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Healthcare Needs and Access for Women During and After Incarceration

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To my family, whose love has been my anchor.

To all who have known oppression, past and present, my work stands in solidarity with you.

Contents

Acronyms ..... **i**

List of Figures ..... **iii**

List of Tables ..... **iv**

1. Introduction **1**

1.1. Incarceration: figures and global patterns 1

1.2. The relationship between incarceration and health 5

1.3. The distinct healthcare needs of incarcerated women 8

1.4. Incarceration pathways and health among women 9

1.5. Healthcare governance in prisons 10

1.6. Health and healthcare after release 13

1.7. The health profile of incarcerated women in Israel 14

1.8. Problem statement 16

1.9. Objectives 17

2. Materials and Methodology **18**

2.1. Healthcare needs and access during and after incarceration: A qualitative study with formerly incarcerated women in Israel **19**

2.1.1. Study design 19

2.1.2. Study setting 19

2.1.3. Sampling and data collection 20

2.1.4. Transcription and data analysis 21

2.1.5. Theoretical framework 22

2.2. Governance of prison healthcare for incarcerated women in Israel: Document analysis with key-informants' insights **23**

2.2.1. Study design 23

2.2.2. Document selection and interviews with key informants 23

2.2.3. Theoretical framework and data analysis 24

2.3. Access to primary healthcare among women transitioning back into the community: A systematic literature review **25**

2.3.1. Search strategy 25

2.3.2. Data extraction 26

2.3.3. Conceptual framework and data synthesis 26

2.3.4. Quality assessment and risk of bias 27

2.4. Study approval and ethical considerations **27**

3. Results **28**

3.1. Healthcare needs and access during and after incarceration: A qualitative study with formerly incarcerated women in Israel **28**

3.1.1. Participants' characteristic 28

3.1.2. Theme 1. Before incarceration: health during detention and trial 31

3.1.3. Theme 2. Prison entry and healthcare during incarceration 33

3.1.4. Theme 3. Post-incarceration: health and healthcare during transition 43

3.2. Governance of prison healthcare for incarcerated women in Israel: Document analysis with key-informants' insights **45**

3.2.1. Overview the included documents 45

3.2.2. Prison healthcare governance and oversight 45

3.2.3. Health services provision and infrastructure 48

3.2.4. Influencing factors: prison environment 50

3.2.5. Cross-cutting principles: gaps in data and policy 50

3.3. Access to primary healthcare among women transitioning back into the community: A systematic literature review **52**

3.3.1. Search results and study characteristics 52

3.3.2. Approachability and acceptability 58

3.3.3. Availability and affordability 60

3.3.4. Appropriateness and ability to engage 61

4. Discussion **63**

4.1. Women's healthcare needs and access during and after incarceration in Israel 63

4.1.1. Strengths and limitations 70

4.2. Access to primary healthcare among women transitioning back into the community: Systematic literature review **72**

4.2.1. Strengths and limitations 75

4.3. Intersectionality and health of incarcerated women **76**

4.4. Implications for policy and research **78**

Summary **81**

Zusammenfassung **83**

List of References **85**

Eigenanteil An Datenerhebung Und -Auswertung Und Eigene Veröffentlichungen **108**

Curriculum Vitae **111**

Appendices **113**

Acknowledgement **117**

Eidesstattliche Versicherung **118**

Angaben Zu Verwendeten Ki-Basierter Elekrtonischer Hilfsmittel **119**

Acronyms

AIDS	Acquired immunodeficiency syndrome
BSI	Brief Symptom Inventory
CD-RISC	Connor Davidson Resilience Scale
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CI	Confidence Interval
COREQ	Consolidated criteria for reporting qualitative research
COVID-19	Coronavirus Disease 2019
EDQ	Exploratory-descriptive qualitative analysis
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
HMO	Health Maintenance Organization
IDI	In Depth Interview
IPS	Israeli Prison Services
LGBTQ	Lesbian, Gay, Bisexual, Transgender, and Queer
MoH	Ministry of Health
NCDs	Non-Communicable Diseases
NGO	Non-Governmental Organization
PC	Primary Care
PD	Public Defender
PHC	Primary Health Care
PHF	Prison Health Framework
PHRI	Physicians for Human Rights Israel

PRISMA	Preferred Reporting Items for Systematic Reviews and Meta Analyses
PRA	Prison Rehabilitation Authority
PRI	Penal Reform International
PIP	People in Prison
PTSD	Post-Traumatic Stress Disorder
PROSPERO	International Prospective Register of Systematic Reviews
PsycInfo	Psychological Information
PubMed	Public/Publisher MEDLINE
SC	State Comptroller
SDG	Sustainable Development Goals
STI	Sexually Transmitted Infections
SUDs	Substance Use Disorders
NA	Not available
NGO	Non-Governmental Organization
NIH	National Heart Lung and Blood Institute
UN	United Nations
US	United States
WHO	World Health Organization
WIP	Women in Prion

List of Figures

Figure 1. PRISMA flow diagram of study selection……51

Figure 2. Summary of key-findings from the included studies……61

Figure 3. Factors leading to delayed medical care among incarcerated women in Israel as described by the study participants……..….67

List of Tables

Table 1. Incarceration numbers and rates in the top five countries with the highest incarceration rates per 100,000 population……...… 2

Table 2. Change in incarceration of women by continents from 2000 to 2024 compared to change in the general population during the same period……..……4

Table 3. Selected examples of governing authorities of healthcare in prisons around the world…….……...…….11

Table 4. Summary of selected participants demographics and health characteristics of the study participants……...……...29

Table 5. Summary of themes and corresponding subthemes identified through the analysis..30

Table 6. Included documents in ascending chronological order according to publication year and then according to document source……..…….46

1. Introduction

Socially excluded populations, such as people in prison, face multiple intersecting health and social inequalities, often accompanied by disproportionate burdens of morbidity and mortality. These social inequalities not only affect the health trajectories of incarcerated people, but are also evident in the limited attention this population receives in public and global health discourses. These disparities are particularly pronounced among incarcerated women, whose healthcare needs are shaped by intertwined socio-economic disparities and histories of trauma and abuse. Yet, yet they remain largely neglected within punitive and male-dominated carceral systems. The political nature of incarceration systems often results in restricted access to research and interventions— a form of policy gatekeeping that was also encountered during this research. This dissertation focuses on the healthcare needs and access among women with present or previous experience of incarceration.

