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What works to promote staff health in prison settings: a systematic review

Abstract (250)

Purpose: Given epidemiological data highlighting poor health outcomes for prison staff and correctional workers, this systematic review seeks to understand what health promotion interventions, delivered in prison settings, are effective for prison staff health.

Design/methodology/approach: A systematic review was undertaken, with search parameters encompassing papers published between a ten-year period (2013-2023). Health promotion programmes; well-being programmes; and occupational health interventions to support prison staff health as part of a targeted approach or as part of a whole-prison approach were included in the review.

Findings: The review identified 354 studies, of which 157 were duplicates and 187 did not meet the inclusion criteria. This left ten studies in the review from five countries. Reducing the impact of tobacco smoke was the commonly cited intervention, with four studies focusing on smoke-free prison legislation, but other studies focused on stress reduction for staff and supporting holistic health. The papers were of poor methodological quality, with the exception of three included studies which had robust designs. Most studies showed limited or no impact of interventions to support prison staff health, the exception being policy interventions to reduce second-hand smoke exposure.

Originality: Prison staff have poor health outcomes and yet limited attention has been paid to interventions to support their health. This review suggests a number of considerations for future policy and practice and direction for further research to improve prison staff health.

Background

The idea that prisons should promote health, rather than exacerbate ill-health, has now been part of global prison policy discourse for almost three decades (WHO, 1995). Progress has been variable, but the commitment to maximise the health potential of prisons is well-accepted. Discreet European nations have led the way in policy and practice innovation in creating healthy prison systems (Woodall, 2016); however, less progress has been made in other continents due to ideological and practical challenges (Woodall, 2018, Dixey et al., 2015). The conceptual model to harness the prison as an environment for health has derived from the health-promoting settings agenda (Baybutt and Chemlal, 2016). This model embraces health being promoted in a whole systems and ecological way, rather than in individualistic and siloed approaches (Green et al., 1996). Therefore the structural make-up of the prison and its impact on health is considered as a primary determinant of health (de Viggiani, 2007).

One of the primary critiques of health-promoting settings is that, despite the laudable intent, they can exacerbate inequalities through focussing on *"legitimate sites of practice"* (Green et al., 2000, p. 25), such as schools and some workplaces but without consideration of other settings where people interact. This can potentially exclude certain groups. Prison settings were originally seen as a way to tackle health inequalities in marginalised groups and this move counteracted the critique that the settings approach simply focussed on 'easily accessible' and legitimate sites. This has resulted in a growing body of literature and research evidence focussing on the health of people in prison;

however, a key constituent of the setting, prison staff, have been overlooked (Woodall, 2013). This is not the case in all settings as many schools have developed a 'look after the staff first' approach which addresses the health of employees to the same extent as pupils (Kolbe et al., 2005). Within prison, it is axiomatic that for people in prison to be supported, rehabilitated and released into the community as law abiding, healthy citizens, prison staff too need to feel valued and in good physical, mental and psychosocial health (Bögemann, 2007, Crowley et al., 2018). That said, even recent reports by WHO on the state of prison health across Europe have neglected prison staff health (WHO, 2023).

Evidence has shown for some time that prison staff (the term correctional workers is used in the US context), face significant health challenges and this can happen at all organisational levels, including senior governor grade roles (Harrison and Nichols, 2023) and healthcare staff (Mason and Morris, 2023). Mental health disorders, stress and burnout are exceptionally high in these groups (Johnston et al., 2022, Lambert et al., 2012, Arnold et al., 2024), although some studies have shown improvements in well-being during the pandemic when prison population numbers were reduced and people in prison were spending larger periods of time within their cells (Johnson et al., 2023). Other studies have suggested an opposite effect during the pandemic (Memon et al., 2023). Prison staff face many stressors in their daily duties: stressful and potentially psychologically traumatic work environments; shift work and long working hours; and the unpredictability of threat and severe violence (Johnston and Ricciardelli, 2022, Arnold et al., 2024). Compounding this staff feel that their needs, as prison employees, are often overlooked (Woodall, 2013). This has much wider implications as staff return to their community and their families where often the stressful role of working in a prison can 'spill' into home and family life (Crawley, 2005, Lambert et al., 2022). The manifestation of these issues can be a range of behavioural outcomes, as research in several countries has demonstrated that low physical activity, poor diet, and problem drinking are particularly common in prison staff (Kinman et al., 2019).

