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Literature Review

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SUICIDE & SELF-HARM IN PRISONS

Maha Aon

Marie My Warborg Larsen

Marie Brasholt

DIGNITY
DANISH
INSTITUTE
AGAINST TORTURE



SUICIDE & SELF-HARM IN PRISONS

AN INTERNATIONAL LITERATURE REVIEW

PREVENTION OF SUICIDE, SUICIDE ATTEMPTS AND SELF-HARM IN MOROCCAN PRISONS
- A JOINT PROJECT BETWEEN THE GENERAL DELEGATION FOR THE MANAGEMENT OF
PRISONS AND RE-INTEGRATION (DGAPR) AND THE DANISH INSTITUTE AGAINST TORTURE
(DIGNITY) WITH FUNDING BY THE OPEN SOCIETY FOUNDATION (OSF)

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Marie My Warborg Larsen
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Introduction

This literature review is the first activity of a joint project, *Prevention of Suicide, Suicide Attempts and Self-harm in Moroccan Prisons (2017-2019)* implemented by the Moroccan prison authorities (General Delegation for the Management of Prisons and Re-integration, DGAPR) and the Danish Institute against Torture (DIGNITY) with funding by the Open Society Foundation (OSF).

The literature review aims to present a **general picture of existing knowledge on suicide, suicide attempts and self-harm in prisons**. It comes under the project's first objective, namely establishment of baseline knowledge and awareness by the Moroccan prison authorities and DIGNITY of prisoners' health and the prison health services in Moroccan prisons with a focus on suicide, suicide attempts and self-harm.

For this **literature review**, the DIGNITY library team searched through its own collection as well as PsychInfo, International Bibliography of the Social Sciences (IBSS), Medline and the US National Criminal Justice Reference Service (NCJRS). The team identified literature on suicides and self-harm in prisons and produced a **catalogue of about 480 study abstracts**. The catalogue was reviewed to 1) create the desk study chapter headings; and 2) select articles for analysis. Further articles were obtained by the team based on issue-specific searches. In addition, normative documents, such as UN recommendations and reports and national reports were included. **Almost 100 documents were reviewed** as part of this literature review.

It must be noted that the **grand majority of published articles pertained to Western countries**. We only located 13 published articles of relevance from non-Western countries of which only two (Nagpur region, India (Bardale and Dixit, 2015) and Durban, South Africa (Bhana, 2003)) used completed suicide data, as opposed to suicide risk or ideation. The other studies were conducted in Chile (Krüger et al., 2017), China (Zhang et al., 2010a, 2010b), French Guiana (Ayhan et al., 2017), Israel (Chen and Gueta, 2017; Iancu et al., 2007), Nigeria (Ineme and Osinowo, 2015), Pakistan (Shagufta et al., 2015), South Africa (Nieuwoudt and Bantjes, 2018) Sri Lanka, (Hettiarachchi et al., 2018) and Turkey (Görgülü and Tutarel-Kişlak, 2014). We were **unable to locate any studies from Arab or North-African countries**.

Also of note is the fact that our search was wide and did not only focus on one aspect of the broad subject of suicide, suicide attempts and self-harm in prisons. The reviewed literature therefore presents a broad array of issues and relies on different methodologies. Even articles that did focus on the same subject, such as suicide rates in prison, were quite varied in terms of definitions used, rate calculation methods, type of detention centre selected, prison population, etc. Consequently, the articles are not directly comparable. The information presented here is therefore to be taken at face-value and is **only intended to provide a general picture of available literature on the subject**.

Section 1: The epidemiology of suicide and self-harm in prisons

1.1 Definitions

The **definition of suicide varies across countries** with some classifying suicide as any self-inflicted death regardless of **intention** and others requiring the presence of intention for a death to be classified as suicide. For example, the Centers for Disease Control and Prevention (CDC) in the US defines suicide as: “death caused by self-directed harmful behaviour with the intent to die as a result of the behaviour” (CDC, 2017a) whereas in the United Kingdom, the Office for National Statistics defines suicide as “all deaths from intentional self-harm...and deaths where the intent was undetermined” (ONS, 2017a). Some contend that we need to distinguish between suicide and “self-inflicted death” (such as in the case of accidents for example) (Gould et al., 2017), but it has been demonstrated that suicide rates within prison remain significantly higher than in the general population, regardless of whether the definition includes intention or not (Fazel et al., 2017).

Suicide is listed as a risk for an array of mental health disorders in the Diagnostic and Statistical Manual of Mental Disorders, version five (DSM-V), but suicide is additionally listed as a disorder in itself, namely **Suicidal Behavior Disorder** (APA, 2013). Criteria for diagnosing Suicidal Behavior Disorder include that the individual has attempted suicide within the last 24 hours and **defines attempted suicide** as “a self-initiated sequence of behaviors by an individual who, at the time of initiation, expected that the set of actions would lead to his or her own death.”. Suicidal ideation or even active preparations do not qualify a person to be diagnosed with Suicidal Behavior Disorder (APA, 2013).

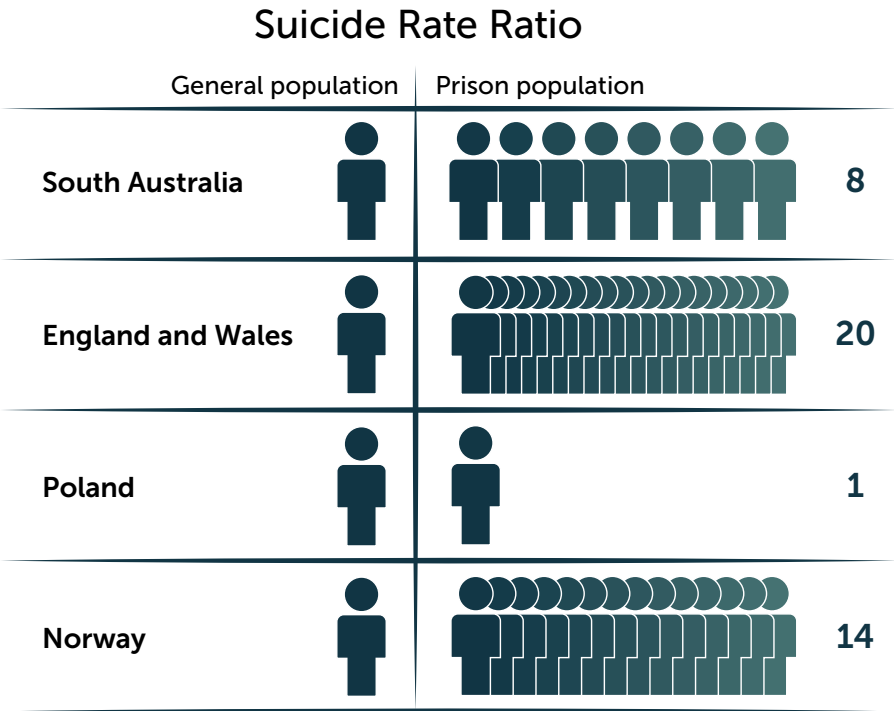
Self-harm is defined by Favazza (1989) as “the deliberate destruction or alteration of body tissue without conscious suicidal intent”. Whereas suicide can be considered “a life-extinguishing act”, self-harm is “a form of life affirmation or a ‘primitive’ coping mechanism in response to stress” (Walsh, 2014). The reasons behind self-harm are broad and include, but are not limited to mental illness, desperation, to make demands of prison authorities, to “seek help...or to gain relief from tension” (Marzano et al., 2012; Pratt et al., 2016). Nonsuicidal self-injury is listed as a disorder in the DSM-V and a criterion for diagnosis is the individual having “...engaged in intentional self-inflicted damage to the surface of his or her body of a sort likely to induce bleeding, bruising, or pain...with the expectation that the injury will lead to only minor or moderate physical harm...”. Criteria also include a list of the individual’s expectations as a result of the self-harm such as obtaining relief or resolving difficulty (APA, 2013).

Notwithstanding the above definitions, the articles reviewed here used a wide range of definitions for both suicide and self-harm. For example, some studies included self-hangings and self-strangulation in their self-harm definition, while others considered such acts as attempted suicide, rather than self-harm. The same applies to suicide methods where intention was included in some studies and excluded from others. Articles addressed a myriad of similar but not identical nuances, including suicidal ideation, intent, threat, attempt, etc. The articles are therefore not exactly comparable, but we nevertheless used them to demonstrate the general state of research and understanding on the topic of suicide and self-harm in prisons.

