

PRIOR SUBSTANCE USE, DEPRESSION AND GENDER AS DETERMINANTS OF SELF-HARM URGES IN PRISON INMATES: A STUDY OF UYO PRISON

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ABSTRACT

This study examined prior substance use, depression and gender as determinants of self-harm urges in prison inmates. It was a survey utilizing ex-post facto design. A total of 183 male and 29 female inmates from Uyo prison participated in the study. Their mean age was 34.4 years. Multi-stage sampling method was used. The t-test results {t (210)=2.89, p<.01} showed that inmates who used psychoactive substances before imprisonment reported higher self-harm urges than those who did not use. Also, inmates with high depressive symptoms reported higher self-harm urges than those with low depressive symptoms {t (210)= 4.21, p<.01}. The interaction of prior substance use and depression was significant, Wilks Lambda = .72, F (1, 210) = 19.02, p = <.01, partial eta squared = .17. A post-hoc test was conducted using LSD to show multiple comparison effect. Furthermore, the t-test results {t (210)= 2.60, p<.01} showed that female inmates reported higher self-harm urges than their male counterparts. The findings of this study have implications on the involvement of psychologists and other mental experts in the management of the prison system.

Key words: Self-harm urges, prior substance use, depression, gender, prison inmates.

INTRODUCTION

Self-harm has been described as a major public health problem in many countries (Green, Wood, Kerfoot, Trainor, Roberts, Rothwell, Woodham, Ayodeji, Barrett, Byford & Harrington, 2011), accounting

for high attendances at hospitals with increasing incidences (National Collaborating Centre for Mental Health, 2004). It is associated with recurrent psychosocial problems (Hawton, Houston & Shepherd, 1999), and poor long term outcome (Fergusson & Lynskey, 1995), and may be

sign of an emerging personality disorder (Brent, Johnson, Bartle, Bridge, Rather & Matha, 1993a).

Self-harm is seen as a physical expression of emotional distress; some time when people feel overwhelmed with unhappy emotions, they may find that the physical act of hurting themselves makes them feel better (National Health Services, 2015). Self-harm, sometime described as self-mutilation, is defined as intentional and acute physical self-injury without intent to die, which includes various methods such as cutting and burning. It has however, been found that only a minority of individuals attempt suicide by cutting or burning (Wexler, Weissman & Kasl, 1978), and suicide attempts are much more likely to be medically severe (Brown & Linehan, 1996). The differences between self-harm and suicide attempts notwithstanding, empirical evidences show that about half of individuals who self-harm also attempt suicide or wish to die (Hillbrand, 1995).

Self-harming comes in different forms including cutting or severely scratching one's skin (Smith & Segal, 2015) and thoughts about injuring oneself without actually doing so (Connor, 2010); but it has been argued that if such a behaviour is primarily for sexual pleasure, body decoration, or spiritual enlightenment, it should not be considered self-harm (Burnett, 2007).

It is an impulsive, repetitive behaviour and does not usually occur just once; it known to be pleasurable and can make one less sensitive to pain (Mental Health Foundation, 2012), thus making the individual to want to repeat it. In self-harming, any part of the body could be the target but the arms, legs and front of the torso are the most frequent targets, be-

cause these areas can be easily reached and easily hidden under clothing (Timberline knolls Residential Treatment Centre, 2015). The genitalia and other parts could also be targets of self-harm (Ajapa, Issa, Buhari, Adeoye, Babata & Abiola, 2010; Stunell, Power, Floyd & Quinlan, 2006).

Generally, imprisonment has been to cause a number of physical/health problems (Joukamaa, 1997; Sammons, 2005) and psychological disturbances leading to self-harming behaviours, among other things (Casey, 2005; Sammons, 2005; Adepegba, 2013). Studies have found that the use of illicit drugs (Paykel, 1987; Van-Damme, Clauwers, Van-Hal & Peters, 1991) and drug misuse (Linehan's, 1993a) increase the chances to self-harm. Reports from various studies across the globe and Nigeria have revealed increasing trend in psychoactive substance use and abuse in prisons (Obot 1992; Oshodi, 1972; United Nations Office of Drug Control and Crime Prevention, 2000). William & Adamson (2005) found that drug use/abuse within the prison system is presently a problem in Nigeria and beyond, compounded by the influx of drug using offenders. It has also been found that the number of prison inmates incarcerated for drug related and drug influenced crimes has significantly increased over the last two decades and drug use within the confines of prison is a scary reality (The Hill Treatment Centre, 2014). Such use may not all have started in prison; they must have been using them before imprisonment.

