clarke and Kuhl, 2014). Cross-Cutting Symptom Measure (APA, 2013) was developed in an effort to facilitate additional empirical investigation of the dimensional nature of mental health issues. Cross-Cutting Symptoms Measure (CCSM) assesses 13 mental health domains including depression, anger, mania, anxiety, somatic symptoms, suicidal ideation, psychosis, sleep problems, memory, repetitive thoughts and behaviors, dissociation, personality functioning, and substance use (APA, 2013). These domains are important to facilitate the management of the mental health profile of an individual. It provides a standardized way to quantify and maintain the symptom-based profile of an individual. CCSM can be used in establishing baselines in initial interviews and monitor changes and progress over a certain period of time (Meaklim et al., 2018). CCSM is recommended to be used as a self-report which is administered before a professional diagnosis. The use of the CCSM only as a diagnostic screener is not encouraged or recommended (Bastiaens and Galus, 2018) rather it directs attention to common potential areas for further exploration and to see their interaction to facilitate psychopathology or to hinder improvement in the mental health of a client. The present study is an initial attempt to translate, adapt and validate Self-Rated Level 1 CCSM – Adult version taken from DSM 5 (APA, 2013) into native Urdu language and to explore the prevalence of coexisting psychiatric symptomatology among imprisoned convicts in Punjab, Pakistan and to highlight the usefulness of CCSM in the prison setting.

2. Method and materials

The cross-sectional research design was used. The data were collected through standardized measures that were filled either by the convict himself or by his fellow prisoner who worked as a literacy teacher in the jail. Data were collected from 362 respondents including 349 male (96.40%) and 13 female (3.60%) convicts with age range 19 years to 70 years (M = 34.90, SD = 10.11) belonging to low socio-economic status (monthly income ≥ 600 PKRs) to upper middle class (monthly income ≤ 300000PKRs) (M = 28,2800.89, SD = 30,475.43). The data were collected from the convicts imprisoned at CJB (n = 182) and CJS (n = 180) of Punjab.

2.1. Instrument

2.1.1. DSM-5 self-rated level 1 cross-cutting symptom measure—adult (CCSM)

Specifically, the DSM-5 level 1 measure comprises 23 self-rated symptoms that capture 13 mental health domains. Respondents indicate how much (or how often) they have been bothered by each symptom in the prior two weeks using a five-point response scale (none, not at all to severe, nearly every day). A score of 2 or higher in most domains, except substance use (score of 1 or higher) is suggestive of clinically-relevant mental health problems (Narrow et al., 2013).

2.1.2. Translation and adaptation of CCSM – LEVEL 1 (adult version)

Translation and adaptation of CCSM were started with the formal, one-time, and nonexclusive permission by APA for the present study. English version of CCSM was given to 5 bilinguals for the translation into Urdu. Instructions for translation were provided to them which include sentence structure should be simple, easy to comprehend and should conserve the original expression of the statement. They were also asked to identify any word or item which they think is not related to Pakistani Culture. Committee approach was held to finalize the most suitable translation from five forwarded translations. The main objective was to enhance the understanding of the concept, appropriateness of the statement, choice of expression and words with reference to the construct measured, educational level of the sample and cultural relevancy. This initial Urdu version was sent for back translation to 5 independent bilinguals. Both original and translated versions of CCSM were then compared in the second expert committee approach and CCSM was finalized after the polishing, rephrasing and revisions of problematic translated statements.

Being a symptom-based questionnaire, one of the major challenges was to translate almost identical words like in item 2 use of the word ‘down and depressed” together made a literal translation of every word difficult so, after a few revisions retained back translation was gloomy, sad and hopeless. Similarly, in item 3 word ‘grouchy’ and irritated both were used in the same sentence so, grouchy was retained as grumpy in back translation. Item 12, 13, and 15 were comprised of statements in two parts so here sentence structure was tricky to maintain. The back translation which facilitates the comprehension of concept to a layman was retained. Item 23 was comprised of typical and generic names of different drugs so, that item was adapted in order to facilitate its comprehension. Generic names were either eliminated (e.g. Vicodin, Ritalin, and Methamphetamine, etc.) or replaced with native terms used for those drugs in Pakistan. The finalized version was then administered on 10 convicts who were teaching as literacy teachers in the prison as a tryout. Literacy teachers filled their forms and provided detailed feedback on the CCSM with respect to the sentence structure and comprehension of the statements.