1.2 Suicide and self-harm rates

The WHO states that 800,000 people die yearly as a result of suicide and that it is the **leading cause¹ of death globally among young people** (WHO, 2018). Suicide is the leading cause of death for both men and women aged 20-34 in the UK (ONS, 2017b) and is currently at a 20-year high in the US where it is the second top cause of death for 10-24 year olds and the fourth cause of death for 25-44 year olds (CDC, 2017b). Suicide is not just a problem in rich countries. According to WHO, **78% of suicides in 2015 occurred in low- and middle-income countries** (WHO, 2018). In India for example, the suicide rate increased from 6.4 per 100,000 in 1982 to 10.5 in 2002 (Bardale et al., 2015). The WHO estimates that for every completed suicide, 20 suicide attempts occur (WHO, 2018).

Research has consistently shown that **suicide rates are higher in prison than among the general population**. Kellogg reports on studies finding that **persons are 2 to 9 times more likely to commit suicide in prison, than outside** (Kellogg et al., 2014), while Fazel et al. found rate ratios in 24 high-income Western countries range from 1 in Poland² to 14 in Norway, meaning that prisoners in Poland were not more likely to commit suicide than the general population, whereas in Norway they were 14 times more likely to do so (Fazel et al., 2017). The following graph compares suicide rates among prisoners and in the general community.



Source: (Austin, van den Heuvel, and Byard 2014; Fazel, Ramesh, and Hawton 2017)

1 Technically speaking, suicide is not a cause of death, but rather a manner of death resulting in asphyxiation for example which would be the actual cause of death. However, the literature reviewed does not make that distinction, so throughout this document we use the term cause and manner interchangeably.

2 Note that the p-value for that rate ratio is 0.93 rendering questionable statistical significance.

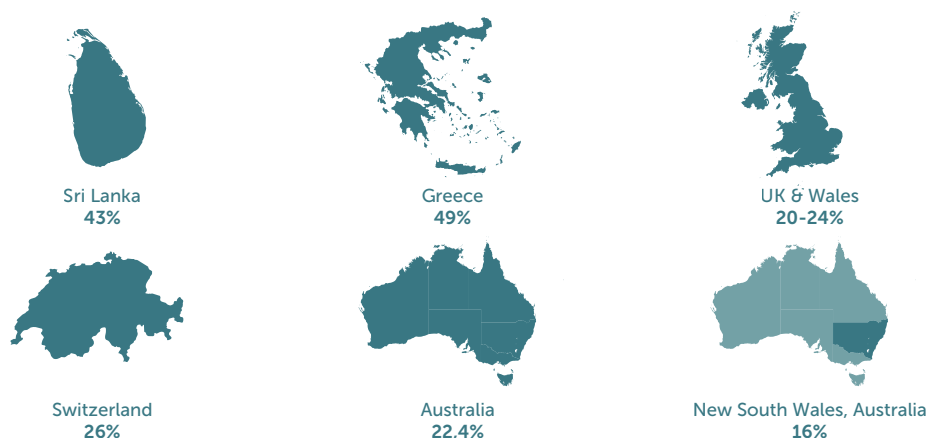
Fazel et al. (2011) contend that suicide is the “single most common cause of death in prison settings” accounting for half of all prison deaths globally. Examples of this abound. Suicide is the leading cause of death in Swiss prisons (Gauthier et al., 2015) and accounted for 52% of prison deaths between 1996 and 2010 in Australian prisons (Austin et al., 2014). A study of 24 high-income countries found that 7 countries had suicide rates above 100 per 100,000 per annum with Norway reporting the highest prison suicide rate at 180 (Fazel et al., 2017).³

In addition to recording high suicide rates, prisons also record high suicide risk. The risk of suicide was detected in 13.2% of prisoners in French Guiana (Ayhan et al., 2017), in 33.5% of men in Andalusian prisons in Spain (Saavedra and López, 2015) and in 88% of men in five prisons in Turkey (Görgülü and Tutarel-Kışlak, 2014). More than half (54%) of prisoners in a Chinese study expressed suicide intent (Zhang et al., 2010a). The incidence of actual suicide attempts in one French prison was recorded at 13.4 per 100 person-years (Encrenaz et al., 2014).

Prisons also record significant self-harm rates. In an Italian study, among prisoners who reported lifetime self-harm, 62.4% did so in prison (Verdolini et al., 2017). The following graph depicts self-harm rates among prisoners in different countries. Note that none of the studies is nationally representative. Figures are only depicted under the country name to identify the country in which the study was conducted.

We were unable to locate many studies about the rates of suicide and self-harm in prisons in non-Western countries. However, the only studies we located suggest a different picture. While data from Western countries demonstrates that suicide is a leading cause of death in prison, a ten-year retrospective study of all deaths in custody in Nagpur region, India shows that only 8.09% of deaths were due to suicide (Bardale and Dixit, 2015) and in Durban, South Africa that number is 5.99% between 1998 and 2000 (Bhana, 2003).

Self-harm Rates In Detention



Source: (Sakelliadis et al. 2010; Baggio et al. 2018; Hawton et al. 2014; Moore, Gaskin, and Indig 2015; Verdolini et al. 2017; Hedrick 2017; Hettiarachchi et al. 2018)

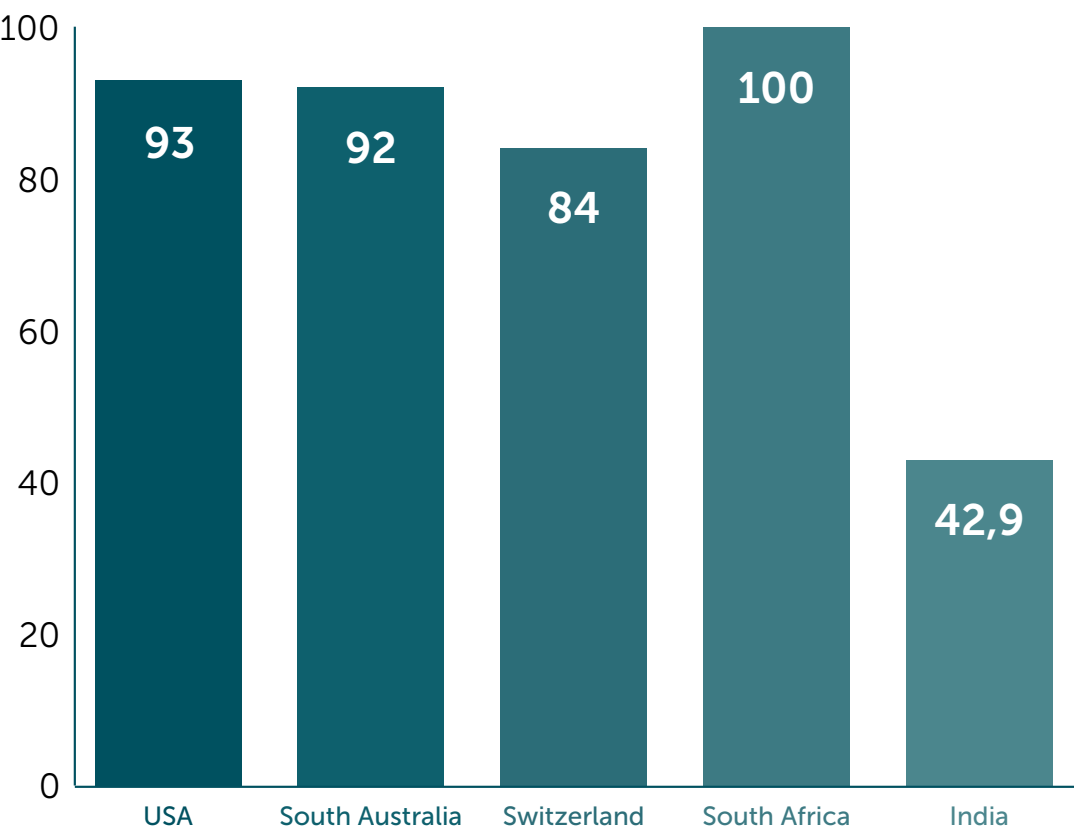
³ Other countries with rates exceeding 100 were France (176), Iceland (165)*, Belgium (114), Portugal (108), Sweden (104) and Finland (165). Countries with the lowest rates among this group included Northern Ireland (29)*, Poland (24) and USA (23)**. *= Suicide rates with weak statistical significance (Iceland: $p=0.40$; 95% CI=0.1-297.2; Northern Ireland: $p=0.65$; 95% CI=0.1-23.4); **According to the California State Auditor, the suicide rate in US state prisons is 15.66 per 100,000 (California State Auditor, 2017)(California State Auditor, 2017).

