Relationship Between Perceived Anxiety and Aggressive Behaviour Among Inmates at Meru Main Prison, Meru County, Kenya

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ABSTRACT

Prison settings are widely recognized as stressful and characterized by extreme high anxiety levels that generate a number of pssychological related issues that influence inmates' emotional well-being and behavioral patterns. Furthermore, prolonged exposure to anxiety-related experiences, is associated with several factors that may include aggressive behaviors among inmates. This study sought to examine the relationship between perceived anxiety and aggressive behaviors among inmates at Meru Main Prison. The transactional model of anxiety and coping (TMSC) along with the cognitive neoassociation (CNAT) theory of aggression guided the study. The study used a cross-sectional correlational research design. At a single point in time the data collected assessed the relationship between inmates perceived anxiety and aggressive behaviors patterns. The target population consisted of 1100 inmates in Meru Main Prison. The accessible population were 800 inmates in Meru Main Prison. Purposive sampling based on inclusion and exclusion criteria was employed to select a sample size of 293. To collect data, the study adapted the Perceived Anxiety Questionnaire (PAQ) and the Buss-Perry Aggression Questionnaire (BPAQ). these were standardized tools and were expected to capture the study variables well. A pilot study was carried out in Uruku Prison in Imenti South Sub-county in Meru County. Cronbach's Alpha coefficient of 0.78 was obtained which was above the expected 0.7 This was then accepted for the study. The validity of the research instruments was confirmed through expert judgement. Quantitative data was analysed using the Statistical Package for Social Sciences (SPSS) version 31.0. Descriptive statistics such as means and standard deviation summarized the demographic data. Pearson's correlation coefficient (r) was used to test the relationship between perceived anxiety and aggressive behaviors and the data was presented in tables and charts. The findings showed an $r = .575$, $p < .001$. The findings revealed statistically significant positive relationships between perceived anxiety and aggressive behaviours, indicating that higher levels of the perceived anxiety dimension were associated with increased levels of aggressive behaviours among inmates in Meru Main prison. The study concluded that perceived anxiety is an important psychological correlate of aggressive behaviour among inmates and recommended strengthening psychological support, anxiety-management interventions, and anger and enhancing emotional regulation programmes to help reduce aggressive behaviours within correctional institutions.

Keywords. Perceived Anxiety, inmates, Aggressive Behavior, Prison environment , Incarceration,

INTRODUCTION

Prison environments are associated with severe aggressive behaviour that are not random situations (Wooldredge & Smith, 2018). In restrictive environments, the human mind translated situations as pressure. This might have tired the brain down of the ability to stay calm and, hence, elevated the levels of perceived Anxiety experienced by an individuals. Wooldredge and Smith observe that when an inmate perceives Anxiety, it shows in external aggressive behaviour. perceived anxiety is a serious issue, with studies in countries such as Nepal observing high levels of up to 65.1% among frontline populations (Asefa & Gebre, 2022). This shows how severe anxiety levels could show in environments where individuals are exposed to continuing demands. The study observed that being exposed for too long to anxiety related anxiety levels could be related to emotional difficulties manifested

through aggressive behaviour patterns. Therefore, high levels of perceived anxiety is strongly related to increased aggressive behaviour characteristcs.

Research by Pereira-Morales (2019) observed that perceived anxiety experienced was related to negative emotions. Research conducted among university students and workers in Colombia described anxiety as an induced experience. It was an external event that depends on the way people see and interpret situations. The study assessed anxiety as a filtered phenomenon, meaning that individuals who focus on negative thoughts are more likely to experience negative emotional and behavioural outcomes. This shows that as the level of perceived anxiety increases there is a possibility of an association with negative behavioural consequences. A study conducted in the Unites States prison system by Haney (2018) observed the prison environment to be a mental crisis where more than 90% of inmates in isolated conditions suffer from severe anxiety and anxiety. There are several cases of inmates experiencing high psychological di anxiety which affects aggressive behaviour (Muriungi et al., 2024).

Statement of the Problem.

Aggressive behaviour by inmates is related to high levels of anxiety among inmates. This has raised genuine concern for inmates' welfare, safety in the prison institutions as well as the success of rehabilitation programs. In the global view, about 40-60% of inmates reported several involvements in aggressive incidents (United Nations Office on Drugs and Crime, 2024).