2.1.3. Data collection

The permission for data collection process was taken from Inspector General (I.G) Prisons Punjab. Prisons were approached as per the protocols of the permission letter issued and data were collected with the help of literacy teachers who themselves were convicts but were educated (minimum qualification matric) and were paid by the Literacy Department working under the Government of Pakistan. Informed consent was the first and mandatory component of data collection. It was assured that the research process would in no way harm those who participated in the study and the results would be kept confidential. The activity was carried out in the courtroom of the CJB in the presence of jail officials. The researcher briefed 10 volunteer teachers about the purpose of research, and gave instructions about how to fill their own questionnaire and how to collect data from other convicts. It was strictly instructed to mark the answer of the respondent as objectively as possible. Each teacher was given numbered forms (as per his consent and convenience) for further data collection. In CJS, the number of

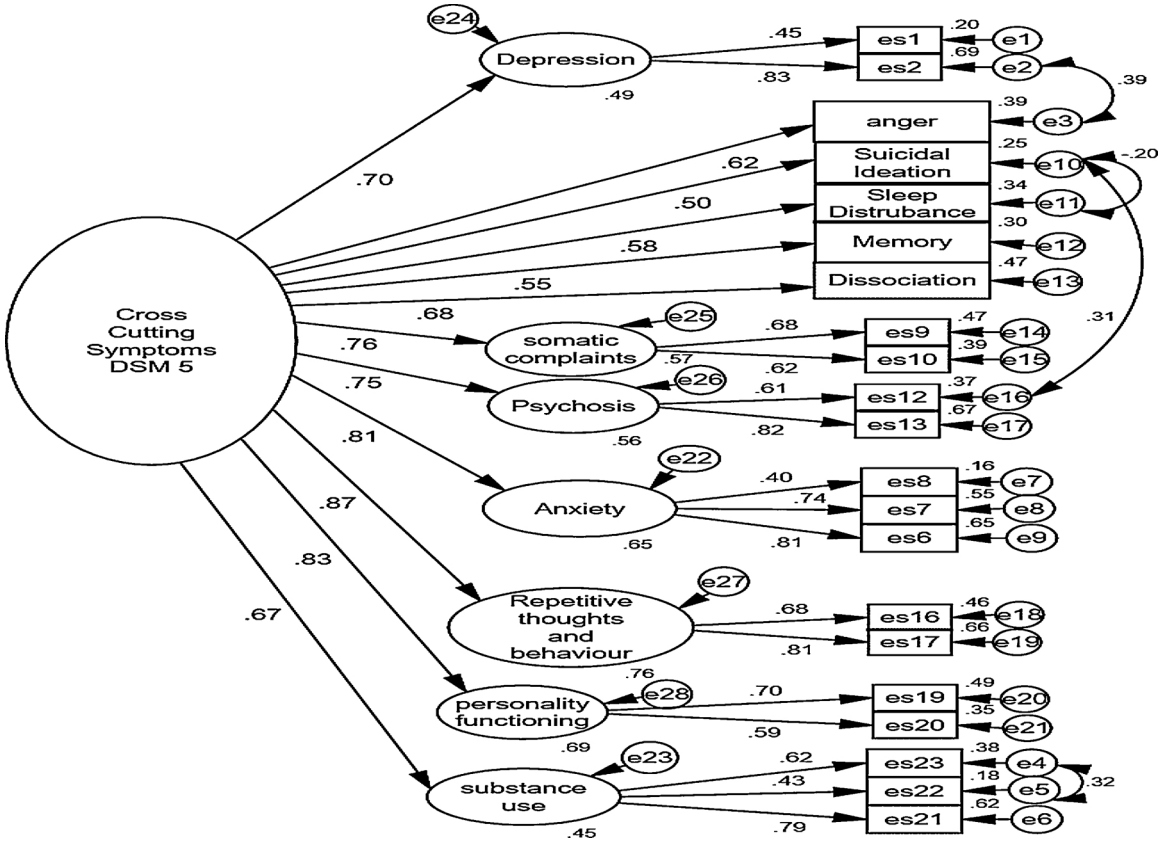

Fig. 1. Structural Validation (Construct Validity) of Cross Cutting Symptoms-Level 1 (Adult Version).

literacy teachers was twice than the CJB. Data were then analyzed by using SPSS and AMOS (Fig. 1).