Also, among the known psychological disturbances or disorders affecting prison inmates is depression, which is known as a mental disorder characterized by an all-encompassing low mood accompanied by low self-esteem, and by loss of interest

or pleasure in normally enjoyable activities (Barlow & Durand, 2005), or a medical illness that causes a constant feeling of sadness, and lack of interest, affecting how the person feels, thinks, and behaves (Nordqvist, 2013). Depression has been known to underlie self-harm urges and prison inmates in Nigeria are also known to have shown clear symptoms of depression such as low mood, sadness, crying spell, insomnia, reduced appetite, suicidal ideation, and self-harming behaviours (Adepegba, 2013).

Gender differences in self-harming have also been reported; researchers have found that females are more prone to self-harming than males and attributed it to socialization process in many societies which often forbids females from speaking out in most cases and so they express their emotions through self-mutilation; men act out while women act out by acting in thus venting on themselves (Linehan, 1993; Miller, 1994; Whitlock, 2010).

Linehan (1993) theorized that self-harm results in part from chronic self invalidation, from always being told that one's feelings are bad, wrong, or inappropriate. This study also hinged on the Bio-psychosocial model of drug use developed the World Health Organization (WHO, 1981) which holds that substance use/abuse is a function of the interaction of biological/genetic factors (Madden & Heath, 2002; Shuckit, 1999; Volkow, Wang & Doria, 1995), psychological factors as personality traits, psychodynamic processes, and learned cognitions and behaviours (Kandel & Yamaguchi, 1985; Stein, Newcomb & Bentler, 1987; Shedler & Block, 1990; Ogborne, 2004; Tarter, Alterman, & Edwards, 1988; Cohen & Baum, 1995), and social/environmental factors (Godfrey & Maynard, 1988; Single, 1988).

Beck's (1983) Cognitive Theory of Depression and Self-punishment Hypothesis by Nock & Prinstein (2004) provided further theoretical bases for the study. According to Beck (1983) negative thoughts, generated by dysfunctional beliefs are typically the primary cause of depressive symptoms. By this theory, prison inmates are likely to get depressed if they hold onto negative thoughts characterized by guilt, feeling of worthlessness, hopelessness, etc. These negative cognitive triads would further deepen the depression, making it difficult for individuals to come out and seek remedy (Nemade, Reiss & Dombeck, 2007), with possible attendant maladaptive behavioural manifestations which may include self-harming. The Self-punishment Hypothesis by Nock & Prinstein (2004) explains that self-harm has a regulating effect upon feelings and thoughts because it provides the means of atoning for some perceived wrongdoing, or is a response to strong feelings of self-criticism or self-dislike (Nock & Prinstein, 2004). The opinion here is that self-punishment is necessary since punishment is a reasonable expectation following a transgression (Konoske, Staple & Graf, 2010).

Generally, the problem necessitating this study lies in the fact that the incidence of self-harm (and even completed suicide – the ultimate self-harm) is on the increase among prison inmates globally (Howard League for Penal Reform, 2012; Staff, 2012; Timms (2012), attributable it to despair (Lehnert, 2011). Self-harming has also been reported in Nigerians in both general and prison population (Adepegba, 2013; Odejide, Williams, Ohaeri & Ikuesan, 1986; Oguntola, 2012). Also, focus group discussions (FGD) held with 32 inmates in Agodi Prison in the course

of the study revealed that 6 (18.75%) of the participants reported that they *never* had self-harm urges, while 26 (81.25%) reported having *experienced* self-harm urges at different frequencies-sometimes, often, and very often. In addition, psychoactive substance use, depression, and gender which have been implicated in self-harming behaviour (Adepegba, 2013; Linehan, 1993a; Paykel, 1987; Van-Damme, Clauwers, Van-Hal & Peters, 1991) and warrant investigations among Nigerians. There is also paucity of indigenous literature, yet the problem exists. There is therefore a need to empirically investigate the roles of these variables (substance use, depression, and gender in self-harm urges among Nigerian prison inmates. We hypothesize that inmates who used psychoactive substances before imprisonment, those with depressive symptoms and female inmates will report higher self-harm urges than non-drug users, non depressed and male inmates.

