Prison Mental Health Screening tools: Updated Choices and Sensitivity

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Introduction

The COVID-19 pandemic generated an unprecedented public health threat to both physical health and mental health, with many groups being particularly vulnerable to either type of adverse outcome or both (Pfefferbaum & North, 2020). Prison populations have been amongst those most negatively affected by the pandemic physically (Franco-Paredes et al, 2020) and are documented to already exhibit significantly higher incidence rates of mental illness (Fazel et al., 2016, Yi et al. 2017). While prison mental health services have endeavoured to adapt (Burton et al, 2021; Ewson et al, 2021), there are indications that these services are negatively impacted in terms of mental health as well (Stewart et al, 2020; Júnior et al, 2021).

This strain on an already vulnerable population has made ever more apparent the importance of having access to tools that allow for the mental health of a given prison population to be assessed and monitored in a reliable yet expedient manner. One potential answer to this need lies in mental health screening tools specifically developed for use in prison, whose purpose is to indicate whether a given prisoner should receive an in-depth psychological evaluation. Several such tools have been developed and are presently in use in the United States (Lynes, 2001), United Kingdom (Shaw et al., 2008) and other countries (Ogloff et al., 2007: Gagnon, 2009), but the effectiveness of these tools remains uncertain.

Martin et al. (2013) conducted a systematic review comparing the sensitivity and specificity of 22 such mental health screening tools based on 24 studies conducted in adult prisons/jails (primarily in the United States -54%- but also others incl. the UK, Canada, and New Zealand) with an independent measure of mental illness. The review concluded that five

of the six tools with validation studies were promising and warranted further examination, and these include: the Brief Jail Mental Health Screen (BJMHS; Steadman et al., 2007); Correctional Mental Health Screens for Men and Women respectively (CMHS-M & CMHS-W; Ford & Trestman, 2005); the England Mental Health Screen (EMHS; Grubin et al., 2002); and, the Jail Screening Assessment Tool (JSAT; Nicholls et al., 2004).

In response to this call, Dietzel et al. (2017) provided an overview and comparison of three of these screening tools: the BJMHS, CMHS-M and the EMHS. Unlike guided interview protocols (e.g. the JSAT), these three are scored based on whether the number of endorsements to a series of simple *yes/no* questions exceeds a certain cut-off point, making them straightforward for non-specialist staff to administer. To provide an insightful comparison, the three screening tools were administered alongside the General Health Questionnaire (12 item version) to a sample 74 male Irish prisoners. The study provided only limited inferences regarding the utility of the tests, as data and results, at that time, were preliminary. This current paper represents an update to the 2017 study, wherein the Irish prisoner sample has been supplemented by a n=53 Norwegian prisoner sample and a n=50 General Population comparison sample.

The aim of this paper is twofold. First, it contributes to the correctional mental health assessment literature by providing a direct comparison of the relative sensitivity and specificity of the three prison mental health screening tools when administered to different populations (i.e., Western correctional, Scandinavian correctional, Western general), potentially providing additional validation for the tools in these settings. Second, it aims to provide practitioners and operational prison managers (e.g. Governors) knowledge to inform choices when selecting appropriate mental health prison screening tools for use in their facility's mental health service.

Overview of Measures

GHQ12

The 12-item version of the General Health Questionnaire (Goldberg & Blackwell, 1988) serves as the "gold standard" for preliminary mental health assessment. It has long been in widespread use in many parts of the world and has received validation in a variety of settings (Hassan et al., 2011; Hewitt et al., 2011, King et al., 2021). For this study, it serves as a point of reference to compare how sensitive the BJMHS, CMHS-M, and EMHS screening tools are.

BJMHS

The BJMHS is an eight 8 item yes-no questionnaire based on the Referral Decision Scale (Martin et al. (2013) deemed it to be a clear improvement). The first six questions of the BJMHS are concerned with symptoms that may be indicative of depression, bipolar disorder, schizophrenia or other delusional disorders (e.g. "Do you currently feel that other people know your thoughts and can read your mind?"). If the person answers yes to at least two of these six questions, further evaluation is recommended. Questions 7-8 deal with current medication for mental health problems and past hospitalisation due to mental health problems. If the person answers yes to either of these two questions, further evaluation is recommended regardless of Question 1-6.

CMHS-M

The CMHS-M is a 12 item yes-no questionnaire similar to the BJMHS, although its scope is slightly wider, and the scoring is more straightforward. Its items deal with symptoms that may be indicative of depression, anxiety, post-traumatic stress disorder, borderline personality disorder, and/or antisocial personality disorder. Further evaluation is recommended if the person answers yes to at least six of the 12 questions. In this study, one item (#6, re. losing interest in projects) was removed due to being deemed unsuitable to the sample.