3. Results and discussion

3.1. Construct validity of cross-cutting symptoms (CCS-SR) - level 1 (adult version)

Construct validity of the instrument was established by using structural validation carried out through Confirmatory Factor Analysis (CFA) in AMOS.

CFA shows that the model fit indices for CCSM are χ^2 (df) = 377.124(178), p = .000, χ^2 ratio = 2.12, CFI = .92, IFI = .92, RMSEA = .05, SRMR = .05, PCLOSE = .111. Based on the factor structure, CCSM shows good construct validity with factor loading ≥ 0.40 and satisfactory model fit indices (Hooper et al., 2008; Hu and Bentler, 1999).

3.2. Reliability analysis

Table 1 shows the psychometric properties of CCSM. Internal consistency of the scale is measured through Alpha and Guttmann reliabilities depending upon their number of items. The finding shows that CCSM and its domains are reliable at a satisfactory level (Goel and Kataria, 2018; Narrow et al., 2013).

3.3. Prevalence of cross-cutting symptoms in convicts

Findings in Fig. 2 show the prevalence of cross-cutting symptoms as per the cutoff criteria recommended by DSM 5 (APA, 2013). Findings show that 42.8% reported sleep problems, 34.3% reported anger issues, and 33.4% reported mania symptoms. According to Zadeh and Ahmad (2012) insomnia and aggression are mostly reported symptoms of

Table 1
Psychometric Properties of the Cross-Cutting Symptoms Instrument (n = 362).

Variables	Items	α / Guttman reliability	*M*	*SD*	Skewness	Kurtosis
Cross Cutting Symptoms	23	.89	1.02	.73	.88	.36
Depression	2	.54	1.14	1.09	.78	−.27
Anger	1	–	1.23	1.31	.83	−.53
Mania	2	.52	1.23	1.21	.75	−.47
Anxiety	3	.64	1.25	1.07	.71	−.12
Somatic distress	2	.59	1.25	1.17	.87	−.13
Suicidal ideation	1	–	.48	1.03	2.14	3.48
Psychosis	2	.68	.62	.99	1.59	1.69
Sleep disturbance	1	–	1.50	1.51	.52	−1.21
Memory	1	–	.91	1.34	1.24	.15
Repetitive thoughts and behaviors	2	.71	1.20	1.24	.79	−.54
Dissociation	1	–	1.09	1.41	.89	−.73
Personality functioning	2	.58	.80	1.05	1.22	.45
Substance use	3	.69	.67	.96	1.53	1.74

mental health issues among female prisoners. Results further highlight the need of sufficient and continuous mental health services in prisons (Hassan et al., 2015). Symptoms like suicidal ideation are reported by 22.1% of the sample which identify a certain number of individuals that can be examined further in detail to avoid accidents, extreme worst-case scenarios like suicide and self-harm in prisons. Not only the instrument assesses 13 domains at initial level but can also be useful in monitoring the symptoms over time making treatment process more effective and efficient.

Fig. 3 shows that at the extreme or severe value of 4, which means an experience of symptoms on daily basis, sleep problem is the most