1.3 Methods and timing

Asphyxiation by hanging is by far the most common cause of death in suicides within detention as depicted in the following graph. In Nagpur, India, however hanging only accounted for 42.85% of cases of suicide in detention (Bardale and Dixit, 2015).

Hanging is most commonly done using bedding material (two-thirds in the US according to Hayes and 34% in Switzerland according to Gauthier et al.), but also clothing, cables, shoe laces, etc. (Gauthier et al., 2015; Hayes, 2012). Anchoring devices also vary as depicted in the following graph.

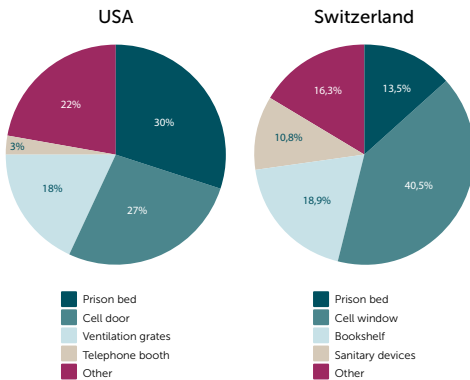
Suicide In Detention Through Asphyxiation By Hanging



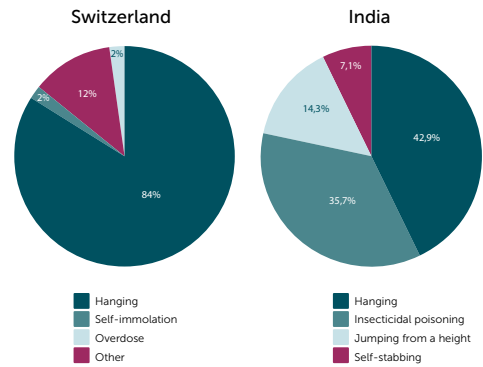
Source: (Hayes 2012; Austin, van den Heuvel, and Byard 2014; Bhana 2003; Bardale and Dixit 2015; Gauthier, Reisch, and Bartsch 2015)

In addition to hanging, other suicide methods include overdose and self-immolation, which accounted for 12% and 2% of suicides respectively in Swiss prisons, for example (Gauthier et al., 2015). Suicide methods in the Nagpur study are juxtaposed to suicide methods in a Swiss study in the following graph.

Anchoring devices for hanging in detention



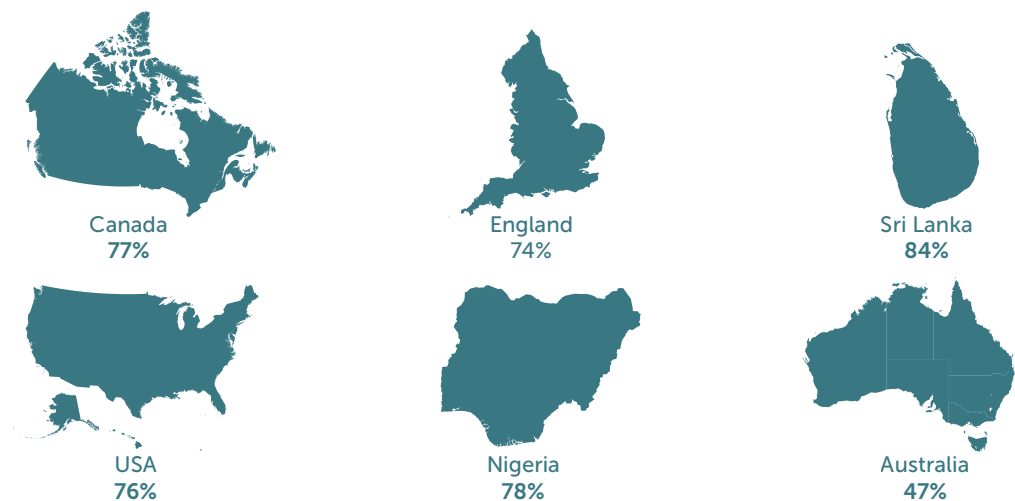
Method of suicide in detention



Source: (Gauthier, Reisch, and Bartsch 2015; Bardale and Dixit 2015, Hayes 2012)

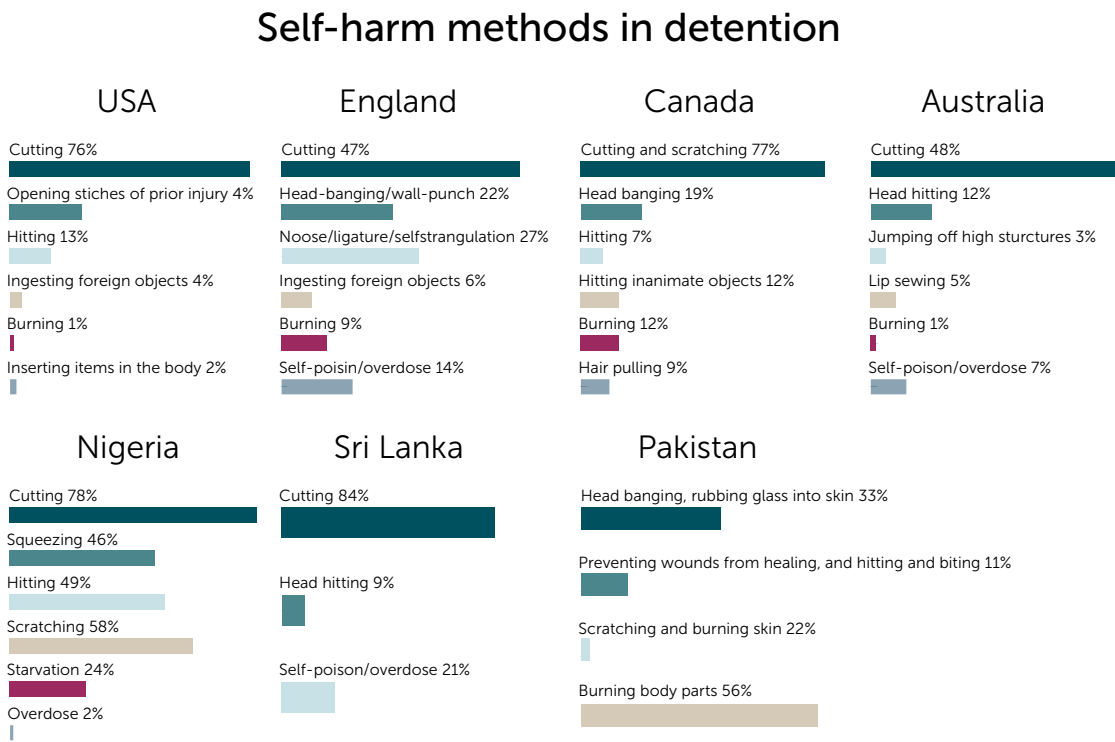
We only located eight studies into self-harm methods in detention from seven countries, namely Australia (asylum seekers in detention), Canada (female prisoners), England (female prisoners), Nigeria (prisoners), Pakistan (female prisoners), Sri Lanka (youth prisoners) and USA (prisoners). The studies are of varying quality and examine different populations in different forms of detention. Five studies were based on the analysis of case records, while the Pakistan study was intervention-based measuring actual post-intervention self-harm, the Sri-Lanka study relied on self-reports of actual self-harm and the Nigeria study relied on self-report of urge to self-harm. Despite the differences, the most salient finding across the studies is that **cutting appears to be the most common self-harm method** (Hedrick, 2017; Hettiarachchi et al., 2018; Ineme and Osinowo, 2015; Jones, 1986; Kottler et al., 2018; Power et al., 2013; Riaz and Agha, 2012; Selling et al., 2014). The graph below depicts the prevalence of cutting among those who self-harm. Note that none of the studies is nationally representative. Figures are only depicted on the country map to identify the country in which the study was conducted.

Self-harm By Cutting In Detention



Source: (Hedrick 2017; Hettiarachchi et al. 2018; Ineme and Osinowo 2015; Kottler, Smith, and Bartlett 2018; Jones 1986; Power, Brown, and Usher 2013; Selling et al. 2014)

In addition to cutting, a wide variety of self-harm methods were identified as depicted in the following graph.