This chapter begins by outlining the global context of incarceration, including current trends and figures. It then presents an overview of the key drivers behind these trends, alongside the health profile of people in prisons, and the health challenges they often face. As the main component of this dissertation focuses on the lived experiences of formerly incarcerated women in Israel, sub-chapter 1.6. presents the context of the Israeli prison system, with particular attention to the health profile of incarcerated women and the organization of the healthcare services, followed by presenting the study's objectives.

1.1. Incarceration: figures and global patterns

Incarceration refers to a person being institutionalized by a carceral institution such as prison, jail, juvenile detention centre, or any other system that isolates individuals from the wider society (Haber et al. 2019; Oxford Reference 2025). These institutions will collectively be referred as prisons thereafter. With increasing scholarly attention to incarcerated populations, there is a parallel movement toward adopting person-centered, non-stigmatizing language when referring to individuals involved in the criminal justice system (Tran et al. 2018). For example, rather than using terms such as inmates or offenders, this dissertation adopts the terms 'incarcerated women' or 'women in prison' to describe individuals currently or formerly incarcerated in facilities designated for women, including transgender-women (Penal Reform

International 2020). Exceptions will be made when quoting directly studies that use alternate terminology (e.g., prisoners or female prisoners).

Global incarceration statistics

As of 2024, the global prison population is estimated to exceed 11 million individuals, including those held in pre-trial detention (almost one-third) and those serving sentences (Penal Reform International 2024). Among them, over 733,000 women and girls (including transgender women) are incarcerated worldwide, making up about 7% of the global prison population (Fair and Walmsley 2025). Few countries have nearly half of the global prison population. The United States holds the highest number, with 1.8 million people incarcerated, followed by China (1.69 million), Brazil (840,000), India (573,000), the Russian Federation (433,000), and Türkiye (314,000) (Fair and Walmsley 2024). While the absolute number of incarcerated individuals has risen in many countries, incarceration rates relative to population size have slightly declined in some regions. As of 2024, the global average of incarceration rate is estimated at 140 per 100,000 population. However, this global average conceals substantial cross-national variation. El Salvador reports the highest rate at 1,086/100,000 population, followed by Cuba (794), the United States (531), Thailand (391), and Brazil (390) (Table 1). In contrast, 49% of all countries and territories report rates below 150/100,000 (Fair and Walmsley 2024).

Table 1. Incarceration numbers and rates in the top five countries with the highest incarceration rates per 100,000 population

	Total incarcerated individuals	Incarceration rate	Percentage of incarcerated women	Year of data
El Salvador	109,519	1,086	7.4%	2024
Cuba	90,000	794	N/A	2020
Rwanda	87,621	620	6.6%	2024
Turkmenistan	35,000	576	6.5%	2021
United States	1,808,100	541	8.8%	2022
American Samoa	301	538	9.6%	2022

Source: Data obtained from (World Population Review 2025)

In Israel, the primary context of this study, around 19,756 individuals were held at the end of 2023 (World Prison Brief 2024). Among them were 10,068 Palestinians from the occupied Palestinian territories and Gaza, classified by Israeli authorities as 'security prisoners' (HaMoked 2025). As of 2024, around 190 women were incarcerated, constituting about 2% of the Israeli prison population (excluding political prisoners) (Israeli Prison services 2024).

Limitations of incarceration data

Generally, the true scale of incarceration is likely underestimated, as data from several countries (e.g., Eritrea, Somalia, North Korea, and China) are either unavailable or incomplete. Furthermore, political prisoners and individuals held by unrecognized authorities or in police centers are often excluded from national reporting. These gaps suggest that the global prison population might well exceed 11.5 million (Fair and Walmsley 2024). Moreover, it is estimated that more than 30 million people globally cycle between prison and their communities each year, highlighting the scale of incarceration (World Health Organization 2023a).

Changes in prison population growth over time can partly be attributed to general population growth, and more recently, to emergency measures implemented during the COVID-19 pandemic, such as decarceration and reduced conviction rates. However, this trend appears to have reversed since 2021, with many countries reporting a rebound in incarceration figures (Eurostat 2025; UN Office on Drugs and Crime 2022). Despite recent fluctuations, the long-term trajectory remains clear: the global prison population has increased by 27% over the past two decades. This sustained rise has led to widespread overcrowding in prisons and detention facilities across the globe. Notably, even during the pandemic, when temporary measures were adopted to reduce prison populations, overcrowding persisted in more than 60% of the countries worldwide. This raises serious concerns regarding the health, safety, and human rights of incarcerated individuals (Penal Reform International 2024; UN Office on Drugs and Crime 2024).

What drives the rise in incarceration rates?