One further contributory factor has been the resourcing of prisons – in England and Wales, for example, the number of frontline prison staff was cut by 26 percent between 2010 and 2017 (Prison Reform Trust, 2023). Some of this, it can be argued, is due to explicit political choices and decisions during this period (Ismail, 2022). Staff retention also remains a significant challenge, with 50 percent of staff leaving after 3 years of service and 26 percent after one year (Prison Reform Trust, 2023). This creates a very unstable staff base. Against a backdrop of prison overcrowding; staff attrition; and significant numbers of people still being sentenced to imprisonment (Ministry of Justice, 2022), the challenges facing prison staff and management currently seem high. Despite challenging working conditions and poor health outcomes for prison staff reported in the literature, interventions seeking to support staff health or ameliorate ill health have received comparatively minor attention in the research literature (Schaufeli and Peeters, 2000). The evidence base is scant in determining any understanding of what prison staff want, require, or feel about health promotion interventions in the workplace (McKendy et al., 2023, Clements and Kinman, 2023). This seems somewhat disconcerting given the health benefits of well-conducted employee health promotion initiatives in other work sectors (Mills et al., 2007).

There is recent evidence showing the benefits of well-being initiatives for people in prison – the focus here was not on prison staff – but the research emphasised the need for more systematic understanding and research on how interventions of this kind operate in prison contexts (Turner et al., 2022). Nonetheless, the WHO (2014) positively reported several initiatives designed to support prison staff health, highlighting approaches adopted in Scotland and Germany. Data showing the impact of these was not provided. This review therefore seeks to assess the effectiveness of health

promotion interventions, delivered in prison settings for prison staff to understand further how to support this critical workforce. Health promotion is a broad term and notwithstanding the long-standing critiques about its lack of agreed definition and general imprecision (Woodall and Freeman, 2020), the paper considers any intervention that seeks to improve the health and well-being of prison staff working in this setting.

Methodology

As described earlier, there is a body of evidence which highlights that prison staff are susceptible to adverse health consequences and some evidence which suggests there are interventions to alleviate such deleterious effects. However, there is currently a lack of understanding in relation to what works and what conditions increase the likelihood of success. To address this, the study adopted standard systematic review protocol. This systematic review sought to understand what health promotion interventions, delivered in prison settings, are effective for prison staff health. The three primary review questions were:

1. What are the effects of health promotion interventions delivered for prison staff in prison settings?
2. What are the positive and negative impacts of delivering health promotion interventions for prison staff within prison settings?
3. What process issues in the delivery of health promotion interventions for prison staff increase or decrease the likelihood for success?

Search terms encompassing terminology related to prison staff that would have global relevance were included. This included terms such as: prison staff OR officer* OR governor* correction* staff OR officer* OR governor*. Interventions relating to health; health promotion; health education; well-being; stress-reduction; and occupational health were also used in conjunction. Searches were undertaken on PubMed and Medline as well as Google Scholar. Hand searching was also undertaken in three key journals: Journal of Correctional Health Care; Prison Service Journal; and International Journal of Prison Health. The search parameters focused on eligible studies published between 2013-2023. The rationale for this was to capture contemporary practice and also to coincide with WHO guidance on prison health in 2013-2014 which made explicit reference to supporting the needs of prison staff – recognising their importance in a whole-prison approach to health (WHO, 2014).

Eligibility criteria

Population: Prison staff of any grade working in frontline roles within prisons, jails, correctional facilities and young offender institutions in any country.

Intervention: Health promotion programmes; well-being programmes; and occupational health interventions to support prison staff health as part of a targeted approach or as part of a whole-prison approach.

Comparators: Control groups as part of experimental designs or usual care.

Outcomes: Health outcomes related to prison staff and/or organisational outcomes benefiting the prison service.

Study designs: Quantitative, qualitative and mixed method research.

Validity assessment

Qualitative studies were assessed using the Critical Appraisal Skills Programme qualitative checklist (Critical Appraisal Skills Programme, 2018) and Downs and Black's (1998) checklist was used to assess the methodological quality of quantitative studies. The Mixed Methods Appraisal Tool was used to assess mixed-methods studies (Hong et al., 2018).