Source: (Hedrick 2017; Hettiarachchi et al. 2018; Ineme and Osinowo 2015; Kottler, Smith, and Bartlett 2018; Jones 1986; Power, Brown, and Usher 2013; Riaz and Agha 2012; Selling et al. 2014)

Studies report a **wide range of findings regarding the timing of suicide and self-harm in prison**. Some report more frequent incidence in the first period of detention. In South Australia, 39.1% of suicides occur in the first month of detention with 26.1% taking place within the first week (Austin et al., 2014), and in England and Wales, 10% of suicides occur in the first three days of incarceration (Prisons & Probation Ombudsman for England & Wales, 2014). In Nagpur, India, of those who committed suicide in custody (police and prison), 62% did so within 24 hours of arrest (Bardale and Dixit, 2015). In Canada, self-harm is more likely during the first three months of admission (Casiano et al., 2016).

In England and Wales, **remand prisoners** represent 46% of suicides despite making-up only 13% of the prison population (Prisons & Probation Ombudsman for England & Wales, 2014). The increased risk of suicide for remand prisoners is confirmed by others (Perry et al., 2010; Pratt et al., 2016; Sanchez, 1999). In the US, the suicide rate in jails housing remand prisoners is 45 per 100,000 prisoners whereas federal prisons’ rate is 16 per 100,000 (Fazel et al., 2017). And in Nagpur region, India, 12 of the 13 suicides occurring over a ten-year period were among prisoners in police stations (10) or on remand (2) (Bardale and Dixit, 2015).

Other risk periods were identified. A study from the UK found riskier periods for suicide are upon arrival, upon release and around transfer (Mackley et al., 2018). One US study specifically notes a “higher risk of suicide at both 24 to 48 hours and after 60 days of confinement” (Hayes, 2012). However, other studies found that prisoners with long sentences are at higher risk of suicide and self-harm (Casiano et al., 2016; Hawton et al., 2014; Zhang et al., 2010a).

Prisoners are also at increased risk of suicide after release. The rate of suicide within the first year of release in England and Wales is 156 per 100,000 person-years compared to 11.6 among the general population (Pratt et al., 2006). In Finland, released prisoners are three times more likely to die of suicide than males in the general population (Joukamaa, 1997).

Some studies have linked the timing of suicides to other incidents. For example, in England & Wales, more than half of the suicides occur within a month of a self-harm incident (Hawton et al., 2014). In the US, a third of suicides occurred within 2-3 days of a court hearing (Hayes, 2012). This suggests that **specific incidents may trigger the suicide act.**

Section 2: Risk factors for suicide and self-harm in prisons

2.1 Risk factors for suicide

The most common risk factor for suicide both in the general population and prison is **mental health state**. While the Mandela Rules state that “people with severe mental health conditions should never be held in prison” (Rule 109), the reality is that about one in seven prisoners suffers from a “serious mental health condition” (PRI, 2018). It is estimated that more than 90% of suicides are associated with mental illness (Hayes, 2012). Fazel et al. write that “psychiatric morbidity leads to high suicide rates, both in custody and after release, and contributes to repeat offending” (Fazel et al., 2011). A study in an Andalusian male prison in Spain found psychopathological variables as “the most powerful factors to explain suicide risk in prisons” (Saavedra and López, 2015). A 2018 briefing paper to the UK House of Commons states that 70% of prisoners who committed suicide in 2012-14 “were found to have had mental health needs” (Mackley et al., 2018). The same is true in the US where a “disproportionate number” of suicides was associated with mental illness (Hayes, 2012). Indeed, a study found that prisoners with mental health disorders or substance abuse in the US have up to 9.2 greater odds of attempting suicide than others (Gates et al., 2017). Even a family history of mental health problems was associated with suicide among prisoners in Israel (Chen and Gueta, 2017) and Spain (Saavedra and López, 2015). Specific mental conditions among prisoners have been linked to suicide in a range of prison-based studies:

- **Depression** patients were found to be 7.44 times more likely to commit suicide in prison compared to other prisoners and **Dysthymia** (persistent mild depression) patients were found to be 4.22 times more likely to commit suicide in a study in French Guiana (Ayhan et al., 2017); Two-thirds of suicides occurred among prisoners with depression in the US (Hayes, 2012); Prisoners displaying “depressive and anxious symptoms” were 3.3 times more likely to commit suicide in Bordeaux, France compared with other prisoners (Encrenaz et al., 2014); Depression was also one of the most common predictive factors for suicidal ideation and behaviour in studies conducted in UK, Turkish and Chinese prisons (Görgülü and Tutarel-Kışlak, 2014; Stokes et al., 2015; Zhang et al., 2010a).
- **Schizophrenia** patients are twelve times more likely to commit suicide in UK prisons (Prisons & Probation Ombudsman for England & Wales, 2014).
- **Panic disorder** patients were 3.47 times more likely to commit suicide in the French Guiana study (Ayhan et al., 2017).
- **General anxiety disorder** patients were 2.19 times more likely to commit suicide in French Guiana (odds ratio) (Ayhan et al., 2017) and 1.65 times more likely to commit suicide in Andalusian Spain prisons (adjusted odds ratio) (Saavedra and López, 2015).
- **Affective disorder** patients were 33.3 times more likely to commit suicide in Andalusian Spain (adjusted odds ratio) (Saavedra and López, 2015).
- **Personality disorder** patients were 31.12 times more likely to commit suicide in Andalusian Spain (adjusted odds ratio) (Saavedra and López, 2015).

- **Substance use disorder** patients are more likely to commit suicide than others (Fazel et al., 2017; Gates et al., 2017). Early onset of substance abuse was associated with increased suicide risk among prisoners in Israel (Chen and Gueta, 2017) and in Andalusian Spain inmates suffering substance dependence are 2733 times more likely to commit suicide (adjusted odds ratio) (Saavedra and López, 2015).

The WHO states that “**prior suicide attempt is the single most important risk factor for suicide** in the general population” (WHO, 2018). Prior suicide attempt within the last 24 hours is a criterion for diagnosis with Suicidal Behavior Disorder according to the DSM-V (APA, 2013). In England and Wales, 38% of those who commit suicide in prison had previously attempted suicide or self-harmed in prison (Prisons & Probation Ombudsman for England & Wales, 2014) and in Turkey, history of suicide attempt was positively associated with higher suicide ideation risk (Görgülü and Tutarel-Kışlak, 2014). In Bordeaux however, history of suicide prior to prison was not associated with suicide risk in prison (Encrenaz et al., 2014). History of self-harm has also been shown to act as a risk factor for suicide in some studies (Pratt et al., 2016). Hawton writes that addressing self-harm “is an essential component of suicide prevention in prisons” (Hawton et al., 2014).

Studies found that a **history of childhood abuse was also a positive predictor of suicide among prisoners**. In French Guiana, prisoners abused during childhood were 21 times more likely to commit suicide (Ayhan et al., 2017). The Prisons and Probation Ombudsman for England and Wales states that prisoners who commit suicide are more likely to have been fostered or in care as a child or suffered abuse (Prisons & Probation Ombudsman for England & Wales, 2014). This finding was also confirmed in studies among prisoners in the US and Israel (Chen and Gueta, 2017; Stokes et al., 2015). Even as adults, prisoners who had been sexually or physically abused in prison are 5.4 times more likely to attempt suicide (adjusted odds ratio) (Encrenaz et al., 2014). In Spain, Norway and China adverse childhood experiences, such as abuse, neglect, “household dysfunction” or childhood trauma were significantly associated with suicide attempts and ideation (Friestad et al., 2014; Sanchez, 1999; Zhang et al., 2010a). Studies have found a **correlation between race and suicide risk** in prisons. A review of 27 studies about suicidal ideation in the US juvenile justice system, found the highest prevalence among White prisoners as compared to African American and Hispanic prisoners (Stokes et al., 2015). In fact, the US Bureau of Justice Statistics reported that White inmates were six times more likely to commit suicide compared to Black inmates and three times more compared to Hispanic (Trestman et al., 2014). Similarly, in England and Wales, White prisoners display higher rates of suicide (Hayes, 2012; Prisons & Probation Ombudsman for England & Wales, 2014). In Germany, prisoners who were German citizens had higher suicide rates than non-citizens (76.5 vs. 42.8 per 100,000). That was also the case in the general population outside prison (19.3 vs. 9 per 100,000) (Radeloff et al., 2017). Fazel et al. note that “rates of suicide in custody are lower in black and ethnic minority groups compared with white prisoners in many countries” (Fazel et al., 2011). It is unclear why such a correlation exists. It may be due to a selection bias given that in many prisons, White prisoners tend to constitute a minority and may therefore represent a population that is at higher risk for mental illness or other risk factors. This issue requires further investigation.