One of the main drivers of rising incarceration rates is linked to policy-related factors, particularly the rise of punitive populism, where political rhetoric fuels tougher criminal justice policies. Key contributing elements include the limited alternatives to imprisonment, and the criminalisation of poverty and drug use (Penal Reform International 2024). For instance, an audit conducted in Malawi in 2023 found that between around 66% of men and women awaiting

trial were eligible for release, with many detained for poverty-related offences. In Latin America and parts of Asia, the steady rise in incarceration is closely associated with punitive drug policies (Penal Reform International 2024). Another underexplored factor contributing to high rates of incarceration is recidivism, or the reimprisonment of individuals following a previous release (UN Office on Drugs and Crime 2024). Recidivism rates can reflect broader issues in a state's justice system and should be understood within the context of general crime rates, which are shaped by socio-economic and demographic factors (Anser et al. 2020; Yukhnenko et al. 2023). In many cases, recidivism points to deeper systemic failures in rehabilitation and reintegration (UN Office on Drugs and Crime 2024).

The incarceration of women

The number of incarcerated women has more than doubled over the past two decades, compared to a 22% increase among men during the same period, making women the fastest-growing segment of the prison population (Fair and Walmsley 2025). Also, here, incarceration rates vary significantly across countries and regions (see examples in Table 2). It has been widely acknowledged that this surge is largely attributed to justice system policies, rather than fundamental changes in female offending patterns (Jeffries and Newbold 2016).

Table 2. Change in incarceration of women by continents from 2000 to 2024 compared to change in the general population

Continent	Total number of WIP	Change since about 2000	Change in general population 2000-2024
Africa	43,711	+ 82.1%	+ 81.8%
Americas	282,359	+ 43.8%	+ 26.4%
-without United States	107,752	+ 186%	
Asia	308,021	– 5.4%	+ 5.7%
-without China & India	139,249	+24.5%	
Europe	94,472	– 5.4%	+ 5.7%
-without Russia	55,319	+ 24.5%	
Oceania	4,622	+ 143.3%	+ 42.6%
Middle East	N/A	N/A	N/A
Globally	**733,185**	**+ 57.4%**	**+ 32.0%**

Source: Adapted from (Fair and Walmsley 2025). N/A: Not available

Women in prison (WIP) are disproportionately detained for non-violent and less severe offences, often rooted in social and health-related vulnerabilities. These include poverty, drug use (both dealing or using), and histories of physical and sexual abuse (Long and Tubex 2025; Penal Reform International 2020; Saxena and Messina 2021; Van Hout et al. 2023). Drug-related offences are a key contributor, with more than one in three women incarcerated for drug-related crimes (Penal Reform International 2020). In the United States, mandatory sentencing laws and the aggressive 'war on drugs' policies have led to a staggering increase in female incarceration rates (Grammatikopoulou et al. 2021). Similarly, in Thailand, incarceration trends are largely driven by harsher responses to minor, particularly drug-related offences. Broader legal changes, such as policies around parole, also contribute to this pattern (Jeffries and Chuenurah 2016). Furthermore, certain marginalized groups are overrepresented among incarcerated women, including foreign nationals, indigenous people, and racial and ethnic minorities (Harmon and Boppre 2018; McGuire and Murdoch 2021; Singh et al. 2019).

1.2. The relationship between incarceration and health

The rapid growth in the prison population has spurred a groundswell of research exploring the complex relationship between incarceration and health (Massoglia and Pridemore 2015). Notwithstanding existing gaps in the literature and the variability in prevalence estimates for certain conditions (Semenza and Link 2019), the evidence consistently points to substantial health disparities between incarcerated and non-incarcerated populations. People in prison (PIP) often originate from marginalized communities and face systemic disadvantages, including poverty, unemployment, income inequality, racial and ethnic discrimination, exposure to violence, and social exclusion (Penal Reform International 2024). These factors not only contribute to significant health inequalities, but also to the risk of incarceration itself (Caruso 2017). For instance, poverty, social stressors, and untreated mental and physical health conditions can increase vulnerability to criminal behaviour and subsequent incarceration (Penal Reform International 2018). On the other hand, acute and chronic stressors of incarceration are also suggested as mechanisms that lead to potential negative effects on health (Massoglia and Pridemore 2015). Incarceration can have both direct and indirect impacts on community health (Dumont et al. 2012; Hameroff 2023). For example, a study by Nosrati et al. (2018) found that between 2001 and 2014, each additional person incarcerated per 1,000 residents in the United

States was associated with a six-month reduction in life expectancy among individuals in the lowest income quartiles.

Understanding incarceration through the lens of social determinants is therefore essential. People who experience incarceration carry a disproportionate burden of chronic physical and mental health conditions compared to the general population, with many of these conditions left untreated during incarceration (de Viggiani 2007; Penal Reform International 2024; World Health Organization 2019). In addition, and often due to socio-economic disadvantages, behavioural risk factors, such as high rates of intravenous drug use, alcohol use disorder, and smoking, also play a role by increasing the risk for cardiovascular disease and certain types cancers (Fazel and Baillargeon 2011).

Communicable diseases

Initial research on the health of PIP focused largely on communicable diseases, particularly tuberculosis, HIV/AIDS, and other infections. These conditions were prioritized because of their high prevalence in prison settings and the direct impact of prison on the spread of these conditions (Enggist et al. 2014). Today, the disproportionate burden of HIV/AIDS, tuberculosis, and viral hepatitis continues to affect both current and formerly incarcerated individuals at significantly higher rates than the general population (Hammett 2006; Rubenstein et al. 2016; World Health Organization 2023a). A recent meta-analysis by Favril et al. (2024) found that hepatitis C virus was the most prevalent infection among PIP, with a pooled prevalence of 17.7% (95% Confidence Intervals [CI] 15-20.7). This was followed by hepatitis B virus, HIV/AIDS, and tuberculosis, each with a prevalence ranging between 2.6% and 5.2%. These pronounced disparities have been attributed to a combination of behavioural and socio-economic factors, including high rates of intravenous drug use, risky sexual behaviours, and limited access to prevention and treatment services within carceral settings (Dolan et al. 2016; Rubenstein et al. 2016).