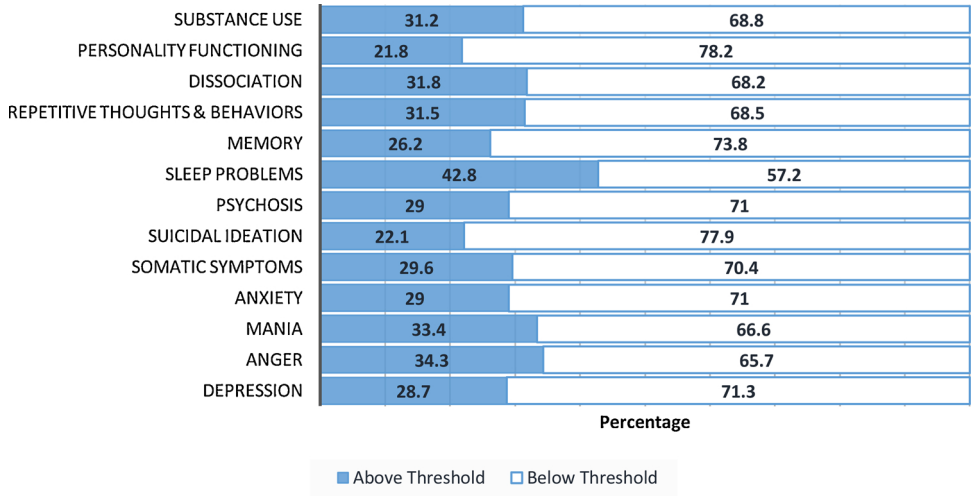

Fig. 2. Prevalence of Cross-Cutting Symptoms reported by Convicts by Using Recommended Thresholds.

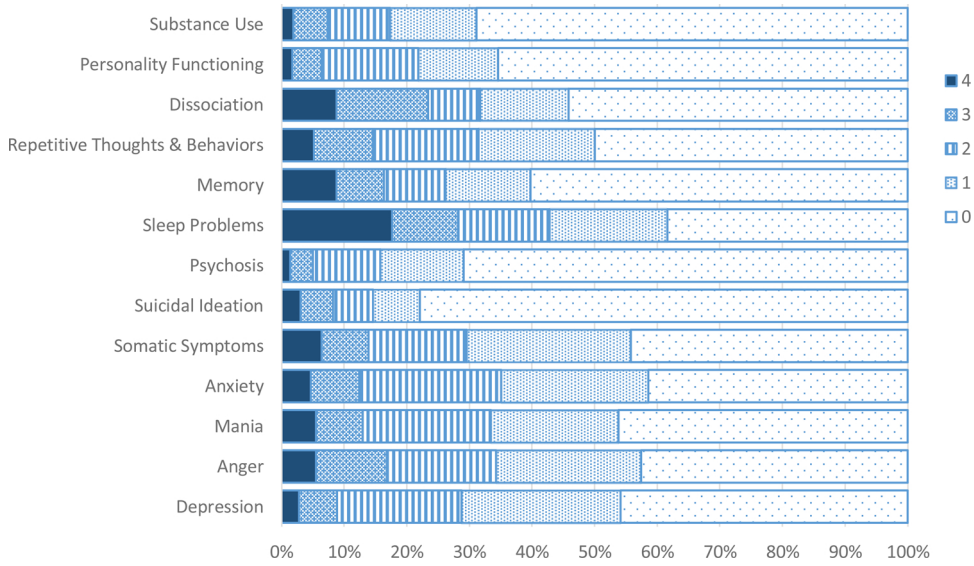

Fig. 3. Prevalence of Cross-Cutting Symptoms reported by Convicts.

Table 2
Cross Tabulation of Anger on Current Crime Intensity.

Cross-Cutting Symptom	Threshold	*f (%)*	Current Crime Intensity *f (%)*		λ^2 (*df*)
			One Case (n = 256)	≥ 2 Cases (n = 104)	
Anger	≤ 1	238(66.11)	183 (71.5)	55(52.9)	11.42(1)***
	≥ 2	122(33.89)	73(28.5)	49(47.1)	

Note. ***p ≤ .001.

reported symptom followed by dissociation and memory issues. CCSM may help in setting priority, in terms of individual cases for example, which prisoners need to inquire and provide assistance on immediate basis. In this case, the availability of short, self-report measure in native (Urdu) language can be a useful initial step towards measure psychiatric symptoms and to design or monitor treatment plans for specific individuals on a priority basis in overcrowded prisons.

3.4. Usefulness of cross-cutting symptoms measure in prison setting

Findings of the current study reported in Tables 2–4, show that symptomology does differ among convicts on the basis of crime-related factors like the number of cases filed, previously crime committed either by convict himself or any of his family member. Findings in Table 2 showed that the presence of intense and significant anger related symptoms is associated with the number of cases filed against the convicted prisoner. Sadiq et al. (2013) reported that many criminal behaviors coexist, like drug or alcohol abuse and murder or fighting and are facilitative to one another. Swogger et al. (2015)highlighted that anger can be a strong potential predictor of aggressive behavior and violent criminal recidivism in future which supports partial findings in Table 3. According to the findings of Table 3, presence of anger, sleep

Table 3
Cross Tabulation of Anger, Sleep Problems and Substance Use on Previous Personal Criminal Record.