Studies also present **general health-related variables** as contributing to suicide risk among prisoners. In a nationally representative study among US State prisons, the odds of attempted suicide was significantly higher for inmates with poor physical health (Stoliker, 2018). Prisoners with self-perceived poor health status were 2.5 times more likely to attempt suicide than others in a French prison (Encrenaz et al., 2014). Prisoners who smoked were at 2.93 times more risk for suicide than others in French Guiana (Ayhan et al., 2017). Among older prisoners, disability related to daily prison activities was strongly associated with both depression and suicidal ideation severity (Barry et al., 2017).

A range of **protective factors** were also identified in single studies. In England and Wales, engagement in “**purposeful activity**”⁴ proved a protective factor against suicide (Leese et al., 2006). In China, **social support** proved a protective factor against suicidal ideation for both men and women, while **self-esteem** proved a protective factor for women (Zhang et al., 2010a). And in Pakistan, a prisoners’ **sense of belonging** to other prisoners conferred protection against suicidal ideation among male juveniles (Shagufta et al., 2015).

2.2 Risk factors for self-harm

Risk factors for self-harm in prison include similar risk factors to suicide, but are more varied. **Severe mental illness was significantly associated with self-harm** in a US study (Kaba et al., 2014a). Mental health status such as lifetime psychotic disorders, Borderline Personality Disorder, Affective Disorders, and misuse of multiple substances were significant risk factors for self-harm in an Italian study (Verdolini et al., 2017). The use of mental health services, and positive mental health screening were also predictive factors in a Canada study (Martin et al., 2014).

Race was also a predictive factor for self-harm in many countries (Fazel et al., 2011). In one study in the US, White prisoners had a 1.84 increased odds of self-harm compared to Black prisoners while Hispanic prisoners had a 1.43 increased odds compared to black prisoners (Kaba et al., 2014b).

In England and Wales **being on remand was also associated with increased risk of self-harm**, but so was having a **long sentence**. Long sentences were also associated with self-harm in Canada (Casiano et al., 2016; Hawton et al., 2014).

Studies identified **additional risk factors for self-harm beyond those cited for suicide**. Lower educational and occupational achievement were risk factors in two studies in Canada (Casiano et al., 2016; Martin et al., 2014). Being young (under 18) was a risk factor in the US, and England and Wales (Hawton et al., 2014; Kaba et al., 2014a), and being young at first incarceration was a risk factor in Canada (Casiano et al., 2016). Older age and child welfare involvement, higher criminal severity profile, “disruptive institutional behaviour”, and history of attempting escape (Casiano et al., 2016), as well as, troubled family history⁵ (Martin et al., 2014) were additional risk factors in the Canada studies. Other risk factors in England and Wales are prison type⁶ (Hawton et al., 2014). In England, criminal history factors (such as prior prison) and specific adverse life events (bullying, homelessness, death of a parent or sibling, and having been in Local Authority care) were also associated with near-lethal self-harm (Rivlin et al., 2013).

4 “The term ‘purposeful activity’ covers areas such as education, tackling substance abuse, anti-bullying initiatives, prerelease work, family visits and a range of work responsibilities within the prison and in prison farms and gardens. It does not include time spent in association with other prisoners, or time spent on legal visits or attending court.”, Leese, et al., 2006.

5 “Limited attachment to family, negative relationship with parent, witnessed family violence, or victim of abuse”, Martin et al., 2014.

6 Local, category B or C or Immigration Removal Centre, closed or juvenile, open, high-security.

2.3 The role of gender

The **prevalence of suicide in prison also varies by gender** (Stokes et al., 2015). In the 24 high-income countries' study, 93% of suicides occurred among men (Fazel et al., 2017). Another study found that men are 56% more likely to commit suicide than women (Kellogg et al., 2014), and in Nagpur, India 93% of suicides in detention over a ten-year period were among men (Bardale and Dixit, 2015). However in China, a study in three prisons found no statistically significant difference in suicide prevalence between the sexes. Note that China is the sole country where suicide rates are higher among women in the general population than among men (Zhang et al., 2010b). And in Israel, death by suicide rates in prison were actually higher among women than men (Chen and Gueta, 2017).

However, deeper data analysis reveals more nuances in the gender variable. In the US State of California, for example, men account for the majority of suicide cases but, while female prisoners make up 4% of the prison population, they account for 11% of suicides (California State Auditor, 2017). Also, **rate ratios for women are higher than for men** (Fazel et al., 2011). Men in the 24 high-income countries are 3 times more likely to commit suicide in prison than in the general population, whereas women are 9 times more likely to do so (Fazel et al., 2017).

Gender also plays a significant role in determining risk factors for suicide within prisons. For example, whereas there was no difference in suicide risk between imprisoned fathers and non-fathers in Chile, mothers displayed significantly lower suicide risk than non-mothers (0.31% relative risk) even though both sexes "showed high burden of separation from children at imprisonment" (Krüger et al., 2017).

While more men are committing suicide in many prisons, compared to women, **the situation is reversed when it comes to self-harm.** In Australia, Canada and England and Wales, data demonstrates that a higher proportion of women in detention self-harm than men (Casiano et al., 2016; Hedrick, 2017; Prisons & Probation Ombudsman for England & Wales, 2014; Shaw et al., 2004). In fact, in England and Wales, women are ten times more likely to self-harm than men (Hawton et al., 2014).

2.4 The role of prison conditions & practices (ecological prison variables)

Studies vary in their findings regarding the role prison conditions play in suicide rates. Some studies find positive correlations between suicide and ecological prison variables, while others find no such correlation. Fazel et al. contend that there is no consistent correlation between prison context⁷ and prison suicide rates. They suggest instead that the interaction between individual-level factors and prison conditions may play a more important role in risk of suicide in prison (Fazel et al., 2017). Others agree. The effect of the "vulnerability that prisoners import from society" along with the features of a prison environment induce "fear of the unknown, distrust of authoritarian environment, perceived lack of control over the future, isolation from family and significant others, shame of incarceration, perceived dehumanizing aspects of incarceration" rendering a prisoner vulnerable to suicide and self-harm (Hayes, 2012; Pratt et al., 2016).

⁷ Studied ecological prison variables were overcrowding, prison to staff ratios (prison officers, health-care staff & education staff), prison daily spending, turnover, and imprisonment duration.

Nevertheless, others have found that certain prison conditions increase the risk of suicide. In a UK study, the following variables were positively associated with suicide:

- Higher turnover
- Higher security
- Public management of prison and
- Large prison population (van Ginneken et al., 2017).

One international study further established a negative association between incarceration rate and prison suicide rate, meaning that countries with lower incarceration rates (smaller prison populations), have higher prison suicide rates. It is suggested that this may be because of the concentration of high-risk populations in prisons with low incarceration rates (Fazel et al., 2017).

Overcrowding was actually not associated with higher suicide rates when the above variables were controlled for (Fazel et al., 2017; van Ginneken et al., 2017).

A Pakistani study in prison found bonding amongst prisoners acted as a protective factor against suicide ideation, a benefit lost when prisoners are isolated (Shagufta et al., 2015). **Isolation is an established risk factor for suicide in prisons.** In an Italian study, the suicide rate among prisoners in short-term isolation was 239% higher than among other prisoners (232.2 vs. 97.8 per 100,000). The suicide rate jumped up to 426.1 among prisoners experiencing maximum security isolation, that is 439% higher than non-isolated prisoners. That same study notes a 4.8 per 100,000 suicide rate in the general population (Roma et al., 2013). In California, 73% of suicides in 2014 occurred in isolation units despite the fact that such units contained less than 10% of the prison population (Méndez et al., 2016). In Indiana, USA segregated prisoners were 3 times more likely to commit suicide than other prisoners (Méndez et al., 2016).

Studies similarly demonstrate the effect of ecological factors and prison practice on self-harm rates. In New York City, prisoners in solitary confinement were about seven times more likely to harm themselves than other prisoners, with minors and those with mental illness being at even higher risk (Méndez et al., 2016). A recent study in the largest pre-trial prison in Geneva, Switzerland found an association between both overcrowding and high turnover rates and self-harm (Baggio et al., 2018).