Non-communicable diseases

Chronic, non-communicable diseases (NCDs) have received increasing attention in prison research, due in part to the rising prevalence of conditions such as obesity and diabetes among young people, and the aging of the prison population (Dumont et al. 2012). A study of young adults in the United States found that those with a history of incarceration had higher rates of hypertension and cardiac hypertrophy, even after adjusting for smoking, alcohol, and substance use disorders (SUDs) (Wang et al. 2009). A 2011 benchmark review on health in prisons by

Fazel and Baillargeon (2011) highlighted the disproportionate burden of NCDs among incarcerated people. The review reported higher age-adjusted rates of hypertension, diabetes, asthma, and arthritis among PIP compared to the general population. It should be noted, however, that data on the health of incarcerated people primarily come from western, high-income countries, a common limitation in prison health literature.

Other studies have documented the high prevalence of health behaviours that contribute to elevated NCD risk among PIP. Although there is variability across settings, the prevalence of these behaviours remains consistently higher in prisons than in the general population, particularly among women (Fazel et al. 2006). Globally, around 23.8% (95% CI: 21-26.7) of PIP were diagnosed with alcohol use disorder, and 38.9% (31.5-46.2) with SUDs (Favril et al. 2024). Tobacco smoking prevalence remains high in this population and can be more than three times higher compare to the non-incarcerated population (Kennedy et al. 2016; Ritter et al. 2011). A meta-analysis of data from 35 countries reported disparities in smoking rates ranging from 1.04 to 62.6 times higher in PIP compared to the non-incarcerated population (Spaulding et al. 2018). Additionally, widespread exposure to secondhand smoke within prison settings has also been reported (World Health Organization 2022). Similar disparities exist for other risk factors such as overweight and obesity, high sodium intake, and insufficient physical activity (Herbert et al. 2012).

Mental health and psychological morbidity

Studies consistently show that the prevalence of mental health problems and behavioural disorders among incarcerated populations is higher than in the general population. It is estimated that around one in seven prisoners has a serious mental health condition (Fazel and Baillargeon 2011). The relative risk of death from suicide and self-harm is alarmingly high, estimated to be three to six times greater among incarcerated men, and even higher among incarcerated women, compared to both the male prison population and the general population (Fazel et al. 2016). A recent umbrella review covering data from 50 high-, middle-, and low-income countries found that the 6-month prevalence of several mental health disorders in prison populations is at least double that of the general population. These conditions include depression (11%), post-traumatic stress disorders (PTSD) 9.8%, psychotic illness (3.7%), and SUDs (39%) (Favril et al. 2024). The authors also reported high levels of psychiatric and physical comorbidities (Dumont et al. 2012; Favril et al. 2024; Nijhawan 2016).

In Europe, about one-third of incarcerated people are diagnosed with mental health disorders, followed by 8% diagnosed with SUDs (World Health Organization 2023b). Suicide is the most common cause of death in European prisons, occurring at a rate of 103/100,000, much higher than the general population rate of 39.5/100,000) (World Health Organization 2023b). In Germany, for example, the average annual suicide rate among incarcerated men was estimated at 105.8/100,000, and 54.7/100,000 among women. Although overall suicide rates in German prisons declined between 2002 and 2013, a concerning increase was reported among incarcerated women during this period, with no clear explanation found (Opitz-Welke and Konrad 2022).

Additionally, certain sub-groups are more vulnerable to mental health conditions, especially older incarcerated individuals, defined as those aged 50 to 70 years old, due to the phenomenon of accelerated aging in prison (Penal Reform International 2024). Studies also indicate a disproportionately high prevalence of psychiatric disorders, especially depression, among this group compared to younger incarcerated individuals (Fazel et al. 2001; Kingston et al. 2011; Majekodunmi et al. 2017).

1.3. The distinct healthcare needs of incarcerated women

There is a long-standing recognition that incarcerated women experience heightened, and often unmet, healthcare needs compared to both their male counterparts and women without incarceration histories (Penal Reform International 2020; World Health Organization 2009). As previously discussed, these disparities manifest across multiple health indicators, including (but not limited to) cardiovascular disease, cancer, infectious diseases, SUDs, and mental health conditions, even when controlling for socio-economic factors prior to incarceration (Augsburger et al. 2022; Binswanger et al. 2010; Paynter et al. 2023). For instance, a meta-analysis of data from 18,388 incarcerated individuals across 10 countries reported a 51% pooled prevalence of SUDs among women (95% CI= 43-58), compared to 30% among men (95% CI= 22-38) (Fazel et al. 2017). Likewise, higher rates of mental illnesses have been documented in WIP, particularly PTSD and personality disorders (Friedman et al. 2014; Svendsen et al. 2023; Tyler et al. 2019). A meta-analysis covering 21,099 incarcerated individuals in 20 countries reported 26% one-year prevalence of PTSD among women compared to 10% among men, with lifetime prevalence estimated at 40% and 18%, respectively. The same study reported even higher prevalence among women in high-income countries (Baranyi et al. 2018).

A longitudinal study in Norway further revealed that 75% of incarcerated women were diagnosed with psychiatric disorders, compared to 59% of men. The study also found higher rates of SUDs (56% vs. 38%), and dual diagnosis (43% vs. 24% respectively) (Svendsen et al. 2023).