World Health Organization (2023) indicates 32% of severe psychological related Anxiety and aggression affecting inmates' mental health globally. In Kenya 70% of inmates show high levels of anxiety related anxiety (Kenya National Commission on Human Rights, 2024). This affects the mental well-being of those individuals incarcerated. Most research conducted in Kenya recognize the existence of Anxiety and Aggressive behaviour among inmates in correctional facilities. However, there was little empirical knowledge explicitly examining the relationship between perceived anxiety and Aggressive behaviour. There is inadequate context-specific research giving attention to specific prisons in the local context such as Meru Main Prison and to the specific population of inmates. Therefore this study seeks to fill this gap by seeking to establish how perceived anxiety is related to aggressive behaviour among inmates which might inform policy and future interventions on managing aggressive behaviour characteristcs in kenyan prisons.

LITERATURE REVIEW

The Generalized Anxiety Disorder 7-item scale, (GAD-7), measured the intensity to which symptoms of anxiety and its associated factors among participants in the Ethiopian towns of Arba Minch and Jinka (Chan & Adjorlolo, 2021). The study utilized the biopsychosocial model of mental health to assess all localized prison populations within Gamo and South Omo zones. Digital surveys among the respondents were randomly selected. The findings observed 28.2% of the 174 participants having clinically significant anxiety symptoms. Subjective anguish and elevated anxiety may produce a psychological situation. The appraisal of this situation could impact aggressive behaviour which translates to psychological anxiety. However, this study sought to explore a different population from Chan and Adjorlolo which was specifically the incarcerated population. The present study aimed at examining a larger population, concentrating on subjective sensations of anxiety as a factor of perceived anxiety and its association with aggressive actions.

A cross-sectional study among 152 convicts, 94 men and 58 women in Poland, found that prisoners with high levels of anxiety may also show high verbal and physical aggressive behaviour (Kolodziej et al., 2022). The theories used in Kolodziej's study were institutional anxiety theory and frustration violence model to study chronic environmental conditions that seriously reduce an individual's coping ability, leading to a link between felt anxiety and verbal or physical violence. According to Kolodziej, perceived anxiousness was an emotional trigger for aggressive responses among convicts. Anxious prisoners are more likely to engage in hostile acts. Prisoners are always in dread and emotional anxiety and some of them acquire anxiety reflected in violence. The study covers both men and women, and reveals that no matter the kind of settings, the human experience of imprisonment brings a psychological weight regardless of the gender. Like their study, the current study used a

correlational design and the data collected at one point in time. The current study examines the relationship among male inmates only and had a slightly higher number of participants, 293. The current study focuses on verbal, physical, anger and hostility.

A descriptive correlational study by (Kasau et al., 2025) examined the effect of environmental conditions on indices of psychological health including anxiety, anger, and fear . The study involved 250 inmates at Kamiti Maximum Security Prison in Nairobi, Kenya. Kasau et al.'s study was based on the environmental psychology framework of space behavior and the biopsychosocial model of mental health. The study also showed fear and despair being among some of the reactions produced by a series of psychological reactions. Study findings observed a psychological di anxiety level of 36.5% of inmates experiencing sadness and 17% reporting despair. In the study, the reactions caused by a variety of psychological reactions include fear and despair. This means that anxiety does not always show patterns of Aggressive behaviour in the Kenyan prison setting. While Kasau and others study was longitudinal, the present research sought to explore male inmates utilizing correlational study while collecting data at a single point in time.

Using a general personality and cognitive social learning theory, Bonta and Andrews (2023), in a correlational design indicated that feelings of lack of control was related to anxiety. Their study conducted longitudinally over a period of 40 years across the United States, Canada, the United Kingdom, and Australia on justice involved individuals. According to them, lack of control might be associated with social withdrawal and avoidance as opposed to aggression. This focus may show that anxiety may not predict behavior all the time but can interact with other factors like personality and institutional culture to predict behavior.

Despite the widespread belief that anxiety makes people more aggressive, numerous academic and theoretical research points to a relationship that is far from demonstrating an association. The current study observes a dimension of perceived anxiety using purposive sampling instead of systematic sampling like Bonta and Andrews' study.This study was conducted on hundreds of thousands juvenile and adult offenders, while the current study focuses on male adults' inmates with a specific respondent's size of 293 to enhance data quality.