Findings

The review identified 354 studies, of which 157 were duplicates and 187 did not meet the inclusion criteria. This left ten studies in the review (see Figure 1).

Figure 1. Prisma flowchart

Four studies were undertaken in the UK (Demou et al., 2020, Ellen Perrett et al., 2014, Hunt et al., 2022, McMeekin et al., 2022); two in the United States (Smith et al., 2022, Wagenfeld et al., 2018); two in Canada (McKendy et al., 2023, Ricciardelli et al., 2021); one study in Australia (Hefler et al., 2016); and one in Turkey (Turan and Turan, 2016). Tackling smoking in prison was the most commonly cited intervention, with four studies focusing on smoke-free prison legislation (Demou et al., 2020, Hunt et al., 2022, McMeekin et al., 2022, Hefler et al., 2016) and one on smoking cessation for staff and people in prison (Turan and Turan, 2016). Other interventions included several stress reduction initiatives, including: yoga and mindfulness (Smith et al., 2022); access to outdoor space for staff (Wagenfeld et al., 2018); an employee assistance programme (McKendy et al., 2023); and a self-management initiative (Ricciardelli et al., 2021). A further study focused on an educational programme on blood borne virus transmission for prison staff (Ellen Perrett et al., 2014). The types of prison facilities where interventions were undertaken were poorly reported in the majority of studies, but two studies covered in whole prison estate in Scotland (McMeekin et al., 2022, Demou et al., 2021) (see Table 1).

The papers were of poor methodological quality, with the exception of three included studies which had robust designs (Demou et al., 2020, Hunt et al., 2022, Hefler et al., 2016). The majority of quantitative papers were not explicit with the sampling strategy and moreover this was rarely reflective of the prison staff population in the respective institutions. Transferability was therefore very limited. Control groups and randomisation were not deployed within studies to ascertain the effectiveness of interventions. In qualitative studies and mixed-method studies with qualitative components, the methods employed did not always ascertain rich in-depth responses and were instead reliant on responses to open-ended questions in electronic surveys.

Table 1. Included studies

Review question 1 - What are the effects of health promotion interventions delivered for prison staff in prison settings?

This review question focused on the effectiveness of health promotion interventions delivered for prison staff in prison settings. The majority of included studies, which the exception of the introduction of smoke-free prison policy (Hunt et al., 2022, McMeekin et al., 2022, Demou et al., 2021), showed limited or no effectiveness in relation to improving health outcomes for prison staff. Three of the stress reduction initiatives (Wagenfeld et al., 2018, McKendy et al., 2023, Ricciardelli et al., 2021), showed no impact on stress or improvements in mental health or working environment for prison staff. Wagenfeld et al. (2018), for example, showed no clear effects for access to outside space during staff breaks at the beginning, middle or end of the work shift. Likewise, an Employee and Family Assistance Programme (EFAP) for prison staff, offering a myriad of services including counselling and legal, financial, health, and career related advice, demonstrated no positive effects

(McKendy et al., 2023). Indeed, the programme was criticised for not meeting staff expectations and highlighted mistrust that prison staff perceived in relation to breaching their confidentiality and also concerning the stigma associated with accessing this type of support. One stress-reduction intervention (Ricciardelli et al., 2021), which utilised a self-management training programme to respond more effectively to workplace stressors, did encourage staff to be more aware of their mental health and facilitated a more open dialogue on matters concerning mental health in the workplace.

Smith et al.'s (2022) study did find positive effects when assessing the impact of a one-hour yoga session for prison staff and administrators followed by a four-hour educational session providing staff with information about the negative effects of stress and the benefits of mindfulness exercises. Staff participating in the sessions were offered an opportunity to complete an online questionnaire following the class. Almost universally (97.8%) staff felt less stressed after the yoga session and their self-reported emotional and physical health had improved. Notwithstanding these encouraging findings the study design was limited and of poor quality, with no longer-term follow-up to determine the longevity of these effects or whether there was a definitive attribution of the yoga and mindfulness education intervention to the improved outcomes.