Furthermore, reproductive and maternal health represent critical areas of concern for incarcerated women, who often face increased risks for sexually transmitted infections (STIs) and other reproductive health issues (Augsburger et al. 2022; Hendricks et al. 2024). Yet, their maternal and reproductive health needs remain largely unmet (Bard et al. 2016; Van Hout and Mhlanga-Gunda 2018). These challenges are further compounded by the carceral environment and institutional barriers to care. Incarcerated women often encounter restricted access to preventive screening, like for cervical cancer (Harner and Riley 2013) and basic healthcare services (Hewson et al. 2024; Liauw et al. 2021). Other barriers include inadequate access to menstrual hygiene products and poor conditions surrounding pregnancy and childbirth in custody (Van Hout and Mhlanga-Gunda 2018). Studies highlight experiences of physical restraints, lack of privacy, emotional neglect, and even violence during childbirth, all of which can lead to severe physical and psychological harm and violate their basic rights (Kirubarajan et al. 2022; Kramer et al. 2023).

1.4. Incarceration pathways and health among women

Addressing health inequalities among incarcerated women cannot be separated from their individual and societal contexts, particularly their socio-economic disadvantages and histories of trauma and abuse (Penal Reform International 2020; World Health Organization 2009). Women's pathways into criminality are shaped by gender-specific risk factors that differ substantially from those influencing men (Nagdee et al. 2024). To conceptualize these distinct trajectories, Chesney-Lind (2006) proposed the "Pathways Framework", which highlights how women's offending is often gendered and deeply linked to histories of sexual and physical victimization, especially when intersecting with mental health conditions. For example, exposure to traumas and abuse has been closely associated with mental health conditions, which often co-occur with SUDs (Svendsen et al. 2023). And while mental health issues are widely recognized as a feature of women's incarceration pathways, some research goes further by proposing a causal relationship. For example, King and Smith (2024) argue that mental illness functions as a criminogenic risk factor throughout the life course, not only increasing risk for

incarceration, but also elevating the likelihood for recidivism. This was further supported by findings from Pettersen et al. (2023), underscoring the urgent need for greater recognition of mental illness within criminal justice policy, research, and intervention strategies.

1.5. Healthcare governance in prisons

Prisons primarily serve the functions of isolation for public safety, punishment, and rehabilitation. However, the health and wellbeing of incarcerated people is rarely a central priority (Watson et al. 2004). While some researchers and organizations emphasize prisons as potential platforms for public health interventions, particularly for medically underserved populations (Dumont et al. 2012; Møeller et al. 2007). Nevertheless, despite this potential, the prison health system remains poorly understood in most countries (World Health Organization 2019). Among all public services, prison healthcare is arguably the least visible and least comprehensively mapped, despite its significance for both individual and public health (McLeod et al. 2020a).

According to international norms, states bear responsibility for providing preventive, curative, and rehabilitative healthcare services in prison settings. These services should be of equivalent quality and accessibility to those available to the wider community, a concept known as the "principle of equivalence" (World Health Organization 2013). This principle is enshrined in Rule 24 of the United Nations Standard Minimum Rules for the Treatment of Prisoners (The Nelson Mandela Rules), which affirms:

- "Prisoners should enjoy the same standards of health care that are available in the community, and should have access to necessary health-care services free of charge without discrimination on the grounds of their legal status";
- "Healthcare services should be organized in close relationship to general public health administration and in a way that ensures continuity of treatment and care, including for HIV, tuberculosis and other infectious diseases, as well as for drug dependence" (UN Office on Drugs and Crime 2015).

Additionally, Rule 32 emphasizes the need to protect medical autonomy, confidentiality, and informed consent (UN Office on Drugs and Crime 2015). Despite these international guidelines, implementation across countries remains fragmented (McLeod et al. 2020a; Winkelman et al. 2022). Chronic underfunding, shortages of trained healthcare professionals,

and lack of clinical independence undermine both safety and quality of care in prisons (Pont et al. 2018). Further challenges include the absence of standardized clinical protocols, especially for harm-reduction, and persistent ethical and structural barriers to timely and equitable healthcare (Elger 2011; Pont et al. 2018; UN Office on Drugs and Crime 2013).

In most cases, excluding privatized facilities, state entities serve as the primary providers of healthcare for incarcerated people, which legally or de facto, are the same institutions responsible for the deprivation of liberty (Pont et al. 2018). This dual role raises concerns about conflict of interests, clinical independence, and the prioritization of health (Van Hout et al. 2024). In many countries, prison healthcare systems are often in isolation from national health agencies, limiting coordination, oversight, and continuity of care (Bengoa et al. 2018; Pont et al. 2018). For example, in only seven of the 36 European member states, health ministries are solely responsible for delivering healthcare in prisons. Where prison healthcare is not overseen by health ministries, it frequently falls under the jurisdiction of the Ministry of Justice or Interior, or is jointly administered by multiple governmental agencies (see examples in Table 3) (World Health Organization 2025).

Table 3. Selected examples of governing authorities of healthcare in prisons around the world

Health institution Ministry of Health only and/or health agencies	**Non-health institution** Ministry of Justice and/or Ministry of Interior	**Mixed** Ministry of Health and Ministry of Justice/Interior
France	Germany	Greece
Italy	Spain	Bulgaria
Finland	Bosnia & Herzegovina	Ireland
United Kingdom & Northern Ireland	Azerbaijan	Estonia
Cyprus	Belgium	Ukraine
Afghanistan*	Netherlands	Brazil*
Taiwan	Israel	Denmark

Source: Based on data from the Health in Prisons European Database (World Health Organization 2025), *Adapted from (McLeod et al. 2020a)

Globally, some jurisdictions have transitioned prison healthcare to the national health agencies. However, there is a critical lack of in-depth analysis of the effectiveness of such transitions or on existing healthcare governance models in carceral systems (McLeod et al. 2020a). Additionally, while it is widely recognized that prison healthcare is primarily focused on primary care, most research and interventions remain disease-specific (mainly infectious diseases), limiting the ability to assess their alignment with primary healthcare principles (Groenewegen et al. 2022).

