Study on the association between schizophrenia and violence

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Schizophrenia is a mental health disorder characterised by a disintegration of thought processes and emotional responsiveness. Schizophrenic individuals are presented with a wide range of symptoms. These are often classified in terms of positive and negative symptoms. Positive symptoms may include presentation of hallucinations, delusions, disorganised speech or thinking, disorganised behaviour, catatonic behaviours, derealisation, and unusual motor behaviour, while negative symptoms may include affective flattening, alogia, or avolition (DSM-IV; Kneisl & Trigoboff, 2009). Although wide ranging, the experience of psychotic manifestations, such as hearing internal voices or experiencing sensations not connected to an obvious source, are common in this group of individuals. These individuals are often marked by an inability to function in daily life and require a significant level of care and support system. Given the variable presentations, no single or a mix of symptoms is definitive for diagnosis. The diagnosis criteria thus encompass a pattern of expressed symptoms and in conjunction with impaired occupational or social functioning (DSM-IV).

The onset of this disorder usually begins during late adolescence or early adulthood. It can be a gradual process, whereby the individual became increasingly seclusive. It can sometimes be sudden, marked by emotional turmoil and intense confusion (Strauss, Carpenter & Bethesda, 1972). The prevalence of Schizophrenia is approximately 1% of the general population and appears to be constant across cultures (Bhugra, 2005).

The literature suggests that the aetiology of Schizophrenia is multifactorial. In regards to environmental components, it is unclear whether childhood trauma and stress influence the development of Schizophrenia, but there is

evidence to suggest that environmental factors (Heinrichs, 1993), such as maternal stress, may be important in the aetiology of Schizophrenia, as high level of stress may trigger Schizophrenia by increasing Cortisol level in the body. In addition, enlarged brain ventricles and decreased activity in the frontal lobe is observed in some individuals with Schizophrenia. Together, it suggests that abnormal brain chemistry and brain structure may be important in the development of Schizophrenia.

It has also been observed that there is a strong hereditary component in the manifestation of Schizophrenic symptoms. Individuals with a first-degree relative who has schizophrenia have a 10% change of developing the disorder. Twin and adoption studies observed that monozygotic twins display 50% concordance of Schizophrenia (Van Os, Rutten & Poulton, 2008). While this suggests a moderate to high heritability of Schizophrenia, it is clear that this disorder is not deterministic by genetic components.

The Association between Schizophrenia and Violence

It is now generally accepted that individuals with Schizophrenia are at elevated risk of violent behaviour than member of the general population. In the community, 8% of individuals with Schizophrenia alone were violent, compared to 2% of individuals without mental illness (Eaton & Kessler, 1985). In addition, a study estimated that 20% of first-admission patients with Schizophrenia had perpetrated against others in a life threatening manner prior to their admission, while 9% of the discharged patients acted violently in the first 20 weeks after hospitalisation (Humphreys et al., 1992; Monahan & Applebaum, 2000). More importantly, longitudinal studies following selected and unselected cohorts showed that Schizophrenic

individuals are four to seven times more likely to have committed a violent crime than the general population (e. g., Lindqvist & Allebeck, 1990; Tiihonen et al., 1997), and twice as likely than men with other mental disorders to have a violent conviction (Wesselt et al., 1994). Despite of differences in methodological approaches, these observable results are consistent across studies, cohorts, and cultures.

The literature suggests that there is an over-representation of Schizophrenic individuals among the offender and prison populations. As mentioned above, the prevalence of Schizophrenia is less than 1% in the community. However, the prevalence of Schizophrenia in the prison setting was found to approximately 3%. In addition, 9-11% of individuals who were convicted of non-fatal and fatal violence respectively, had a diagnosis of Schizophrenia (Taylor & Gunn, 1984), which are significantly higher than its prevalence in the general population. Individuals with Schizophrenia were at a four times higher chance to be convicted of interpersonal violence and ten times greater for conviction of homicide than the general public (Wallace et al., 2004). Interestingly, the chance of developing Schizophrenia among those with a history of violent crime is approximately five times greater than those committed non-violent crime only (Gosden et al., 2005). Thus, individuals with Schizophrenia contribute to a disproportionate rate of violent crimes.

Typologies of Offenders with Schizophrenia

There is a correlation between the development of Schizophrenic symotoms and increased rates of antisocial behaviour in violence (e. g., Wallace et al., 2004). Similar to offenders without mental health problems, there are subtypes of offenders with Schizophrenia, as defined by the age of onset and

persistence of antisocial behaviour. It is suggested that there may be three types of Schizophrenic offenders (e. g., Hodgins, 2008).

Type I offenders is a group of offenders that display a long history of antisocial behaviour since childhood or early adolescence, which remains stable across the lifespan (Moffitt, 2006). It is common that they are presented with a conviction for violence prior to onset of Schizophrenia and those who meets criteria for conduct disorder (CD). This group of offenders is presented with a wide array of criminal conduct, including both violent and non-violent crimes. Their criminal history appears to be similar to individuals with CD who lacks other mental health issues. It has been speculated that individuals with CD who developed Schizophrenia are characterised by lower levels of anxiety, heart rate, and cortisol level.