METHOD

Design: The study was a cross-sectional survey utilizing ex-post facto design.

Setting: The setting for the study was Uyo prison. Uyo prison was established in 1954 and is the number one prison in Akwa Ibom State, a medium security prison accommodating an average of 928 inmates as at the time of this study.

Participants: Participants for this study were 212 inmates. Their ages ranged between 19 and 59 years, with average of age of 34.4 years. They were 183 males and 29 females; 128 were singles while 84 were married.

Sampling Techniques: A multi-stage sampling method was used in this study.

The 28 cells of the prison formed the clusters. Randomization (balloting) was used to select the 15 cells from where the participants were drawn; also the actual participants for the study were selected from the 15 cells by randomization (balloting).

Instruments

The instrument used to collect data for the study was a structured questionnaire which had 3 sections:

Section A: Section A contained the demographic variables; information on gender and use or non-use of psychoactive substances before imprisonment were obtained.

Section B: Section B was the Depression sub-scale of Hospital Anxiety and Depression Scale (HADS) by Zigmond & Snaith (1983). The scores for the sub-scale (depression) range from 0-21, with scores categorized as follows: normal (0-7), mild (8-10), moderate (11-14), severe (15-21). HADS has been found to be useful in assessment of anxiety disorder and depression in somatic, psychiatric, and primary care patients and in the general population (Bjelland, Dahl, Haug & Neckelmann, 2002; Herrmann, 1997; Whelan-Goodinson, Ponsford & Schonberger, 2009). For the purpose of this study, it was revalidated among Nigerian samples (87 prison inmates in Agodi Prison) and a Cronbach's co-efficient of 0.67 was reported. A new norm of 13 was established at 2 standard deviations above the mean. Scores below the norm indicated low depression while scores above the mean indicated high depression.

Section C: Section C was the 19-item Inmates' Self-harm Urges Scale (IS-HUS) developed by Ineme & Osinowo (2015). It was used to measure inmates' urges to

self-harm. It has three sub-scales: Sub-scale 1 (items 1 to 11) measures urges for physical harm with Cronbach's coefficient of .93, Sub-scale 2 (items 12 to 15) measures urges for verbal harm with Cronbach's coefficient of .84, and Sub-scale 3 (items 16 to 18) measures urges to transfer harms to others with Cronbach's coefficient of .76. The general Cronbach's coefficient of the scale is .93. The norm of the scale is 37; norm was established at 2 standard deviations above the mean; scores below the norm indicated low self-harm urges while scores above the norm indicated high self-harm urges.

Procedure: The study was conducted in two phases – the pilot study which aimed at validating the instruments and the main study during which the hypotheses were tested. A letter of introduction was obtained from the Department of Psychology, University of Ibadan for both phases. But for the pilot study, ethical clearance was obtained from the Oyo State Research Ethical Review Committee and a written permission from the Controller of Prisons, Oyo State Command. Permission was granted to access the inmates. Two prison staff (a male and a female) from the Welfare Department served as research assistants. The administration of the instruments took place in the prison psychologist's office; the inmates were called out to the psychologist's office on cell basis, the purpose of the study was explained to them. Volunteers were then assigned into 2 groups – A and B by balloting and the instruments were administered to those in Group A. The administration of the instrument lasted for 10 days during which 95 copies of the instruments were administered but 87 were correctly responded to. Data were collected and analyzed for reliability

using SPSS Version 20.0.