Prison healthcare governance in Israel

In Israel, the national health system and the prison system operate in complete separation. Israel's National Health Insurance Law (1994) stipulates that all Israeli residents are entitled to a defined basket of healthcare services, provided to them under the overarching responsibility of the state, and administered by four non-profit Health Maintenance Organizations (HMOs) (Michaeli 2018). However, this coverage explicitly excludes incarcerated individuals, and instead, their healthcare is regulated by the 1971 Prison Ordinance, a regulation dating back to the British Mandate. This ordinance does not include a clear and updated policy framework for the organization of healthcare provision within the Israeli Prison Services (IPS) facilities (Filc et al. 2014; Michaeli 2018). While the IPS references additional legislations, such as the Patient's Rights Law and the National Health Insurance Law (Israeli Prison Services 2021), these references are often vaguely interpreted, and there is no clear definition of a health benefits package for incarcerated individuals (Michaeli et al. 2020b). Moreover, healthcare personnel within the IPS are not employed by the Ministry of Health (MoH) or the HMOs. Instead, they are either directly hired by the IPS or contracted through manpower agencies (Filc et al. 2014; Michaeli et al. 2020b). The implications of these policies and practices are further discussed in the following sections of this dissertation.

Gender considerations in healthcare governance in prisons

Historically, the design and operation of prison systems have primarily reflected the needs and characteristics of the majority male prison population. This model has influenced institutional architecture, security procedures, and prison regimes (Penal Reform International 2020). In response to this imbalance, the United Nations (UN) adopted the Rules for Treatment of Women Prisoners and Non-Custodial Measures for Women Offenders, commonly referred to as the Bangkok Rules, in 2010. These 70 rules provide a comprehensive, gender-sensitive

framework aimed at safeguarding the rights and dignity of women in custody, while also promoting the use of alternatives to incarceration (UN Office on Drugs and Crime 2011). The Bangkok Rules address a broad range of issues, including admission procedures, healthcare access, and accommodation of children who reside with their mothers in prison (Penal Reform International 2013). Despite the existence of international regulations and treaties, the unique health needs of women are frequently overlooked. Discriminatory practices persist in various forms, including the denial of adequate nutrition, compulsory drug treatments, the use of physical and pharmacological restraints, and restricted access to essential health services such as opioid substitution therapy (Van Hout et al. 2023).

1.6. Health and healthcare after release

Where health is concerned, inadequate prison health care can pose significant risk to public health and increase the healthcare burden on communities (Hewson et al. 2024). These health risks are compounded by societal challenges that hinder successful reintegration, including barriers to housing and employment, stigmatization (Keene et al. 2018; Roman and and Travis 2006), and limited socio-economic opportunities (Massoglia and Pridemore 2015; Schnittker and John 2007). The accumulation of reintegration barriers is linked to poor health outcomes, including lower self-rated health and increased mental health problems, particularly depression (Semenza and Link 2019). In the short term, the transition from prison to community life often results in disruption of medical care (Kinner and Wang 2014). This period is associated with elevated risks of self-harm and sucide (Pratt et al. 2006), emergency care utilization (Frank et al. 2014; Tuinema et al. 2020), and premature mortality from cancer, cardiovascular disease, and viral hepatitis (Binswanger et al. 2007).

These challenges are often amplified among women transitioning back into the community. Histories of trauma, mental illness, and responsibilities for children and other family members contribute to complex and ongoing healthcare needs post-release (Freudenberg et al. 2005; Kinner and Wang 2014; Ng et al. 2021). Upon reentry, women often experience barriers to primary healthcare access, greater reliance on emergency and acute care services, and disproportionately high rates of self-harm ad suicide, particularly in the first weeks following release (Janca et al. 2023; Tuinema et al. 2020). Despite these risks, continuity of care remains limited and poorly coordinated. Given the heightened mortality and morbidity risks during the

post-release period, especially among women, greater attention is needed to better understand barriers and opportunities to healthcare access during this crucial phase (Hewson et al. 2024).

1.7. The health profile of incarcerated women in Israel

The IPS is the national authority responsible for managing the country's prison system, operating 33 incarceration facilities, including nine detention centers (State Comptroller 2020). Neve Tirza, Israel's sole women's prison, houses both adult and minor individuals, incarcerated for a range of offences and sentence lengths (Israeli Prison services 2024). Although many women are imprisoned for non-violent offences, the facility is designated as a maximum-security prison (Vaisman and Einat 2021).

While morbidity patterns among PIP in Israel generally mirror global trends, there is a notable lack of consistent and comprehensive epidemiological data, particularly sex-disaggregated data (Michaeli et al. 2020a). Data obtained by human rights organizations via Freedom of Information requests, revealed disproportionately high morbidity and mortality rates among incarcerated people compared to the general population (Michaeli et al. 2020b). In 2013, over 1,200 incarcerated individuals were reported to have chronic disease—a 90% increase compared to 2008. By 2019, this number had risen to approximately 6,000, representing 38% of the prison population. That same year, incarcerated individuals visited a primary care physician 16 times on average (State Comptroller 2022b), compared to an average of 8.8 visits among the general adult population (Nathan et al. 2017). In 2019, 435 individuals tested positive for hepatitis C, of whom 201 required pharmaceutical treatment. However, only 53 received treatment, for reasons that are not fully understood, but may be attributed to either systemic challenges or individual choices (Michaeli et al. 2020b).