The review found positive impacts of smoke free policy interventions implemented in prison settings. Hunt et al.'s (2022) three-phase mixed-methods study showed reduced second-hand smoke exposures across every Scottish prison as a consequence of the policy. The policy was also found to be cost-effective. While the policy was effective for staff and people in prison, there were some concerns raised about implementation (discussed later). Positive reductions in second-hand smoke exposure was also reported by Demou et al. (2020) through measurement of concentrations of fine particulate matter in Scotland's prisons. Turan and Turan (2016) work on the effectiveness of smoking cessation for prison staff did not produce clear results and so it is difficult to ascertain the impact.

Review question 2 - What are the positive and negative impacts of delivering health promotion interventions for prison staff within prison settings?

The positive and negative impacts of delivering health promotion interventions for prison staff within prison settings was the focus of review question 2. Stigma was identified in one paper for the reluctance of prison staff to utilise support interventions in prison (McKendy et al., 2023). A lack of trust between individuals and the organisation was reported to be a barrier to access support too, as was concerns about being labelled as mentally unwell or unfit for work. Another negative impact of delivering interventions within the prison setting identified by Smith et al. (2022) was that prison staff were not necessarily conscious about their health generally, so efforts to raise awareness in the work setting itself might be limited. More holistic intervention straddling work and community contexts was therefore suggested to be more beneficial (Wagenfeld et al., 2018), but no study empirically examined the links between the work and community settings. McKenedy et al.'s (2023) study was an exception which included a family component but this was not described in any detail or any analysis undertaken on the links between the work and home environment.

Further negative impacts of delivering health promotion interventions for staff in prison was that some were mis-aligned to the staffs' expectations (Ricciardelli et al., 2021, McKendy et al., 2023) or skills developed in interventions were not perceived to be transferable to real-life contexts. The AMStrength programme which was a self-management intervention to cope with stressful situations was suggested to have limited utility in the realities of the prison environment (Ricciardelli et al., 2021). The papers focussing on smoke-free prison policy implementation did raise concerns about

the use of other (potentially more harmful) substances being used in replace of nicotine and also how the disruption of the implementation could increase staff workload through potentially resolving aggravations and acute violence (Hefler et al., 2016, Hunt et al., 2022).

In relation to the positive impacts of delivering health promotion interventions for prison staff within prison settings, several issues were identified. Yoga within the prison setting for staff was reported to provide positive mind-sets, a greater ability to cope with situations and higher degrees of serenity and reflection when managing stressful environments (Smith et al., 2022). There was also evidence that engagement with the yoga programme provided a renewed focus and awareness on participants' health.

Review question 3 - What process issues in the delivery of health promotion interventions for prison staff increase or decrease the likelihood for success?

Data was limited in the included studies in relation to addressing this review question. Nonetheless, s~~S~~enior leadership support was crucial in getting support for workplace interventions in prison. High completion rates of an e-training course to raise awareness of BBVs in prison by staff was attributed in one study to the assistance of the prison governor and co-operation of local managers (Ellen Perrett et al., 2014) and moreover the implementation of smoke-free prison policies required effective governance and leadership (Hunt et al., 2022). Clear communication, using a myriad of communication modes, was also assigned as being a mechanism to aid the transition to smoke-free prison environments alongside good partnership-working with colleagues outside of the prison sector (Hunt et al., 2022).

Discussion

This review has highlighted that there is a dearth of high-quality literature relating to health promotion interventions for people working in prison contexts. This is not to say that good practice is not occurring, but there remains an absence of published evidence. This creates challenges for practitioners and policy-makers in designing and implementing effective strategy and programmes for a population whose health needs are multifaceted and exacerbated by their working conditions (Finney et al., 2013). There could be a myriad of reasons for this dearth in research evidence, but is likely to be due to three factors. First, and has been alluded to earlier in the paper, the discourse surrounding prison health has grown substantially over a three-decade period. This has been beneficial for demonstrating the health challenges for people in prison and addressing their health needs (WHO, 2023). Nonetheless, the focus on the setting as a whole has been overlooked and this has resulted in limited support for the health of people working in prison environments. Employee health has, perhaps, been neglected at the expense of focusing more exclusively on people in prison. To some extent this is understandable, but evidence has consistently demonstrated that there are significant health needs and challenges for staff working at all levels of the organisation (Harrison and Nichols, 2023, Mason and Morris, 2023, Nolan, 2023). Second, there is very limited support on a national or indeed international level to consider the health of prison staff. Notwithstanding the Covid-19 pandemic, WHO has had a diminishing role in global health (Lidén, 2014). In relation to settings-based health promotion, questions have been raised in relation to WHO's role in facilitating co-ordination between settings and providing ongoing support (Dooris, 2013). In short, there is no drive from WHO to support staff health exemplified in a recent publication which excluded the notion completely (WHO, 2023). Third, prisons have been described as one the more 'unpopular' of the settings-based environments (Whitehead, 2006) within health promotion. The extent to which this remains accurate is debateable, but funding and access for prison-based research is, and has traditionally been, very challenging.