Type II offenders are a large group of violence offenders with Schizophrenia who had no display of antisocial behaviours prior to the onset of the disorder, but become persistently violent thereafter. The onset of symptoms begins in adulthood for this subgroup and is usually associated with some form of brain disorder (e. g., Hodges et al., 1996). It is suspected that this group is particular susceptible to illicit drug use and that substance abuse may be directly associated with their violent behaviours (Mueser et al., 2006). Substance use by Schizophrenic individuals increases their risk of violence in multiple ways. It acts to further impair social cognition, increase the likelihood of them associating with antisocial peers for drug use and crime, and affect their capacity to engage with service providers and compliance with medication and support (Green et al., 2007).

Type III offenders are a small group of serious violence offenders who display chronic course of Schizophrenia with no expression of antisocial and aggressive behaviours prior to their late thirties, and subsequently proceed to violently murder those who care for them. Type II offenders appear to display shallow affect, callousness, lack of remorse, and a failure to accept responsibilities (Sunak, 2006). It is hypothesised that this group of offenders have deficient and fluctuating affective experience, which increases the vulnerability for aggressive behaviour towards others (Hodgins, 2008).

Overall, this group of individuals expressed higher level of violent behaviours and are at greater rate of conviction and incarceration of violent crime than individuals of the general community. Such violent behaviours account for a significant amount of human suffering, in party of the victims and their families, also in part of the perpetrators. These behaviours poses further financial burden on the society. Given the prevalence of violence among Schizophrenic individuals, there are important consequences for the criminal justice system. In addition, offenders with Schizophrenia constitute a heterogeneous population. It is suggested that most violence in the Schizophrenia population is attributed to Type I, although it is possible that Type III offenders are over-represented among homicides cases (Mullen, 2006). The development of typologies of offenders with Schizophrenia is relevant to identifying appropriate treatment options that address the characteristics of each type of offender.

Mediators of Violence among Individuals with Schizophrenia

Substance Misuse:

It has been repeatedly demonstrated that comorbid substance abuse issues significantly increase the risk of violence in Schizophrenic individuals (e. g., Tiihonen et al., 1997; Wallace et al., 2004). Some has suggested that comorbid substance abuse accounts for most rates of violence among people with Schizophrenia (Monahan et al., 2001). It appears that comorbid substance abuse account for up to 30% of violence in the community, compared to 8% in those with Schizophrenia alone (Eaton & Kessler, 1985). The literature expressed concerns for the increasing numbers of substance misuse in individuals with both Schizophrenia and a propensity to violence over the past 30 years (Mullen, 2006). Reducing rates of substance misuse among this group of offenders is an important therapeutic goal, which will improve symptom control, quality of life, and act to decrease antisocial behaviours that are related to violence.

Active Symptoms:

Considerable evidence suggests that the violence observed in Schizophrenic individuals is directed and motivated by psychotic symptoms. Some research has shown that individuals frequently act upon the experienced delusions and that violence is often a defence or retaliation mechanism against seemingly harmful and manipulative actions (regardless of whether their beliefs are correct) that others are directing against the individual (Link & Stueve, 1994). The expression of psychotic features is associated a five times increase in the risk of assaults of other person compared to those with no mental disorder (Mojtabai, 2006). For instances, there are evidence to support the association between delusional jealousy and attacks on a

partner, persecutory delusions, and hallucinations and non-specific psychotic agitation all on occasion precipitate violence (Mullen, 1996; Mullen, 2006).

Personality Factors:

More recently, personality factors have been implicated in criminality in Schizophrenia (e. g., Moran et al., 2003). This group of offenders is associated with irritable, dissocial, lack of empathy and remorse, grandiose, suspicious, maintenance of unrealistic beliefs of entitlement, and inability to learn from experience. In addition, it is suggested that the relationship between comorbid substance abuse and violence in Schizophrenia may be mediated by personality factors and social problems.

Developmental Factors:

Compared to the general population and non-violent Schizophrenic individuals, those individuals with Schizophrenia who are violent are more likely to have experienced developmental problems, deprived and disadvantaged backgrounds, family history of criminality, and a problematic childhood in areas education and social functioning (e. g., Mullen, 2006; Tiihonen et al., 1997).

Treatment for Schizophrenia

To date, no cure has been found for Schizophrenia. The major goals of treatment are to reduce symptoms, minimise side effects, prevent relapses, and provide social and occupational rehabilitation for this group of offenders.

Identification of High-Risk Offenders:

It should be of high priority to identify individuals who fall into a high risk category of future violence. Past literature indicated that male individuals with a history of childhood conduct disorder, antisocial and violent behaviour in adolescence, substance abuse, unemployment and a disorganised lifestyle is at increasing rate of being high-risk of violence recidivism. Risk assessment is a practical exercise that should inform the risk, needs, and responsitivity of an individual. Their main function for the clinician is to direct attention to known correlates of violent behaviour. The HCR-20 (Webster et al., 1997) is an instrument that incorporates the PCL, which combines professional's approach to risk assessment and clinical opinion.