Mental health indicators are equally concerning. As of 2015, 75% of the prison population required psychiatric evaluation or treatment, compared to 1-2% in the general population. Around 600 individuals (4%) were diagnosed with schizophrenia, versus a national prevalence of 1-1.5% (Michaeli et al. 2020b). Notably, none of the reports included sex/gender-disaggregated data, limiting understanding of gender-specific health outcomes among incarcerated women in Israel.

Information specific to healthcare needs of incarcerated women in Israel remains particularly scarce. A 2017 government report offered additional insights into the health status of of this

population. The reported described them as diverse in age and background, with many women experiencing co-occurring conditions, mental illness, and family-related challenges (Yachimovich-Cohen 2017). Of the women incarcerated at the time, 72% were mothers, primarily single parents of minor children. However, the report did not indicate how many had children residing with them in prison. Furthermore, 66% of incarcerated women were over the age of 35, compared to 45% of incarcerated men. Women also had higher rates of healthcare utilization, and about 40% were diagnosed with SUDs. The report also emphasized a severe shortage of mental health professionals at Neve Tirza prison, posing substantial barriers to adequate and timely psychiatric care (Yachimovich-Cohen 2017). Furthermore, a study of 50 incarcerated women in Israel found high rates of physical, emotional, and sexual abuse during childhood. Over one third had SUDs, and more than half came from high-risk family environments (Chen and Gueta 2015). Most participants experienced some degree of depression, with 38% receiving psychiatric treatment and using prescribed psychiatric medications. Furthermore, over half reported suicidal ideation or past suicide attempts while in prison (Chen and Gueta 2015; Chen and Gueta 2017). A previous study confirmed the systemic neglect of both physical and mental healthcare needs among incarcerated women in Israel (Einat and Chen 2016).

1.8. Problem statement

Despite a substantial body of evidence highlighting the health disparities and vulnerabilities of PIP, their health needs are frequently overlooked and inadequately addressed (Fazel et al. 2016; Van Hout et al. 2023). Moreover, the perspectives of incarcerated people remain largely absent from the research and policy landscape (Ahalt et al. 2012; Berk et al. 2021). This marginalization is more pronounced among incarcerated women, whose unique pathways into the criminal justice system, and the distinct health and social needs are often neglected. Researchers, policymakers, and practitioners frequently fail to consider the gendered dimensions of women's offending and incarceration, and how these factors shape their health and healthcare outcomes (Lorenz and Hayes 2020).

In both global and Israeli contexts, the health of incarcerated women remains significantly under-researched and under-prioritized in both academic literature and health policy. Existing studies and institutional reports suggest that the specific healthcare needs of women in prisons remain inadequately addressed, despite their heightened vulnerability and complex health profiles (Berk et al. 2021).

Understanding these needs is essential for informing effective health interventions during incarceration, and for facilitating successful reintegration post-release. To date, there is a lack of empirical research that incorporates the lived experiences and perspectives of incarcerated women themselves, which are essential to shaping gender-sensitive and responsive healthcare services (Achrekar et al. 2024). In the Israeli context, no comprehensive or systemic assessment has yet been conducted regarding the healthcare needs of incarcerated women. Nor have the availability, accessibility, or quality of healthcare services provided to this population been thoroughly examined.

Although this dissertation originally aimed to address this gap through direct engagement with currently incarcerated women, efforts to obtain research access were unsuccessful. The application submitted to the IPS research unit was rejected without explanation, thereby highlighting an additional barrier to research in this area.

1.9. Objectives

The aim of this dissertation is to explore the experiences of healthcare needs and access among incarcerated women in Israel, and their access to healthcare in the community after release from prison, both globally and in the Israeli context.

Specific objectives include:

i. To explore the perception of health and healthcare needs among women in Israel during and after incarceration.
ii. To examine incarcerated women lived experiences of healthcare access, including barriers, facilitators, and personal strategies for navigating the prison healthcare system in Israel.
iii. To examine the healthcare organization and governance within the Israeli prison system and the healthcare provision for incarcerated women.
iv. To identify factors influencing access to primary healthcare services among women after release from prison globally.

2. Materials and Methodology

In this chapter, I present the materials and methods used for the different parts of my dissertation. First, in sub-chapter 2.1., I present the methodology used to conduct the study with formerly incarcerated women in Israel to address the first and second objectives. In sub-chapter 2.2. I present the methodology applied in the document analysis and interviews with key-informants to address the third objective of the dissertation. Finally, in sub-chapter 2.3., I describe the methodology used to conduct the systematic review I carried to address the fourth objective. The third part of this dissertation is based on the associated publication (Agbaria et al., 2024).

The study components are as follow:

1. Qualitative study: conducting in-depth interviews with formerly incarcerated women in Israel to explore their lived experiences of health and healthcare access in prison and after release
   (Corresponding to study objectives i & ii).
2. Document analysis and insights from key-informants: examining healthcare governance for women in the Israeli prison system through inspection, governmental, and reports from Non-Governmental Organizations, and insights from key-informants
   (Corresponding to study objective iii).
3. Systematic literature review: exploring existing international literature on factors influencing primary healthcare access among women transitioning back into the community
   (Corresponding to study objective iv).

Additionally, this research draws on multiple conceptual frameworks, each selected to align with the specific aims and analytical objectives of the respective study. These frameworks provide essential theoretical grounding for the interpretation of the findings and are discussed in greater detail in the corresponding methods sections.

2.1. Healthcare needs and access during and after incarceration: A qualitative study with formerly incarcerated women in Israel

This sub-chapter presents the methodology applied to address study objectives i & ii.