The systematic review identified ten studies, with the geographical spread being limited. There were no studies derived from Eastern Europe, Asia and the African continent – commentators have previously alluded to these countries as lacking health promotion infrastructure or policy in regard prisons (MacDonald et al., 2013, Dixey et al., 2015, Woodall and Dixey, 2015, Woodall, 2016). It exemplifies the idea that health promotion in prison is concentrated in relatively few nations. Smaller countries, such as Scotland, had research included in this review and this is unsurprising given that Scotland has often led the way in terms of progressive health promotion in prisons (Woodall and Freeman, 2021). It remains the case though, that the notion of health promotion in prisons is limited in particular parts of the world with the UK seemingly continue to lead on published studies addressing prison health (see, for example, Bagnall et al. (2015)). However, it is heartening and reassuring to see more scholarship on prison staff from the Global South (amongst other areas) in recent times (Arnold et al., 2024).

Much of the evidence around the health of staff working in prisons focuses on the stressful work environment and the deleterious impacts on mental health and increases in stress. This was reflected in the review where studies either had an explicit or more implicit focus on mental well-being and stress reduction (McKendy et al., 2023, Ricciardelli et al., 2021, Smith et al., 2022, Wagenfeld et al., 2018). Few studies actually showed any meaningful change and study quality was poor and did not produce robust results.

Notwithstanding the work to address clean air in prisons through smoking bans, almost all of the studies were designed around an individualistic focus on changing behaviours or knowledge of staff – education, for instance, or providing mindfulness skills for staff to deploy in their work setting. This view has been reiterated by others, including the dearth of understanding about how to design well-being interventions for prison staff (Clements and Kinman, 2023). In countries such as the United States, the UK and Australia, there has been a dominant view held that health promotion is about modifying and addressing individual behaviour and changing individual beliefs, attitudes or behaviours. There are many critiques of such approaches, including that they may not be sufficient in tackling the root causes of health issues (Woodall and Cross, 2021). Individualising health in this way has the potential to fail as it does not take into consideration the complex social factors and pressures that accompany behavioural choice and ignores the broader context in which personal behaviours are embedded (Green and Raeburn, 1988, Laverack, 2004, Staten et al., 2005). Turan and Turan's (2016) study which examined smoking cessation in prison staff, for instance, is an example where addressing the behaviour (smoking) is potentially ineffective and where addressing the behavioural manifestation (stressful working environments, cultural norms) might be more impactful. Of course, the limited number of interventions looking to change culture, policy or structures with the prison settings to support staff health and well-being may be because they are more complex to implement and evaluate. However, addressing some of the structural determinants of prison health may be an area where future delivery and strategy can harness improved results and outcomes (de Viggiani, 2007).

The studies were generally of poor methodological quality which makes conclusions difficult to draw. Research publications and funding has increased in relation to health in prison, but this has frequently focused on people in prison rather than on staff. Further resource and research designs that focus exclusively on the health of prison staff may, in the future, increase research rigour. The studies were ~~also~~ weak at reporting the intricacies of the interventions and the context of the prisons in which they were located. This causes challenges when transferring learning between countries or between specific types of prisons. This is important as Poland et al. (2000) have cautioned the homogenisation of settings and indeed no two prisons are alike (Woodall, 2010). The

relative scant information relating to research questions 2 and 3 of this review suggests that a focus on process, as well as outcomes, of interventions with prison staff is necessary moving forward. Nonetheless, the review did highlight that negative consequences could manifest as a result of originally well-intended staff intervention programmes. Stigma was associated with accessing forms of support for staff and such responses are not unique given that stigmatization is probably the most widely discussed unintended effect of health promotion interventions in the literature (Gugglberger, 2018). Review question 2 highlights the delicate equilibrium within prison settings and the need for any intervention to be carefully considered to avoid adverse effects that might de-rail well-intended programmes.