For the main study, ethical clearance was obtained from the Akwa Ibom State Research Ethical Review Committee and a written permission from the Controller of Prisons, Akwa Ibom State Command. Again two members of staff of the Welfare Department (a male and a female) were assigned as research assistants on request. They assisted in selecting the cells, randomizing the inmates (by balloting), and administration of the instruments. In this phase of the study, the selection of the participants and the administration of the instruments took place in the Prison Chapel; the inmates were called out to the Chapel on cell basis, the purpose of the study was explained to them, volunteers were requested to stay back. They (volunteers) were then assigned into 2 groups – A and B by balloting and the instruments were administered to those in Group A. The administration of the instrument lasted for 22 days during which 220 copies of the instruments were administered but 212 were correctly filled. Data were collected and analyzed based on the hypotheses, using SPSS Version 20.0. The major ethical considerations in both phases of the study were confidentiality, voluntariness, beneficence, and absence of pains, and the right to withdraw at any point in the course of the study without penalty.

Statistics: Hypotheses 1, 2 and 4 tested using t-test for independent groups while hypothesis 3 was tested using 2-Analysis of Variance; LSD was also applied as a post hoc test.

RESULTS

The hypothesis that inmates who used psychoactive substances before

imprisonment will report higher self-harm urges than those who did not use was tested using t-test for independent samples and summary of result is presented on Table 1.

The results in Table 1 show that there was a significant difference in the level of self-harm urges reported by inmates who used psychoactive substances before imprisonment and those who did not use { $t(210) = 2.89, p < .01$ }. Inmates who used psychoactive substances before imprisonment ($M = 34.12, S.D = 13.78$) reported significantly higher level of self-harm urges than those who were non-users of any psychoactive substance ($M = 26.44, S.D = 10.40$). This result means that the use of psychoactive substances before imprisonment significantly predicted self-harm urges among inmates sampled.

The second hypothesis that inmates with high depressive symptoms will report higher self-harm urges than those with low depressive symptoms was tested using t-test for independent samples

and a summary of results is presented on Table 2.

The results in Table 2 show that there was a significant difference in the level of self-harm urges reported by inmates who with high depressive symptoms and those with low depressive symptoms { $t(210) = 4.21, p < .01$ }. Inmates with high depressive symptoms ($\bar{X} = 37.20, S.D = 15.88$) reported significantly higher level of self-harm urges than those with low depressive symptoms ($\bar{X} = 29.57, S.D = 11.10$). This result means that the high depressive symptoms significantly predicted self-harm urges among inmates sampled. The hypothesis was thus accepted.

We tested for significant interaction effect of prior substance use and depression on self-harm urges among prison inmates using a 2-Way Analysis of Variance (ANOVA) and the summary of the results is presented in Table 3.

As shown on Table 3, Mauchly's test indicated that the assumption of sphericity had been violated, $\chi^2(2) = 62.56, p = < .05$,

Table 1. t-test summary table showing differences between inmates who used psychoactive substances before imprisonment and those who did not use on self-harm urges

	Psychoactive Sub.*	N	\bar{X}	SD	df	t	p
Self-Harm Urges	Use	140	34.12	13.78	210	2.89	<0.01
	Non-Use	72	26.44	10.40			

*Psychoactive substances

Table 2. t-test summary table showing differences between inmates with high depressive symptoms and those with low depressive symptoms on self-harm urges

	Depression	N	\bar{X}	SD	df	t	p
Self-Harm Urges	High	121	37.20	15.88	210	4.21	<0.01
	Low	91	29.57	11.10			

therefore degrees of freedom were corrected using Greenhouse – Geisser estimates of sphericity ($\epsilon=.70$). There was a significant main effect of prior substance use, Wilks Lambda = .67, $F(1, 210) = 19.82$, $p < .01$, partial eta squared = .17, where those who used psychoactive substances before imprisonment showed higher self-harm urges than those who did not use. The main effect of depression was significant, Wilks Lambda = .81, $F(1, 210) = 22.55$, $p < .01$, partial eta squared = .17, where those with higher depressive symptoms reported higher self-harm urges than those with low depressive symptoms. The interaction effect of prior substance use and depression was significant, Wilks Lambda = .72, $F(1, 210) = 19.02$, $p < .01$, partial eta squared = .17. With this result, the presence of an interaction effect was confirmed.