Section 3: Prevention

The WHO recommends that all countries adopt a national prison suicide prevention policy (WHO & IASP, 2007). While many countries around the world do have suicide and self-harm programs in place, few such programs are evidence-based. Barker et al. conducted a systematic review of evidence-based efficacy of suicide and self-harm management activities in prisons concluding that **“multi-factored” programs are most effective** (Barker et al., 2014). Recognition is emerging of the need for suicide prevention to develop beyond a medicalised approach into a wider, more holistic approach (Pratt et al., 2016). This means addressing “all four major categories of risk specific to prison suicides...demographic, clinical, psychological and institutional factors” (Barker et al., 2014). Fazel et al. and Gauthier et al.’s studies corroborate this conclusion. They both recommend a multi-disciplinary approach combining a wide array of activities (Fazel et al., 2011; Gauthier et al., 2015).

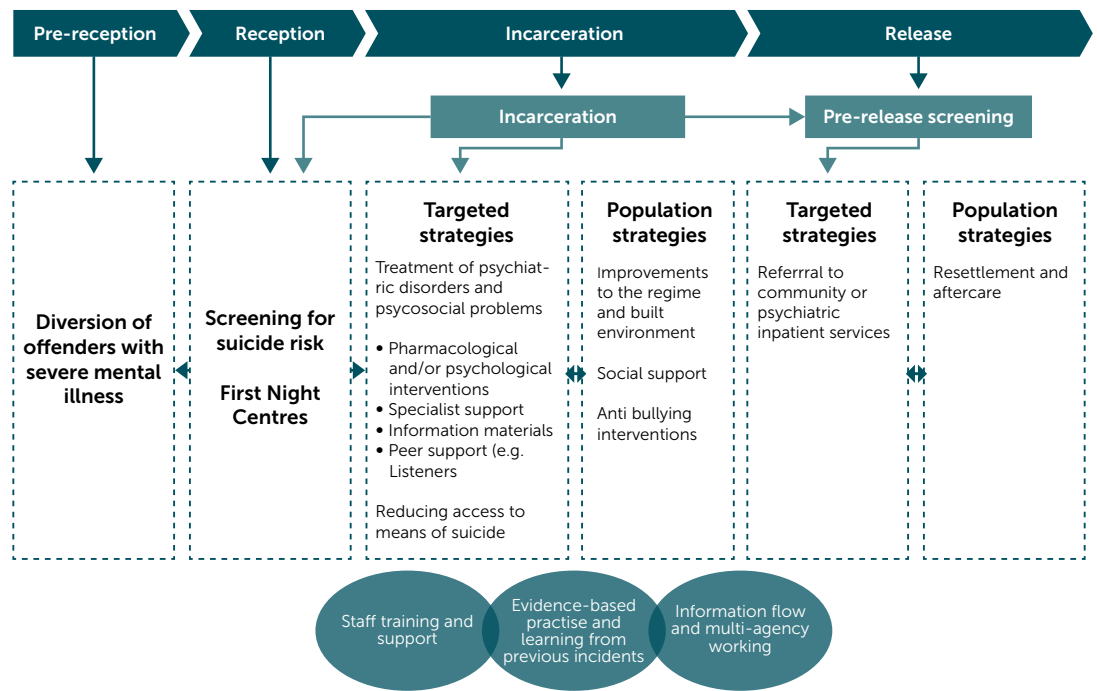
A review of a broad range of studies yielded the following activities as critical components of a prison suicide and self-harm prevention program (Ayhan et al., 2017; Barker et al., 2014; California State Auditor, 2017; Fazel et al., 2011, 2017; Gauthier et al., 2015; Hayes, 2012; ICRC, 2015; Kellogg et al., 2014; Konrad et al., 2007; Krüger et al., 2017; Marzano et al., 2012, 2016; Nieuwoudt and Bantjes, 2018; Prisons & Probation Ombudsman for England & Wales, 2014; Roma et al., 2013; Shagufta et al., 2015; Slade and Forrester, 2015; UK MoJ, 2013; WHO & IASP, 2007; Zhang et al., 2010b).

1. Screening of new prisoners (discussed in depth further)
2. Referral of at-risk prisoners to mental health professionals. Specialist help for mental health patients is critical for suicide and self-harm prevention (Marzano et al., 2016).
3. Increased observation and monitoring of at-risk prisoners (discussed in depth further)
4. Staff training and continued risk assessment (discussed in depth further)
5. Fostering positive prisoner-staff relationships: A briefing paper to the UK House of Commons underlines the importance of prisoner-staff relationships. It should be noted however that some studies have found that favorable relationship with staff actually increased the probability of a suicide attempt being lethal (Magaletta et al., 2008).
6. Reduced solitary confinement is recommended by most studies and by the WHO in addition to the importance of abiding by the Mandela Rules’ stipulation that all detainees in isolation receive a daily health check.
7. Monitoring prisoners while they take their psychotropic medication to avoid overdose.
8. General access to health-care personnel, particularly psychologists and psychiatrists. A systematic review of near-lethal suicide attempts found that the most often cited suggestion for prevention by survivors was “being able to talk to someone” (Marzano et al., 2016).
9. Peer support program. In one of the rare non-Western studies, it was shown that the level of bonding among inmates exerts a “strong protective effect” against suicide ideation in a Pakistani juvenile prisons (Shagufta et al., 2015). Peer mentorship programs are in place in UK prisons (for example, the Samaritans’ Prisoner Listener Scheme (“The Listener Scheme,” n.d.)), in

addition to “well-being groups” that allow prisoners access to religious leaders (Mackley et al., 2018). In Canada, peer-focused suicide prevention training has contributed to lowering suicide numbers (Barker et al., 2014).

- 10. Strengthening prisoners’ contact with the outside world. Prisoners who receive visits are at lower odds of attempting suicide (Stoliker, 2018). In the US, only 22% of those committing suicide had received a call or visit “close” to their deaths (Hayes, 2012). In the UK, it is recommended that relatives of suicidal prisoners be contacted to support the prisoner and that prisoners with mental health problems be given access to free phone calls with family and friends (Mackley et al., 2018). This can be especially effective for prisoners with children based on findings that for certain prisoners the parent role may act as a protective factor (Krüger et al., 2017).
- 11. While some contend that it is “impossible to create a “suicide-proof” cell (Hayes, 2012), others promote the use of the “suicide-resistant cells” (Kellogg et al., 2014). This safer physical environment would entail avoidance of obvious protrusions that can act as anchoring devices for hanging in cells, especially in those housing at-risk prisoners, and favoring textiles that cannot be used for hanging (Gauthier et al., 2015, 2015; Kellogg et al., 2014).
- 12. Post-suicide debriefing and learning (discussed in depth further)

It must be noted that the above actions are recommended by researchers and policy-makers based both on experience and evidence. However, very few studies have examined the *long term* effects of the above activities on actual suicide and self-harm rates. And given the knowledge that suicide and self-harm acts are generally known to fluctuate over time, there is need for more research over longer periods of time (Barker et al., 2014).



3.1 Screening upon entry

A range of international standards call for the medical examination of all prisoners as soon as possible upon entry into prison. The UN Standard Minimum Rules for the Treatment of Prisoners, otherwise known as the Mandela Rules, state that the examination should pay particular attention to “identifying any signs of psychological or other stress brought on by the fact of imprisonment, including, but not limited to, the risk of suicide or self-harm” (Rule 30) (UNGA, 2015). The initial medical examination is also recommended in the UN Body of Principles for the Protection of All Persons under Any Form of Detention or Imprisonment (Principle 24), (UNGA, 1988), and the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) Standards (Standard 33) (CPT, 2011). WHO and the International Association for Suicide Prevention (IASP) also recommend initial screening for suicide risk (WHO & IASP, 2007).

Unfortunately, failure to identify those at risk upon entry is common in prisons across the world. In California, for example, the State Auditor found many suicide risk evaluations were incomplete, poorly completed or lacked follow-up plans. Even in cases of acceptable risk evaluations, the relay of information to relevant colleagues was incomplete and/or inconsistent (California State Auditor, 2017).

Screening incoming prisoners for suicide and self-harm risk can be integrated in the common screening instrument used by prison medical staff or a separate screening tool can be adopted. In Denmark for example, a standard screening tool integrates some questions to indicate the need for mental health support. The Level of Service Risk/Need, Responsivity (LS/RNR) instrument assesses the risk of recidivism as well as the need for rehabilitation, supervision and programming for adults. The tool includes questions about anti-social behaviour, mental health state, and previous self-harm and suicide attempts (Andrews et al., 2008).