There is sufficient evidence from a range of sources to conclude that prison staff are arguably at heightened risk of poor health by virtue of their working environment and role. Broader debate could critique whether these issues are solely caused by the work environment, or whether it is a combination of work and other factors. The latter is more plausible and reiterates the need to work across the work and community space to harness impactful results – what others have termed 'joined-up' settings work (Dooris, 2004). Notwithstanding this, the health of prison staff warrants further attention with responsibility for action lying in multiple domains. At an international level, and in-keeping with long-standing commitments to prison health (WHO, 1995), the WHO should renew its commitment to health-promoting prison settings and assert that this is inclusive of all constituents of the prison, including staff. On a national level, prison leaders – including political advocates and prison governors – should consider the health of their staffing-base. As others have noted (Bögemann, 2007), creating healthy prisons that are safe and effective require staff to be in a position to work without poor health as an inhibitory factor. On a more localised level, individual prisons should work collaboratively with staff to determine what support and interventions would create enabling conditions for health. The research and academic community also have a key role to play in supporting the development of a secure evidence base for interventions in prison to support prison staff. Well-conducted cluster randomised controlled trials may be one area for further consideration as these have been used effectively to assess workplace interventions in other sectors (Linnan et al., 2020). In addition, qualitative exploration to understand the facilitators and barriers to effective intervention conception and implementation would add significantly to current knowledge.

The limitations of a systematic review is that it can only assess studies in the published or grey literature. It is highly likely that there are many other workplace initiatives that address the health of prison staff, but without the ability to review and scrutinise it is difficult to comment on their effectiveness. However, the focus on the health of prison staff is a fertile area for interdisciplinary work which offers optimism for the future. The synergies that can be made from criminology, health promotion, environmental health, organisational management, health and safety, psychology and sociology are clear. Moreover, health-promoting conditions for staff potentially offers benefits beyond the individual, impacting positively on the prison culture and wider family and communities.

Conclusion

This review sought to understand three key questions relating to the effectiveness and delivery of health promotion interventions delivered in prison settings for prison staff. It identified ten studies focusing on a range of topics, but the majority were of poor methodological quality. It is highly-likely that there are many health and well-being interventions making a positive impact for prison staff (see Nolan (2023), for example) but currently these remain unpublished with the depth of evaluation and rigour provided through the peer-review processes lacking.

The focus of the interventions identified were individualistically tailored – focussing on individual staff coping better, or having higher levels of knowledge and understanding – and this can obscure and deviate from addressing some of the wider structural factors that can impact on health. The exception was the focus on smoke free prison policy which took a more holistic and structural approach to health promotion. The debate on whether to focus intervention efforts on individuals or on wider settings activity has been a long-established debate in health promotion (Scriven et al., 2024). Regardless, it seems pragmatic that health interventions are tailored and developed in consultation with prison staff themselves. The review highlighted that the organisational culture can make help-seeking problematic – a finding reiterated in the UK recently with governor grade staff (Harrison and Nichols, 2023) – and such inhibitors are detrimental to co-constructed intervention design. Encouraging inclusivity and engagement without fear of stigma or judgement seems an important organisational consideration. Finally, the review highlights the need for further global research focusing on the health needs of prison staff. Without good-quality process and outcome evaluation of interventions it remains difficult to make evidence-based decisions on how best to support this group.