A study done in Europe observes that aggression was not always because of anxiety, yes, anxiety encourage avoidance rather than confrontation and frequently interacts with social and cognitive aspects (Krahe, 2013). Krahe investigated media violence and aggression associated with anxiety among adolescents and high school students in Germany. In a three-wave longitudinal panel design, she collected data in intervals of 12 months to a group of approximately 13 to 14 years old using. Krahe guided by general social and criminological theories while applying cluster sampling among 1715 participants. This study findings show that high anxiety predicts avoidance rather than aggression with regression pathways ranging from 45 % to 55%. The structural equation models in Krahe's research shows that Aggressive behaviour become stable overtime while subjective anxiety paths directly predict behavioural avoidance. The current study sought to utilize psychological models of subjective anxiety and Aggressive behaviour rather than general social or criminological theories that focus on choices and learned behaviour. The current study gives focus to the inmate population in one location, collecting data in a single point in time, and to a smaller population for higher data quality and depth.

In a cross-sectional correlational survey design, Lanciano et al. (2022) who studied the psychological effects of imprisonment among 93 adults' male inmates observed results showing something far from association. Lanciano and others conducted a study in Italy on 93 male adult inmates to discover distinct predictive tracks of reactive and passive aggression. Lanciano and others implemented purposive sampling like the current study to enroll volunteers who met the inclusion criteria. This Italian study utilized deprivation and importation models to study traits and how inmates cope emotionally in the prisons. Their study argues that anxiety does not lead to Aggressive behaviour since individual are unique in how they regulate emotions. Aggression might be the outward expression of anxiety among some inmates although others internalize it without showing Aggressive behaviour. The current study aims to explore the anxiety dimension in the relationship between perceived anxiety and Aggressive behaviour to a bigger number of the same population with a focus on their subjective experiences.

A Kenyan cross-sectional descriptive study among 385 participants reports that anxiety disorders are widespread among adolescents (Ndetei et al., 2011). The study by Ndetei employed stratified random sampling within

schools based in Nairobi and its surrounding areas. According to Ndetei and others, harm avoidance and social anxiety are common but are often under-recognized mental health concern. These concerns have symptoms that interfere with social interactions, overall well-being, and daily functioning. Their study observes 49.3% of adolescents in Kenya experiencing average to severe anxiety. Their study does not directly examine aggression but provides evidence that perceived anxiety might be related to daily responses to anxietyful situations. The current study sought to explore a different population of inmates in a quantitative approach and assesses the relationship of dimensions of psychological varaiables like perceived anxiety and Aggressive behaviour.

METHODOLOGY

The investigation used cross-sectional correlational research design on the relationship between perceived anxiety and Aggressive behaviour among inmates at Meru Main Prison. This was a quantitative non-experimental approach that examines relationships between variables at a single point in time without manipulating them. In cross-sectional design, data is gathered from a population at a single point in time (Thomas, 2021). Correlational research on the other hand tests strength and direction of the relationships between variables without manipulating them (Creswell, 2012). This design was appropriate for assessing the relationship between the two naturally occurring variables namely perceived anxiety and Aggressive behaviour among inmates at Meru Main Prison. The population of the study is made up the target and the accessible population. An estimated population of 1100 prisoners incarcerated at Meru Main Prison will make up the target study population. Accessible population included inmates that are part of the target population and that who meet the inclusion criteria . The figure of 300 inmates who were excluded was obtained from Meru Main Prison registry and administrative records by the guidance of the prison psychologist, with permission from the prison In Command (IC). This criterion yielded an accessible population of approximately 800 respondents. The inclusion criteria included those who were able to read and write, those who were willing to be part of the study, the physically and mentally stable and those who were present and available during the data collecting period. The study excluded prisoners in solitary confinement, prisoners in remand, prisoners with severe mental instability, illiterate prisoners and prisoners unable to give informed consent. This was to ensure ethical compliance and accuracy of self-reported data. . The sample size of the study was determined by Yamane's formula with a 5% margin of error (Yamane, 1967). The sample size of the study was therefore 293 respondents selected based on the inclusion and exclusion criteria

$$n = \frac{N}{1 + N\,(e)^2}..$$

Where:

n= Sample size

N= Target population

e= 5 % margin of error

$e^2 = 0.05 \times 0.05 = 0.0025$

$N.\ e^2 = 1100 \times 0.0025 = 2.75$

$1+ N\ e^2 = 1+2.75 = 3.75$

$$n = \frac{1100}{3.75}$$

Sample size n= 293 respondents.