EMHS

The EMHS differs from the BJMHS and CMHS-M in its structure, in that it consists of four yes-no questions, three of which have follow-up questions in case the person answers yes. Another significant difference is that it deals chiefly with historical information, as opposed to the person's current condition. In brief, the EMHS simply ask whether the person has ever seen a psychiatrist outside of prison (who, when, where and why), ever received medication for a mental health problem (what and how much), ever tried to harm himself/herself (the most recent and the most serious instance), and lastly the presence of any current thoughts about self-harm. If the person answers yes to any one of the four questions, a psychiatric evaluation by a mental health nurse is recommended. The follow-up questions provide the assessor of the in-depth evaluation a more detailed clinical picture.

Method

For the prison samples, facility access was arranged with relevant national prison services and facilities were visited by researchers for data collection following ethical approval. After obtaining informed consent, the questionnaires were administered in an interview format, with native speaking research assistants present in case of language barriers. For the general sample, an online participation link was distributed.

The GHQ12 was scored in the standard method (i.e. 0011 scoring) way, the BJMHS was scored via the standard method as described previously, the CMHS was scored with a cut-off point of five instead of six to account for the removal of Item 6. CMHS Item 6 was deemed unsuitable to the first prison sample, thus, for consistency remained excluded in subsequent samples. CMHS Item 4 was reworded for the general sample to remove prison specific language.

Participants

The age for all 176 participants ranges from 19 to 74 years, with a mean of 34.61 years (*SD* = 12.06). Prison samples were exclusively male, with the exception of four females from a Norwegian mixed prison, for whom the women's version of the CMHS was applied (no difference in outcome), gender was not recorded for the general sample.

In terms of ethnicity, a majority of over 88% (*n* = 156) identified as White-Native, and the remaining 12% were Mixed/Other (*n* = 10), Black (*n*- =4), White-Other (*n* = 2), Asian (*n* = 2), and Hispanic (*n* = 1). In terms of nationality, 70 participants reported as Irish, 48 as Scandinavian, 40 as British, 5 as Other-European, 10 as non-European, with 3 participants from Ireland not specifying their nationality.

Results

Figure 1

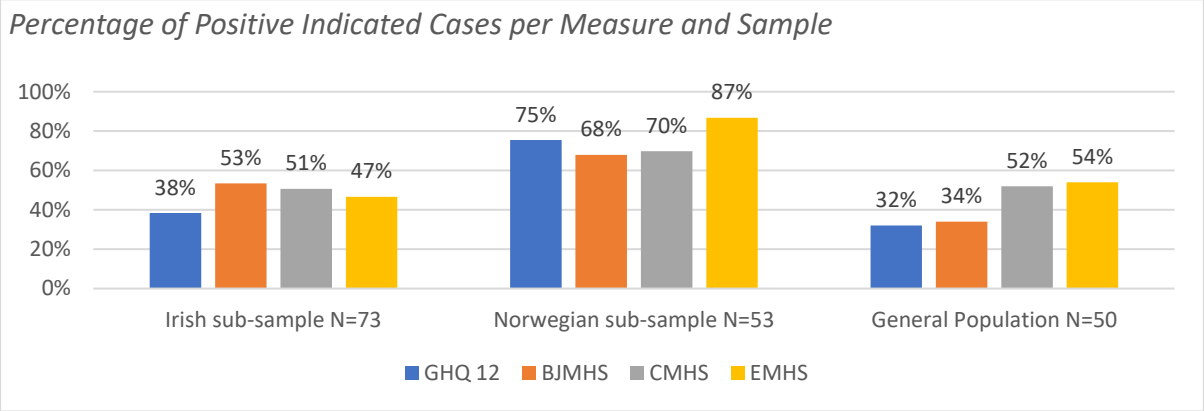

Figure 1 shows what percentage of participants from a given sample scored high enough on each given measure for the results to indicate that further psychological evaluation was warranted. The BJMHS and CMHS performed similarly in both prison samples in terms of overall outcomes, wherein the difference is interestingly 2% both cases but with differing directionalities. Both exhibited notably higher sensitivity than the GHQ 12 in the Irish sub-sample (13-15% difference) but somewhat lower sensitivity than the GHQ 12 in the Norwegian sub-sample (5-7% difference). This contrasts the results of the general sample, wherein the BJMHS mirrors the GHQ12 while the CMHS shows as significantly more sensitive in comparison. The EMHS proved consistently more sensitive than the GHQ 12 as well as the most sensitive of all measure in each sample excepting the Irish sub-sample.

Figure 2.