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Table 1. Included studies

Study	Country	Methods	Health topic	Nature of intervention/ scheme	Population/ setting	Outcomes
Demou et al. (2020)	Scotland, UK	Measuring of fine particulate matter using Dylos DC1700 monitors	Smoke-free prisons	Policy implementation to ban smoking in prison and reduce exposure to second-hand smoke.	All prisons (n=15) in Scotland, UK.	Smokefree policy implementation reduced exposure to second-hand smoke.
Ellen Perrett et al. (2014)	Wales, UK	Pre and post questionnaire assessing knowledge and understanding of BBVs.	Blood-borne viruses (BBVs)	A mandatory e-learning module designed to provide education on blood-borne viruses (BBVs) to prison staff.	Prison staff (n=530) working in a category B (medium secure) closed male prison in Wales, UK.	Knowledge of BBVs and their transmission.
Hefler et al. (2016)	Australia	Qualitative interviews and group discussions.	Smoke-free prisons	Smoke-free prison policy implementation intended to promote healthy lifestyles and reducing second hand smoke exposure	Prison staff (n=24) working in a correctional centre.	No direct outcomes reported, but a process evaluation of the policy implementation
Hunt et al. (2022)	Scotland, UK	Mixed-methods, including: interviews, case studies, focus groups, measurement of second-	Smoke-free prisons	To evaluate the impact of implementing a smoke-free policy in Scottish prisons on (1) changes in smoking status and exposure to second-hand smoke,	Staff in Scottish Prisons. Survey of prison staff at three phases (n=1271, n=1494, n=757). Focus groups with prison staff in phase 1 (n = 19 groups with a total of 132 staff) and phase 3	Health economic analyses, plus measurement of second hand smoke.

		hand smoke exposure, health economic analyses.		(2) changes in related health indicators among people in custody and staff and (3) organisational/cultural impacts.	(n = 15 groups with a total of 105 staff). In-depth interviews with prison staff in phase 2 (n = 38) in 6 case study prisons.	
McMeekin et al. (2022)	Scotland, UK	Health economic evaluation	Smoke-free prisons	Smoke-free prison policy and its economic impact over a 12-month period	People in custody within closed prison conditions in the Scottish Prison Service, plus Scottish Prison Service staff working in both open and closed prisons	Implementing the policy was cost-effective both for people in prison and staff.
McKendy et al. (2023)	Canada	Web-based survey	Mental health and well-being	Employee and Family Assistance Programme (EFAP). This includes access to short-term counselling and other services (e.g., legal, financial, health, and career related advice).	Thirty-seven correctional workers (correctional officers were the largest group (n=19), ther groups included probation officers (n=9), managers (n=6), and non-correctional staff (n=3))	Qualitative responses showed mistrust with the intervention (relating to confidentiality) and a mismatch between what staff expected from the service and what they received.
Ricciardelli et al. (2021)	Canada	Semi-structured interviews	Self-management of health and responding	A programme called AMStrength is delivered to correctional workers as part of their	Seventy correctional workers employed in 19 of Canada's 43 federal prisons.	After receiving training, only 19% of participants had used the

			to stressful events	training. The programme is delivered in seven, two-hour sessions.		knowledge or skills provided. Most of the participants were dismissive of the programme, but AMStrength provided a space to start discussions on mental health and increase mental health awareness, including self-awareness.
Smith et al. (2022)	United States	Survey with closed and open-ended responses	Yoga and meditation for well-being	A one-hour yoga session plus 4 hour education session, highlighting the health advantages of mindfulness exercises.	Forty-seven correctional workers in one facility.	Respondents reported that yoga decreased their stress levels and that mindfulness exercises could ameliorate stressful work conditions.
Turan and Turan (2016)	Turkey	A pre/post survey after pharmacologic options for smoking	Smoking in prison	Nicotine replacement therapy (patch, gum, lozenge, inhaler, and nasal spray),	Seventy prison staff (plus 109 people in prison)	Unclear outcomes relating to smoking rates for prison staff

		cessation treatment were offered to the participants with a moderate or high nicotine dependence level who wanted to quit smoking		bupropion, or varenicline, were prescribed for the participants who opted to use medical therapy for quitting smoking.		after the intervention.
Wagenfeld et al. (2018)	United States	Survey	Stress reduction	The intervention was premised on access to a 'decompression area' in the outdoors for stress reduction during work time.	Prison employees (n=1135) across ten institutions completed the survey.	No significance between spending time outside as a means to reduce stress and stress levels at the beginning, middle, and end of their work shift.

Figure 1. Prisma flowchart