Research Instruments.

The main tool for collecting data was standardized modified questionnaires(SMQ). Since the study focused on personal and subjective experiences, which were perceived anxiety and Aggressive behaviour. These instruments included a demographic information of inmates, the Perceived Anxiety Questionnaire (PAQ), and the Buss-Perry Aggression Questionnaire (BPAQ). Data collected in this study was quantitative in nature and was analysed using appropriate statistical methods. Once collected, Statistical Package for Social Sciences (SPSS) version 30.0 for windows was used. Descriptive statistics summarized the demographic features which was presented using frequencies, means, and standard deviation (SD).

The correlation between perceived anxiety dimensions and aggressive behaviour was determined using the Pearson's correlation coefficient (r). Tables reported numbers and charts illustrates the patterns. This enhanced clarity and interpretation of the results. The dimensions of perceived anxiety and those of aggressive behaviour was analysed at 95% confidence level.

FINDINGS

Response Rate

The researcher administered questionnaires to inmates and presented the response rate obtained from the respondents.

Table 1 Response Rate

Category	Issued	Returned	Response Rate (%)
Inmates	293	267	91.13
Total	293	267	91.13

Note. Field survey data (2026).

Perceived Anxiety and Aggressive Behaviours among Inmates

This section presents the findings on perceived anxiety and aggressive behaviours among inmates at Meru Main Prison. The analysis focused on the overall perceived anxiety score and the overall aggressive behaviour score obtained from the respective study instruments. Descriptive statistics summarized the distribution of the two variables in terms of the minimum score, maximum score, mean, and standard deviation. The findings provide an overview of the levels of perceived anxiety and aggressive behaviours among the 267 inmates before examining the relationship between the two variables using Pearson's correlation coefficient. The computed descriptive statistics established the distribution of perceived anxiety and aggressive behaviours among the inmates. The statistics included the minimum and maximum observed scores, mean, and standard deviation. Table 2 presents the findings.

Table 2 Descriptive Statistics for Perceived Anxiety and Aggressive Behaviours

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Perceived Anxiety	267	1.00	4.00	2.6270	0.69468
Buss-Perry Aggression	267	1.28	4.72	2.9091	0.75682

Note. Field survey data (2026) (N = 267).

Table 2 shows that all 267 inmates provided valid responses for both perceived anxiety and aggressive behaviours. The perceived anxiety scores ranged from 1.00 to 4.00, with a mean score of 2.6270 (SD = 0.69468). This indicates that the respondents' perceived anxiety scores varied around the mean, with a standard deviation

of approximately 0.69, suggesting a moderate degree of variation in anxiety scores among the inmates. Buss-Perry Aggression recorded a mean of 2.9091 (SD = 0.75682), with scores ranging from 1.28 to 4.72. The standard deviation indicates some variation in aggressive behaviour among the inmates. The standard deviation of 0.76 shows that the individual aggression scores differed from the mean. Overall, the findings indicate that the inmates reported variation in both perceived anxiety and aggressive behaviours, providing a basis for examining whether the two variables were statistically related. However, the descriptive statistics alone do not establish whether perceived anxiety is associated with aggressive behaviours. Pearson's correlation coefficient (r) examined this relationship in the subsequent analysis.