There exist a large number of suicide and self-harm screening and assessment instruments. We reviewed some published articles evaluating the use of such instruments in places of detention. Some instruments are specifically designed for places of detention, while others were adapted for that use. None of the instruments are intended as substitutes for clinical assessment and judgement. Below is a matrix presenting some of those instruments:

Instrument	Purpose	Administrator	Validity		Study	Systematic Review
			Sensitivity	Specificity		
Suicide Checklist (SCL)	Identifies “acutely distressed” prisoners	Nurses or briefly trained prison staff	70%	21%	(Arboleda-Florez and Holley, 1988; Earthrowl and McCully, 2002)	(Perry et al., 2010)
Suicide Probability Scale (SPS)	Identifies measure of suicide risk	Self-report	53%	78%	(Daigle et al., 2007; Range, 2016)	
Suicide and Self-harm Concerns for Offenders in Prison Environment (SCOPE)	Identifies predisposition toward suicide and self-harm risk	Self-report	81%	71%	(Perry et al., 2010)	
Suicide Potential Scale / Suicide Risk Assessment Scale	Identifies immediate risk of suicide among those already expressing suicide ideation	Correctional officers	86%	80%	(Daigle et al., 2007; Wichmann et al., 2000)	(Gould et al., 2017; Perry et al., 2010)
Dutch Screening Tool	Identifies prisoners at risk of suicide	Nurses	80% - 83%	77% - 93%	(Blaauw et al., 2001; Dahle et al., 2005)	(Gould et al., 2017)
Depression, Hopelessness and Suicide Screening Form (DHS)	to screen for depression, hopelessness and indicators of suicide among inmate to screen for depression, hopelessness and indicators of suicide among inmate Identifies prisoners suffering depression, hopelessness and at risk of suicide (tool also tested by Martin et al. for identifying self-harm (Martin et al., 2014))	Self-report	80%-100%	95%-99%	(Mills and Kroner, 2011)	
Viennese Instrument for Suicidality in Correctional Institutions (VISCI)	Identifies and helps manage suicidal prisoners	Prison officers	96%	52%	(Frottier et al., n.d.)	
Mental Disability/ Suicide Intake Screen (MDSIS)	Identifies mental health needs & suicide risk	Prison officers	100%	71%	(Harrison and Rogers, 2007)	N/A
Personality Assessment Scale (PAS)	Screens for psychopathology, including suicidal thinking	Health care provider	85%	77%	(Harrison and Rogers, 2007)	N/A

Perry et al. concluded that while many studies were not ideal (scoring poorly on the Standards for the Reporting of Diagnostic Accuracy (STARD), a list of essential items to include in studies of diagnostic accuracy (Bossuyt et al., 2015)), some instruments show promise. In particular, the SCOPE and Suicide Potential Scale displayed acceptable validity results in terms of sensitivity and specificity. Gould et al. recommended the Viennese Instrument for Suicidality in Correctional Institutions (VISCI) and the Dutch screening tool for their high sensitivity rates (96% and 80-83% respectively).

The Mental Disability/Suicide Intake Screen (MDSIS) was mandated in Texas jails when it was reviewed (Harrison and Rogers, 2007). It was compared to the Personality Assessment Scale (PAS) and the Referral Decision Scale (RDS). The Suicide Probability Scale (SPS) was used as control. The authors recommended the MDSIS because of its strength in identifying inmates with suicidal ideation. The MDSIS and the PAS were also compared against the Schedule of Affective Disorders and Schizophrenia (SADS) to measure their performance in identifying other mental health problems and both performed poorly missing high number of inmates with major depression. Given the role depression plays in suicide, this serves as a reminder that continued assessment of inmates is necessary.

While this information is useful, there are many limitations to the studies cited above. The studies are difficult to compare because they employ different methodologies and assess different populations. Most instruments are only validated by one study and in many cases the validation consists of comparing to another instrument rather than real-life outcomes. Moreover, sensitivity and specificity vary depending on the cut-off scores selected by the researchers. Finally, none of the studies were prospective studies, and critically, all were conducted in Western countries, namely, Austria, Canada, Germany, the Netherlands, New Zealand, the United Kingdom and the United States.

The fact that suicides are generally rare events renders suicide prediction difficult (prediction validity), so many instruments rely on proxy measures such as suicide and self-harm behaviour rather than actual act. This should be taken into consideration when assessing the value of the instruments (Perry et al., 2010).

Another approach to identifying at-risk prisoners upon entry is the use of predictive models. Slade et al. tested a model they dubbed 'Cry of Pain' (COP) which 'predicted' the likelihood that a prisoner would develop suicide ideation. The COP was useful, but more research is required to adjust, adapt and improve on such models (Slade and Edelman, 2014).

3.2 Observation and handling at-risk prisoners

The importance of "promptly identifying and treating psychiatric disorders" among prisoners cannot be overstated (Ayhan et al., 2017). The prevalence of mental illness tends to be significant in prisons. It is estimated that in the US, 10% of prisoners are on psychotropics (Ax et al., 2007), and one study found that 28% of US prisoner had a diagnosed mental health disorder (Gates et al., 2017). This renders such prisoners particularly vulnerable to "the common stresses of confinement" (Hayes, 2012).

In Denmark, guidelines specify the actions to be taken when a prisoner at risk of suicide has been identified, such as contacting health personnel and possibly a spiritual leader, talking with the prisoner, noting down observations and ensuring sharper monitoring of the prisoner. The guidelines recommend checking-in on the prisoner at least once every 30 minutes until she/he is seen by a health professional. Further guidelines exist for monitoring at-risk prisoners inside observation cells (Kriminalforsorgen, 2018).

Unfortunately, contact with health services is not necessarily associated with reduced suicide and/or self-harm. In fact, contact with health services in close proximity to suicide is prevalent. In England and Wales, contact with health services was “common” in the final 72 hours (Prisons & Probation Ombudsman for England & Wales, 2014), and in the US, of those who committed suicide and who had been assessed by a qualified mental health professional, 47% had been assessed within 72 hours of death (Hayes, 2012). This is evidence of **prison health services’ challenge to pre-empt suicide**. Further evidence of this is that only 20% of prisoners on suicide watch (requiring daily medical observance) and who commit suicide, had been seen by a medical professional in their last 24 hours, and only 37% of suicide cases were “assessed by a qualified mental health professional prior to their deaths” (Hayes, 2012).

It is obvious that mental health treatment is a necessity for suicidal and self-harming prisoners. Despite the critical need for this, there exist no “evidence-based psychological interventions to prevent suicidality” for prisoners (Pratt et al., 2016). However, there is rich experience in treating suicidal and self-harming prisoners in many countries. A number of treatment approaches are recommended. For example, Barker et al.’s systematic review of prison programs for the management of suicide and self-harm behaviours presented an Australian example where a program dubbed Real Understanding of Self-Help (RUSH) was based on Dialectical Behavior Therapy (DBT) and targetted those suffering Borderline Personality Disorders (BPD). The program yielded positive results in terms of reducing BPD symptoms (Barker et al., 2014; Shelton et al., 2017). Cognitive Behavioral Therapy (CBT) is often highlighted as an effective intervention for suicidality halving re-attempt rates compared to “usual treatment” (Brown et al., 2005; Gøtzsche and Gøtzsche, 2017; Pratt et al., 2016). Pratt further recommends problem-solving and interpersonal therapies (Pratt et al., 2016). Poor problem-solving skills are displayed by many persons who self-harm and developing that skill has been shown to help reduce suicidality (Pratt et al., 2016). But regardless of the specific treatment therapy, Pratt believes that **“acting as an advocate by requesting the reduction/removal of contextual stressors...maintaining the prisoner’s suicidal ideation and behaviour may be the single most important role of the psychologist”** (Pratt et al., 2016). This advice may be particularly valuable in places where mental health professionals have limited capacities.

Given the reality of overcrowding in many prisons around the world, health staff shortages are a clear challenge to adequate handling of at-risk prisoners. One approach in use since the 1990’s is **Telehealth** whereby health care services are delivered electronically. Telehealth is successfully utilised to provide mental health services in jail settings in a number of countries. By 2001 in the US, the majority of correctional facilities were using telehealth, including for mental health services (Ax et al., 2007).