However, a post hoc test using LSD was further conducted to show the multiple

comparison effect of prior substance use and depression on self-harm urges. Summary of the results is presented in Table 4.

The results of further statistical analysis using a post-hoc test (LSD) as shown on Table 4 reveal that inmates who were prior users of psychoactive substances with low depressive symptoms reported lower self-harm urges ($\bar{X}=19.11$) than those who were users with high depressive symptoms ($\bar{X}=22.58$), with a mean difference -3.47. Inmates who were prior users of psychoactive substances with low depressive symptoms reported higher self-harm urges ($\bar{X}=19.11$) than those who were non-users with low depressive symptoms ($\bar{X}=15.33$), with a mean difference of 3.78. Inmates who were prior non-users of psychoactive substances with high depressive symptoms reported higher self-harm urges ($\bar{X}= 17.43$) than those who were prior users with low depressive symptoms ($\bar{X}= 15.33$), with

Table 3. Summary of Two-Way ANOVA showing main and interaction effect of prior substance use and depression on self-harm urges among prison inmates.

IVs	Sum of squares	df	Mean square	F	Sig.	Wilks' Lambda	η^2
Prior Sub. Use	4015.21	1	4015.21	19.82	.000	0.67	.17
Depression	5007.35	1	5007.35	22.55	.000	0.81	.17
Sub. Use*Dep.	3969.32	1	3969.32	19.02	.000	0.72	.17
Error	8480.23	212	75.72				

Table 4. LSD table showing multiple comparison effect of prior psychoactive substance use and depression on self-harm urges among prison inmates

Sub. Use	Depression	N	\bar{X}	SD	Mean Difference			
					1	2	3	4
Use	Low	78	19.11	2.28	-	-	-	-
	High	164	22.58	3.23	-3.47*	-	-	-
Non-use	Low	46	15.33	1.65	3.78*	7.25*	-	-
	High	64	17.43	2.85	2.01*	1.68*	5.15*	-

*The mean difference is significant at the .05 level.

a mean difference of 2.1. Inmates who were prior users with of users of psychoactive substances with high depressive symptoms reported higher self-harm urges ($\bar{X} = 22.58$) than those were non-users with low depressive symptoms ($\bar{X} = 15.33$), with a mean difference of 7.25. Inmates who were users of psychoactive substances with low depressive symptoms reported higher self-harm harm urges ($\bar{X} = 19.11$) than those who were non-users with high depressive symptoms ($\bar{X} = 17.43$), with a mean difference of 1.68. Inmates who were prior users of psychoactive substances with high depressive symptoms reported higher self-harm urges ($\bar{X} = 22.58$) than those who were non-users with high depressive symptoms ($\bar{X} = 17.43$), with a mean difference of 5.15.

We further tested the influence of gender using t-test for independent sample and summary of results is presented in Table 5.

The t-test results ($t(210) = 2.60, p < .01$) as presented on Table 5 show that there was a significant difference in the level of self-harm urges reported by male inmates and female inmates. Male inmates ($\bar{X} = 28.32, S.D = 11.60$) reported significantly lower level of self-harm urges than female inmates ($\bar{X} = 31.19, S.D = 6.40$). This result means that female inmates reported significantly higher level of self-harm urges than their male counterparts. Thus, the hypothesis was accepted.

DISCUSSION

The results of this study indicated that majority of the inmates were persons who had used at least one psychoactive substance (alcohol, cigarette, cannabis, or cocaine) continuously for at least one month prior to imprisonment. This tended to show a correlation between the use of psychoactive substances and crime commission (since majority of prison inmates were likely to have been involved in crimes). The results of this study further showed that the use of psychoactive substances before imprisonment was associated with self-harm urges among prison inmates; inmates who used at least one psychoactive substance before imprisonment were more prone to experiencing self-harm urges than those who did not use any one. This result supported earlier findings which implicated the use of psychoactive substances in self-harm urges (Darke, Torok, Kave & Ross, 2010; Haney, 2004; Paykel, 1987; Van-Damme, Clauwers, Van-Hal & Peters, 1991; Linehan, 1993). Suggestively, this is due the fact that while in prison, the inmates are deprived of their usual intake of the substance while the craving was still on, and so, self-harm could be a reaction (or adaptation) to the unsatisfied craving for the substance or a way of managing withdrawal symptoms. Apparently, when inmates are admitted into the prison, there are no records that anything is done to