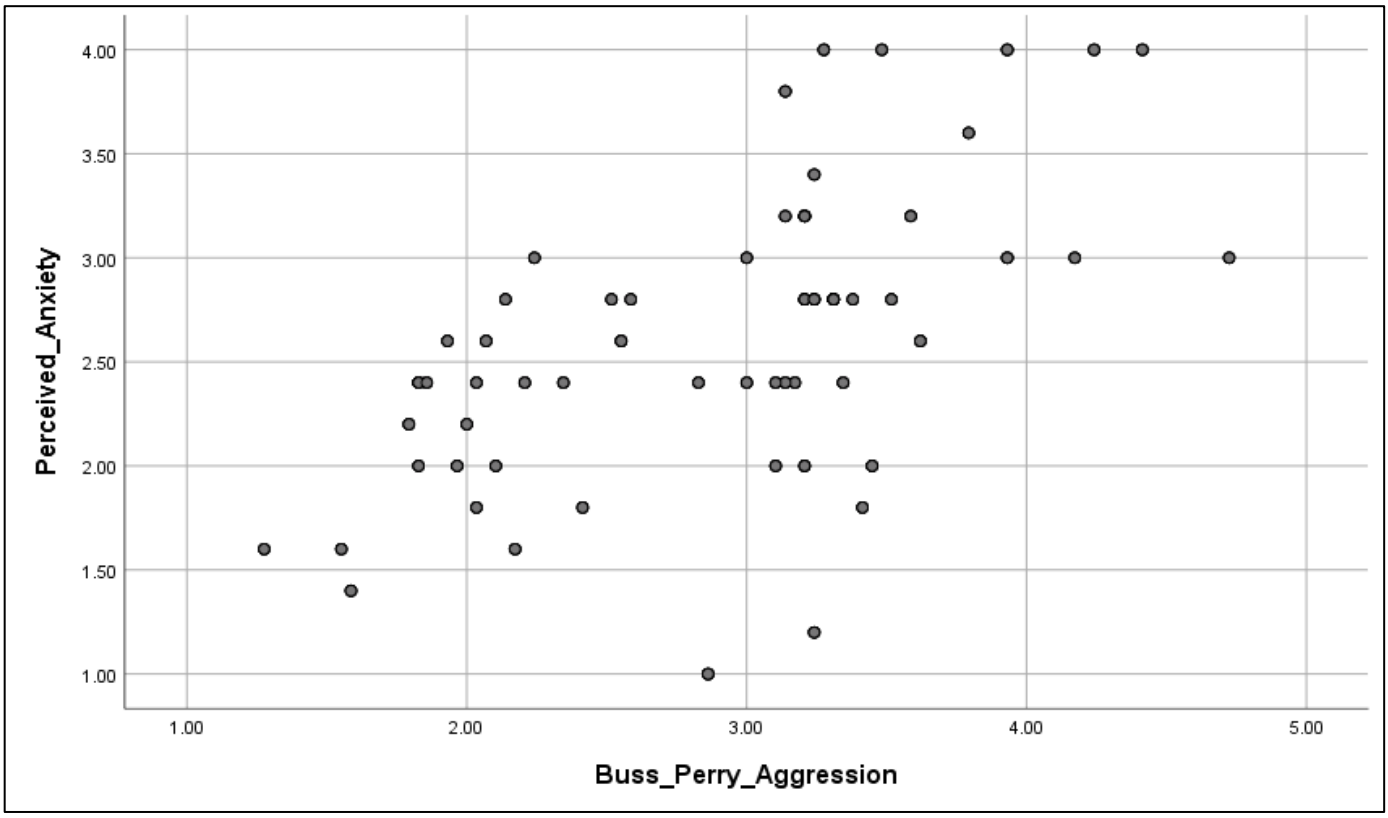

Figure 1: Scatterplot Showing the Relationship between Perceived Anxiety and Aggressive Behaviours among Inmates

Figure 1 presents the scatterplot of perceived anxiety against aggressive behaviours among the 267 inmates. The horizontal axis shows Buss-Perry Aggression, and the vertical axis shows Perceived Anxiety. The distribution of the points shows a positive pattern whereby higher levels of aggressive behaviours tend to be associated with higher levels of perceived anxiety. However, the dispersed points show that the relationship is not perfectly linear and that variations in aggressive behaviour exist across various levels of perceived anxiety. The scatterplot therefore provides visual evidence of a positive association between perceived anxiety and aggressive behaviours. However, the scatterplot alone cannot establish whether the observed relationship is statistically significant or its exact strength. This was the determined using Pearson's correlation coefficient (r) in the subsequent analysis.