Sr.no.	Cross-Cutting Symptom	Threshold	*f (%)*	Previous Personal Criminal Record *f (%)*		λ^2 (d*f*)
				No (n = 301)	Yes (n = 58)	
1.	Anger	≤ 1	237(66)	206(68.4)	31(53.4)	4.87(1)*
		≥ 2	122(34)	95(31.6)	27(46.6)	
2.	Sleep Problems	≤ 1	207(57. 18)	181(60.1)	25(43.1)	5.77(1)*
		≥ 2	155(42.82)	120(39.9)	33(56.9)	
3.	Substance Use	< 1	247 (68.78)	216(71.8)	31(52.4)	7.60(1)**
		≥ 1	112 (31.22)	85(28.2)	27(46.6)	

Note. *p ≤ .05, **p ≤ .01.

Table 4
Cross Tabulation of Memory, Dissociation, and Personality functioning on Previous Familial Criminal Record.

Sr.no.	Cross-Cutting Symptom	Threshold	*f (%)*	Previous Familial Criminal Record *f (%)*		λ^2 (d*f*)
				No (n = 297)	Yes (n = 62)	
1.	Memory	≤ 1	266(74.1)	211(71)	55(88.7)	8.34(1)**
		≥ 2	93(25.9)	86(29)	7(11.3)	
2.	Dissociation	≤ 1	247(68.8)	195(65.7)	52(83.9)	7.93(1)**
		≥ 2	112(31.2)	102(34.3)	10(16.1)	
3.	Personality Functioning	≤ 1	283(78.8)	228(76.8)	55(88.7)	4.38 (1)*
		≥ 2	76(21.2)	69(23.2)	7(11.3)	

Note. *p ≤ .05, **p ≤ .01.

problems, and substance use related symptoms are associated with self-reported previous personal criminal record. Individuals with reported histories of criminal behavior show high anger level (Swogger et al., 2010) whereas sleep disturbance is a common complaint reported by the prison population (Elger, 2009) but its relation to re-offending is an important aspect for future studies to explore.

Substance abuse is a strong risk factor for committing new crimes and therefore poses a difficult challenge for prisons (Walter et al., 2011). In addition to its contribution in reoffending, high levels of substance abuse are reported to be linked to high death rate and psychological symptoms in prison population than in general population (Fazel and Baillargeon, 2011; Hakansson et al., 2011; Mannerfelt and Hakansson, 2018). Results reported in Table 4 showed that the presence of symptoms related to memory, dissociation and personality malfunctioning is negatively associated with the reported previous familial criminal record. Findings are consistent with studies by Rubin et al. (2011, 2014) which showed that individuals with certain personality trait (neuroticism) tend to report voluntary and involuntary rehearsal of events with high emotional intensity and physiological reactions thus reinforcing the centrality of a trauma memory to one's life story and identity. Phenomenological characteristics of autobiographical memories are linked with personality traits of individual (Ogle et al., 2017). Finding of the current study also suggest that parents with unconventional behavior do not necessarily have unconventional values for their children in terms of their social bonds and behavior (Nielsen, 2017). This is an interesting finding which is recommended for further researches to explore.

4. Conclusion

The findings of the current study concluded that Urdu translated version of Cross-Cutting Symptoms (Adult-version) is a valid instrument to measure comorbidity of 13 domains. This instrument will be of great use in the prison setting due to its short length, easy access, and administration. Crime related factors as number of cases, both personal and familial previous criminal record, is associated with comorbid psychiatric symptomology. The prevalent situation in prisons of Pakistan definitely needs a simple but effective progress (initial baseline development for psychiatric symptoms) to develop mental health facilities as a combined effort of psychiatrists, psychologists and researchers.

Source of support

Nil.

Ethical Standards

No research funding was obtained in the present study. Permission was taken from APA for translation and adaptation of instrument and for data collection permission was taken from jail authorities and informed consent was taken from the each participants separately after describing them purpose of research and they were made sure that data will be used for research purpose only and will not be share without their consent whereas their identity will be held hidden.

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Data were collected by researcher herself using her personal resources. No funding was provided by any institution or organization.

Declaration of Competing Interest

None.

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