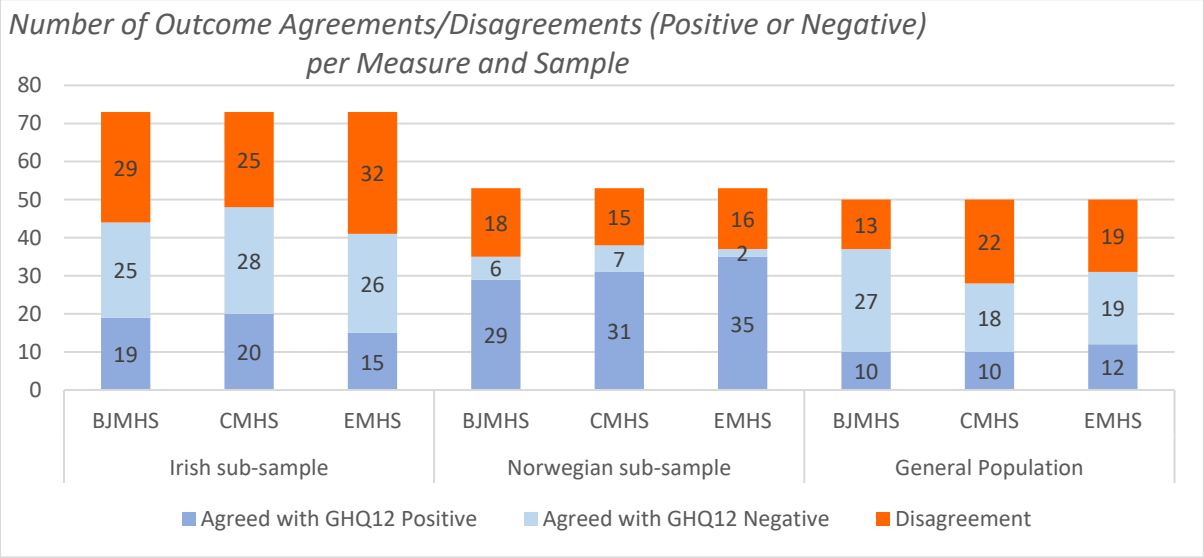

Figure 2 shows the number of cases in which each of the prison screening tools agreed with the outcome of the GHQ 12 in each sample. While no substitute for a genuine false positive/negative rate, this serves to indicate how the prison screening tools respectively diverge in specificity from the comparable conventional measure that is the GHQ 12. (Note: the small number of negative GHQ 12 agreements in the Norwegian sub-sample is to be expected given the high detection rates previously described, see Figure 1).

The CMHS exhibited the highest number of agreements (positive or negative) with the GHQ12 in both prisoner sub-samples, but overall there was little variance in the relative performance of the screening tools in the prisoner samples. There was considerably more variance in the general population sample, with the BJMHS matching the GHQ12 notably more closely than the other; mirroring the findings of the first analysis, which is interesting in that none of the three screening tools were designed for use with non-prison populations in the first place.

Discussion

There are several observations that can be made on the basis of this data that may help inform the decision making of correctional practitioners and operational prison managers as to which mental health screening tools they may wish to adopt for use in their facilities. These observations should be considered in the context of the current study's limitations, namely that the samples stem from open prisons in Ireland and Norway specifically (i.e. a high security prison in country with a very different correctional system may not be entirely comparable), as well as the fact that data was collected prior to the COVID-19 pandemic (see introduction regarding its impact on prison mental health).

The BJMHS and CMHS indicated similar number of cases and exhibited similar levels of agreement with the GHQ12, which suggests they are comparably valid/useful measures. They both appeared more sensitive than the GHQ12 in the Irish sub-sample but less sensitive in the Norwegian sub-sample, suggesting good discriminant validity, i.e., they do not simply flag more/fewer cases than the GHQ12. This combined with their notable but consistent divergence from the GHQ12 suggests they are in fact more fittingly tailored for use in prison populations than the standard GHQ 12; although further validation with a more in-depth measure of mental health in the sample would be required to draw a definitive conclusion.

In contrast, the EMHS consistently flagged more cases than the GHQ 12, particularly in the case of the Norwegian sub-sample where it indicated the need for further psychological evaluation in more cases than any of the other measures. Adding to this the inherent limitations of its short 4-item format, this suggests the EMHS is not tailored for use in correctional settings, but rather a blunt/crude tool that provides no practical utility beyond that of the available alternatives (prison specific or otherwise).

In conclusion, the BJMHS and CHMS both appear as potentially valuable tools that could aid in assessing the mental health needs of prison populations, However, they should not be seen as inherently interchangeable, as the BJHMS performed far more similarly to the GHQ12 in the general population sample than the CMHS did, suggesting there may be specific contexts wherein one is more suitable than the other. This represents a potential avenue of further investigation, as do the apparent differences between the Irish and Norwegian samples.

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