Table 5. t-test summary table showing differences between male and female inmates on self-harm urges

Gender	N	\bar{X}	SD	df	t	p
Male	183	28.32	11.60	210	2.60	<0.01
Female	29	31.19	13.13			

screen for, or assess their drug intake, consequently nothing is done to treat for possible withdrawal symptoms which may arise due to sudden stoppage of the drug following arrest and detention. It is possible that some of them may actually suffer such effect (unknown to anyone), especially within the first few days of detention and self-harming (acts or urges) may be a possible reaction, since self-harming has been known to provide relieving experiences from emotional distress (National Health Services, 2015). This finding is also in line with the Biopsychosocial model (WHO, 1981), which implicates physical dependence and craving in alcohol and drug use; it is possible that the presence of such craving and the absence of the substance (while in prison) would lead to certain behavioural manifestations, including self-regulatory behaviours (Ogborne, 2004).

Also, that inmates who were high on depression reported higher self-harm urges is supportive of earlier findings that Nigerian prison inmates presented with depressive symptoms such as low mood, crying spell, and self-harming (Adepegba, 2013; Oguntola, 2012). It is plausible that while in prison, the inmates had developed negative cognitive thought and triads characteristic of depressive individuals, thus confirming the Beck's (1983) Cognitive Theory of Depression which holds that dysfunctional beliefs are typically the primary cause of depression, showing a direct relationship between the amount and severity of someone's negative thoughts and the severity of their depressive symptoms. That, a high number of the inmates reported high depressive symptoms is indicative of the fact that one's stay in prison is capable of triggering and maintaining depression; this is

further complicated if the individual develops negative cognitive triads (Nemade, Reiss, & Dombeck, 2007).

The results further showed that female inmates reported higher self-harm urges than males. This was in line with earlier findings by that females are more prone to self-harming than males and attributed it to socialization process in many societies which often forbids females from speaking out in most cases and so they express their emotions through self-mutilation (Linehan, 1993; Miller, 1994; Whitlock, 2010). Miller (1994) specifically reported that men act out while women act out by acting in, and attributed the higher tendency of women to self-harm to the fact that women are not socialized to express violence externally; women therefore tend to vent on themselves. The urges or acts of self-harming are a way of acting in. Already men are socialized in a way that makes repressing feelings a norm (Miller, 1994) and the distressing prison experiences may be repressed (bottled); expressing them may be seen as cowardice for males, women may not be able to accommodate some feelings and lacking appropriate avenue to express their feelings, women may resort to self-harming. More over, the family and the society place higher moral expectations on women than on men because of which the females may end up with certain complexes which they may find difficult to resolve and self-harming become the easiest way to vent and/or be distracted (Linehan, 1993). The behavioural implication of this is that, any fall below that expectations (to the extent of being in prison), the women are more likely to feel more guilty and ashamed; guilt is a known cause of self-harm globally (Krestev, Prokipidis & Sycamniyas, 2005).

Self-harming may also provide relief and make them feel they have received adequate punishment for their wrong doing supporting the Self-Punishment Hypothesis (Nock & Prinstein, 2004).

In conclusion, these results have implications on management of the prison system and the criminal justice system generally. Those who had been use psychoactive substances before imprisonment, those with depressive symptoms/tendencies, and the females constitute a risk class. Special attention should be paid to them at the point of admission into the prison and on daily management of the prison system – they should be allowed to stay alone in solitary places or have access to any sharp object. Psychologists and other mental health experts should necessarily and urgently be employed to provide assessment and intervention for the risk class to prevent cases of full-blown self-harm act in the Nigerian prisons.

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