Table 3 Relationship between Perceived Anxiety and Aggressive Behaviours among Inmates

Variables	Pearson's r	p-value	N
Perceived anxiety, and aggressive behaviours	.575	< .001	267

Table 3 shows a positive and statistically significant relationship between perceived anxiety and aggressive behaviours among inmates at Meru Main Prison ($r = .575$, $p < .001$, $N = 267$). The positive correlation indicates that higher levels of perceived anxiety were associated with higher levels of aggressive behaviour between the

two variables. Since the p-value was less than the significance level of .05, the relationship was statistically significant. The results rejected the null hypothesis because $p < .001$ is less than the predetermined significance level of .05. The study therefore established a statistically significant positive relationship between perceived anxiety and aggressive behaviours among inmates at Meru Main Prison. The finding of the present study established a statistically significant positive relationship between perceived anxiety and aggressive behaviours among inmates, $r (265) = .574$, $p < .001$, because incarceration exposes individuals to restrictions, loss of autonomy, reduced privacy, separation from social networks and other anxietyful conditions that may contribute to negative emotional experiences. The present finding is consistent with Kołodziej et al. (2022), who examined perceived anxiety and the control of anger, stress and depression among people staying in Polish penitentiary institutions.

Their study specifically considered anxiety and anger within a prison population and demonstrated the importance of psychological anxiety and emotional regulation among incarcerated individuals. The authors noted that imprisonment exposes individuals to restrictions, reduced autonomy, limited privacy, and difficulties in maintaining emotional contacts, all of which can increase psychological tension. The similarity with the present finding suggests that psychological di anxiety in correctional environments may lead to negative emotional and behavioural responses.

The finding also agrees with Zaenudin (2023), whose study among prisoners at the Yogyakarta Penitentiary in Indonesia directly examined the relationship between anxiety and aggressiveness. The study reported anxiety among 66.7% of the inmates and aggressiveness among 41.7%. More importantly, the analysis established a statistically significant relationship between anxiety and aggressiveness, with anxiety remaining one of the variables associated with aggressiveness in the multivariate analysis. This finding provides particularly strong comparative support for the present study, as the participants were also prisoners and the study examined anxiety and aggression directly. Kasau et al. (2025) examined psychological well-being among 250 inmates at Kamiti Maximum Security Prison in Nairobi and reported negative emotional experiences among inmates, including sadness, fear, despair, and other indicators of psychological di anxiety. Their study used a descriptive-correlational approach and demonstrated the relevance of environmental and psychosocial conditions to inmates' psychological well-being. Although Kasau et al. (2025) did not directly test the relationship between perceived anxiety and aggression, their findings provide contextual evidence that psychological di anxiety is present within Kenyan correctional institutions. The present study extends this evidence by demonstrating a significant association between perceived anxiety and aggressive behaviours among inmates at Meru Main Prison.

Lanciano et al. (2022) conducted a cross-sectional correlational study among 93 male inmates in Italy, examining psychological outcomes in relation to cognitive, affective, and personality characteristics. Their study included measures of aggressiveness and anxious traits and found that anxious and negative emotionality were associated with poorer psychological outcomes among inmates. Although their study did not test the same anxiety–aggression correlation as the present study, it reinforces the importance of anxiety and negative emotional characteristics in understanding psychological functioning among incarcerated populations. The convergence of these findings suggests that anxiety may be an important psychological correlate of aggressive behaviour in correctional settings. The association may reflect the possibility that inmates experiencing heightened anxiety also experience difficulties in regulating negative emotions and responding constructively to anxietyful situations. However, the present study does not demonstrate a causal pathway from anxiety to aggression. Rather, the significant correlation indicates that the two variables tend to vary together within the studied population. Overall, the finding adds evidence from the Kenyan correctional context to the literature linking psychological di anxiety to behavioural outcomes among incarcerated populations. The moderate positive correlation between perceived anxiety and aggressive behaviours suggests a meaningful association between the two variables among inmates at Meru Main Prison. However, the correlational design does not establish causality.

CONCLUSIONS

The study concludes that perceived anxiety is significantly and positively associated with aggressive behaviours among inmates at Meru Main Prison. The moderate positive correlation suggests that increases in perceived anxiety tend to occur alongside increases in aggressive behaviours in the studied population. The finding

highlights the importance of considering psychological experiences when examining aggressive behaviours in correctional settings. However, the study does not establish that anxiety causes aggression because the analysis determined association rather than causation. The findings therefore suggest that perceived anxiety represents an important psychological factor associated with aggressive behaviours among inmates and warrants attention in efforts to understand behavioural and emotional experiences within the prison environment.

RECOMMENDATIONS

Prison management should strengthen psychological support services to help inmates manage anxiety and aggressive behaviours.

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