But, handling at-risk prisoners should not focus exclusively on the health aspects. Involvement of different parties in “case conferences” where individual cases are discussed by a wide array of prison staff can be helpful (Pratt et al., 2016). Research has shown that “effective systems for communication between diverse disciplines inside and outside the prison were...a critical component of suicide prevention” (Slade and Forrester, 2015; Stoliker, 2018). Such **multi-disciplinary** groups can contain staff who have close interactions with the prisoner, those responsible for social aspects and contact with the outside world, and so forth. The importance of the multi-disciplinary approach is stressed in the bulk of literature on the subject (Barker et al., 2014). In the UK, for example, an initiative dubbed the Assessment, Care in Custody and Teamwork (ACCT) introduced multi-disciplinary teams. The ACCT is believed to have played a role in an “unusually sustained reduction in suicide rates” in a local London prison (Slade and Forrester, 2015). Among other things, the ACCT is responsible for producing and implementing individual care plans for at-risk prisoners. Such plans may include social support, increased supervision, etc. (Pratt et al., 2016).

3.3 Training and continued risk assessment

Regardless of the outcome of an initial screening, suicides and self-harm have been shown to occur any time during incarceration. As such, it is pertinent that the results of such screening are “viewed as time limited” (Hayes, 2012). Hence, the need for continued risk assessment.

Many countries have specific guidelines for the ongoing identification of at-risk inmates. In Denmark, guidelines clarify how to identify those at risk by being aware of particular periods of time and circumstances that render a prisoner more vulnerable, such as the beginning of imprisonment, around verdict time, if personal problems occur, or when the prisoner displays certain signs such as change in behaviour, unusual aggression and sadness or voluntary isolation (Kriminalforsorgen, 2018).

Citing the fact that suicides most often take place in inmate housing, the **WHO recommends that all staff in daily contact with prisoners should be trained** (WHO & IASP, 2007). Training is a critical component of many proposed suicide and self-harm prevention programs (Gauthier et al., 2015; ICRC, 2015). Training should be systematic to ensure retention and coverage (Towl et al., 2004). It is recommended that all staff in daily contact with inmates receive standard first aid, cardiopulmonary resuscitation (CPR), and automated external defibrillator training (Konrad et al., 2007; Scott, 2010). Prisoners should be involved in the design and evaluation of training programs to strengthen its relevance and effectiveness (Marzano et al., 2012).

Specific training packages are proposed such as the Skills-Based Training on Risk Management (STORM) which has been successfully adapted to prison in England & Wales (Barker et al., 2014). STORM is an evidence-based self-harm and suicide “mitigation model” developed at the University of Manchester, UK. It focuses on strengthening key staff’s skills in risk assessment, safety planning and post-incident action through theoretical and interactive training, skill practice, building networks and creating mitigation and post-incident plans.

Training can also play an important role in shaping detention **staff’s attitudes towards suicide and self-harm** among detainees (Marzano et al., 2016). The engagement of senior-level staff in prioritizing suicide prevention and delivering the message that suicide is preventable is vital (Slade and Forrester, 2015). Not much has been written on the issue of staff attitude, but some have noted that staff attitude towards self-harm and suicide attempts may depend on the extent to which they perceive the detainee to be ‘genuine’ in their intention. Staff are less supportive of those who repeatedly self-harm, sometimes termed ‘malingerers’. While repeat self-harmer may be seen by staff as annoying, training may play a role in explaining the reasons behind such behavior and create dialogue in how best to handle such behavior (Marzano et al., 2016).

In Louisiana, USA staff receive an eight-hour suicide prevention training in addition to two-hour annual refreshers (Barker et al., 2014). Such a training program is recommended by others (Scott, 2010, chap. 9; Trestman et al., 2014, chap. 43). Hayes further suggests the following components to such training: 1. Suicide risk factors, 2. Suicide risk factors inherent in the correctional environment, 3. Analysis of staff attitudes about suicide, 4. Identification of high-risk suicide periods, 5. Identification of suicide warning signs and symptoms, 6. Identification of suicidality despite verbal denial of risk, 7. Liability issues, 8. Critical incident stress debriefing, 9. Discussion about completed suicides and suicide attempts in facility, and 10. Discussion about sound suicide prevention practices and the facility’s written suicide prevention policy (Scott, 2010, chap. 9). Others, such as Cox et al., also suggest specific components of such trainings, including the use of staff competency checklists (Ruiz, 2010, chap.7).

Given the stress encountered by many prison staff around the world, staff support is an essential component of a suicide prevention program. This is all the more so because of this dual role staff are expected to play in such situations balancing their security responsibilities with that of care (Marzano et al., 2012). It is suggested that staff are engaged in some form of debriefing sessions following critical incidents not just for learning purposes (see below), but also as a way of reducing stress and providing leadership support and supervision (Marzano et al., 2016; Marzano and Adler, 2007; Scott, 2010, chap. 9; Shelton et al., 2017; Slade and Forrester, 2015). Marzano et al.'s overview of prison suicidal behavior prevention initiatives found that in addition to training, "...support, and supervision for...staff...may lead to improved staff attitudes and better responses and aftercare following a suicide attempt...and may also help improve their ability to identify those at risk of suicide..." (Marzano et al., 2016; Marzano and Adler, 2007). Slade et al. states that "professional and emotional support" for prison officers is required and played a significant role in the reduction of suicide rates in a London prison (Slade and Forrester, 2015).

3.4 Learning and documentation

In the unfortunate event that self-harm or suicide take place, it is recommended that a **swift and systematic process is in place to report, document, review and learn from the incident**. Research reveals that post-suicide debriefings were a useful aspect of effective programs (Barker et al., 2014; Slade and Forrester, 2015). For example, New York state prisons reduced their suicide rates through an improved process for the review of suicides. Each completed suicide underwent a psychological autopsy consisting of collecting all available information about the deceased, a special investigation, and quality assurance reviews for all completed and attempted suicides. In addition, staff debriefing took place. Prisons in the state of Louisiana did the same by establishing a departmental suicide review committee (Barker et al., 2014). A local London prison managed to sustain a significant decrease in suicide rates by adopting a suicide prevention strategy that included in-depth internal review of all serious self-harm incidents (Slade and Forrester, 2015).

A clear procedure for documenting and reporting suicide and self-harm incidents is essential. A report to the UK House of Commons states the importance of ensuring procedures are in place for every step of the process from identifying prisoners at risk to managing and supporting them. The report stresses the importance of collecting all relevant information, sharing and acting on it (UK MoJ, 2013). In Denmark, a circular by the Ministry of Justice clearly outlines procedures for documentation and reporting of death, suicide and self-harm in prison. The circular specifies permissible time delays for reporting to each authority as well as the exact information to be reported, documentation to be enclosed and reporting modality. The Danish national electronic case handling system includes a suicides module and all such cases must be entered into the system within a certain time delay. A dossier must be created for each case consisting of the following documents:

- Police report
- Death certificate
- Autopsy statement
- Statement by forensic chemist (if available)
- Statement by specialist state physician (Public Health Medical Officer) (if available)

- Supplemental autopsy report if needed
- Statement from physician or psychiatrist on state of mental health and presumed motive

The New York department of corrections has in place comprehensive suicide prevention guidelines clearly stating their policy, listing potential environmental and personal risk factors for suicide, high-risk periods and warning signs. The guidelines outline the specific procedures to take place at a detainee's entry, the referral process and outlines the responsibilities of individual staff categories. The guidelines further define and outlines all procedures related to suicide watch and include the relevant forms for the full procedure (NYC Dept. of Correction, 2003).

The UK policy on management of at-risk prisoners further stresses the importance of ensuring a "learning strategy" is in place. Among other things, the policy calls for the review of evidence from suicide investigations (for example by the Ombudsman or police) for lessons, and the recording and analysis of patterns of self-harm and suicide attempt behaviour for better understanding of such behaviour at individual facility level (UK MoJ, 2013). Independent investigation of every prison suicide by the Ombudsman or Prosecutor is common in many countries. Finally, debriefing and post-incident counselling and support for fellow detainees who may have witnessed the incident is advised. This helps them process feelings of anger and bereavement. Such support could, for example, be provided by trained fellow detainees (Towl et al., 2004).

Conclusion

Much has been researched about suicide and self-harm in prisons, however many flagrant knowledge gaps exist. While identified risk factors abound, fewer protective factors are documented. While many prevention programs are in place, few display evidence-based success in the long-term. And while much research on suicide and self-harm in prisons was conducted in Western countries, very few took place in non-Western contexts and none in Arab or North African countries. Statistics show that suicide rates are generally similar within geographical regions with neighbouring countries exhibiting similar suicide rates suggesting that suicide is "determined by persisting cross-national differences including traditions, customs, religions, and social attitudes and climate" (Pratt et al., 2016). In fact the role of social factors on suicide rates is well-established. Given that cultural factors have been demonstrated to affect suicide and self-harm behaviour and rates, there is an urgent need to better understand the situation in different geographic and cultural contexts.

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