Psychological Management:

The manifestation of Schizophrenic symptoms renders individuals with criminogenic personality traits, attitudes, and social and occupational problems (Mullen, 2006). Reducing violent behaviours will depend large on modifying these factors and the behaviours they generate.

While psychosocial treatment interventions have limited value for acutely psychotic individuals, it has been found beneficial to reduce violence risk for individuals who are already stabilised on antipsychotic medication (Swanson et al., 2008). Psychosocial treatment provide clients with the skills to work, self-care, communication, forming and keeping relationships, and learning and using appropriate coping mechanisms to deal with difficult situations and events and increase their chances of associating with others (Penn et al., 2005). Past research indicated that patients who receive regular

psychosocial treatment are more likely to be compliant with medication and reduces their rate of relapse (Penn et al., 2005).

In addition, recent studies indicate that cognitive-behavioural therapy (CBT) approaches that teach clients coping and problem solving skills can be beneficial for Schizophrenic individuals in reducing violent behaviours. When compared to control, recreational activities, or support, CBT was repeatedly found to be more effective during and immediately after treatment. CBT has also been found to be effective in relapse prevention and positive symptom control, even when the intervention was presented by therapists who had limited prior training (Durham et al., 2003). CBT as practiced for Schizophrenia should be modified to address some of the specific limitations imposed by the disorder (e. g., cognitive dysfunction, and stigma and loss). Therapists will need to be mindful of developing a therapeutic alliance based on the client’s beliefs, to be able to develop alternative explainations of symptoms, and reducing the impact of positive symptoms (Turkington, Kingdon, & Weiden, 2006).

Treatment for Substance Misuse:

Given the significant risks substance misuse poses to increase the rate of violence among Schizophrenic individuals, the assessment and management of drug and alcohol misuse has become a major priority. A study examining an integrated intervention program that consisted of motivational interviewing and cognitive behavioural therapy resulted in significantly greater improvement in patents’ general function, reduction in positive symptoms, and increased the length of abstinence periods from substances

in Schizophrenic individuals (Barrowclough et al., 2001). In addition, this effect was still significant at 12 months follow up.

Recommendation in relation to Treatment Outcome

A careful design of methodology is required to be able to evaluate the feasibility and efficacy of the treatment program.

Participants:

A control group is necessary to allow comparisons to be made. Participants should be randomly assigned into control or treatment group. Participants with a diagnosis of Schizophrenia should be compared to a control group also with diagnoses of Schizophrenia. Participants who are actively psychotic and deemed unsuitable for treatment should be excluded.

Procedures:

All therapists should receive the same training for the intervention program to ensure consistency across therapy sessions. Adequate supervision will need to be provided to determine the qualification of therapist to deliver the treatment. This should be determined based on structured ratings of therapists’ adherence and competence to the treatment program, using instruments such as an Adherence-Competence Scale (Najavits & Liese, 1997). All sessions must run according to the procedures described in a manual that detail the tasks of each session.

Measures:

Assessments regarding level of violent behaviours needs to be conducted at pre-, during, post-treatment, and follow-up measures. The follow up measures will provide an indication of the duration of treatment effect and patient relapse outcomes. Researchers should be trained in administering all measures. If more than one researcher is responsible, actions should be taken to ensure consistency between them.

The current program will involve the treatment of inmates who express violent behaviours. Adequate measures of violence will be needed to examine the efficacy of the treatment program. The rate of violence depends greatly on the levels of violence measured. Most decisions concerning the level of violence of an individual are based on clinical evaluation, patients' self report, and structured assessment. Some widely used instrument to assess violent behaviours includes the Psychopathy Checklist-Revised (PCL-R), Historical, Clinical, Risk-Management (HCR-20), and the MacArthur Violence Risk Assessment.

Since comorbid substance abuse issues is indicated to be a significant factor that elevates the rates of violence in Schizophrenia as well as other mental health disorders, the treatment program should target such issue and aim to reduce or eliminate use of substances among this population. The addiction Severity Index (ASI; McLellan, Kushner, et al., 1992) and the Structured Clinical Interview for DSM can be used to assess substance use outcomes at various point in time.

Participant's perception of treatment effectiveness should also be assessed. This should be measured at post-treatment, using questionnaires that

adequately assess perception of treatment outcome. The Client Satisfaction Questionnaire (Attkisson & Zwick, 1982) and the End-of-Treatment Questionnaire (Najavits, 1994) can be used to measure participants' opinions about treatment.

The outcome analysis should include description of the sample characteristics. Depending on what the control groups of the study is, manipulation check should be used to examine whether participants in both the treatment and placebo groups perceived the content of their respective " intervention" differently.