2.1.1. Study design

In this study, I employed an exploratory-descriptive qualitative design (EDQ) (Hunter et al. 2019). EDQ requires a flexible and inductive approach, enabling the collection of rich, contextualized data that captures the complexity and nuances of participant's experiences. Additionally, EDQ is particularly useful for understanding how health experiences unfold in a specific social and institutional context, without transforming the data completely (Doyle et al. 2020; Sandelowski 2000).

2.1.2. Study setting

All participants were recruited from the three women-designated centres of the Prisoner Rehabilitation Authority (PRA). The PRA is a state authority operating under the Ministry of Welfare and Social Security in Israel. The PRA operates under the Prisoner Rehabilitation Authority Law (1983), and it operates across various localities, providing community supervision and rehabilitation services to individuals released from prison (The Prisoner Rehabilitation Authority 2024). PRA consultants assess an individual's suitability for rehabilitation and prepare comprehensive reports to the Parole Committee. The process of identifying eligible individuals begins within three to six months prior to their release or upon completion of two-thirds of their sentence. Those selected, or mandated to participate in PRA programs, receive individual and family-based treatment, including advocacy, assistance in realizing and accessing social rights, and guidance throughout the re-entry and rehabilitation process. The PRA also includes a women's unit. The most common offenses among women treated at the PRA include fraud, violence, and property related crimes (The Prisoner Rehabilitation Authority 2024). In 2023, 9,850 individuals were eligible to join the rehabilitation program, a 20% decline compared to previous years, primarily due to the Covid-

19 pandemic and the war that erupted in October of the same year. Of those eligible, 48% of them were Jewish and 52% were non-Jewish (52%) (mostly Arab-Palestinian citizens of Israel). Men composed the overwhelming majority (97%), while women accounted for only 3% (The Prisoner Rehabilitation Authority 2024). By the time I started the data collection, I was informed that approximately 30 women only were treated at the PRA during this period.

2.1.3. Sampling and data collection

Using purposive sampling technique (Etikan et al. 2016), 18 adult women (>18 years old) were recruited. Data collection took place between February and April 2023, where 13 face-to-face in-depth interviews (IDIs), and one focus group discussion (FGD) with five participants were conducted. Prior to conducting the interviews, participants were asked to complete a socio-demographic questionnaire, which also included questions on health status and incarceration history. I conducted all interviews solely in private rooms without the presence of the PRA personnel. The IDIs lasted between 20-75 minutes, while the FGD lasted for 85 minutes. The FGD was conducted at the initial stage of data collection, due to time constraints within the participants' obligatory schedule and the preference of two participants, who felt more comfortable speaking in a group with familiar and trusted peers. The FGD was also used to refine the interview guide and identify key considerations for the subsequent data collection. Guided by an interview guide (Appendix 1), interviews were conducted in the participant's native language. As a native Arabic speaker and fluent in Hebrew, I conducted the interviews in the participants' native language. Arabic-speaking women were encouraged to speak in Arabic when needed, and I translated their input into Hebrew. The interviews began by asking the participants to reflect on the experience of entering prison and the experiences of seeking healthcare during and after incarceration. Questions also addressed broader issues related to health, imprisonment, and the process of release and reintegration. Interviews concluded when thematic saturation was reached (Hennink et al. 2016).

Prior to data collection, I was introduced to the participants by the PRA staff. During these initial meetings, I introduced myself and explained the study aims and procedure. Participants were given the opportunity to ask questions about the study, and some shared their experiences and thoughts on the topic. To safeguard participant's emotional well-being, I worked closely with the PRA staff. In cases where participants showed signs of emotional distress, I informed the designated social worker assigned to their case. Social workers were actively involved

throughout the data collection process, accompanying participants and providing support as needed. Regular debriefing meetings were also held with both staff and participants.

The questionnaire

The questionnaire consisted of the following components: demographics, history of incarceration, history of disease, health behaviours and Self-rated health. Additional self-reported items consisting of validated scales were used, including the 18-item Brief Symptom Inventory (BSI-18), to assess current psychological distress. The BSI consists of three six-item scales assessing somatization, anxiety, and depression in the last seven days, and each item is rated on 0-4 Likert scale, and the sum of the responses reflects the Global Severity Index (Vilchinsky et al. 2018). Additionally, resilience was assessed using the 10-item Connor-Davidson Resilience Scale (CD-RISC-10). The items reflect the ability to bounce back and thrive after adversity or trauma, and each item is scored using a 0-4 Likert scale (0= 'not true at all' to 4='true nearly all the time' (Connor and Davidson 2003). I purchased the questionnaire directly from the authors, and both Arabic and Hebrew versions were obtained. The questionnaire was initially developed in English and reviewed by a panel of six senior public health researchers with expertise in prison health. Each expert received a copy of the questionnaire along with an evaluation form, where they were asked to assess the relevance of each domain using a Likert scale. Qualitative feedback was also collected, and the questionnaire was adapted accordingly (Appendix 2). I translated the rest of the items to Hebrew and Arabic using a forward translation method (Tsang et al. 2017). The Hebrew version was then sent to the PRA team, who were asked to evaluate it based on the aforementioned criteria and assess its language clarity. The Arabic version was proofread by a native Arabic speaker and a professional translator.

2.1.4. Transcription and data analysis

The FGD and all except for two IDIs were audio recorded and transcribed verbatim and proofed for accuracy, and the de-identified transcripts were uploaded NVivo-14 qualitative software (Lumivero 2023). For the two IDIs where the participants refused to be recorded, I wrote down notes and main statements. A reflexive thematic analysis approach was employed to identify and analyze overarching themes and recurring patterns within the data (Braun and Clarke 2019). The analysis followed the six-phase process outlined by Braun and Clarke (2006). First, I engaged in data familiarization, immersing myself in the transcripts. Second, I conducted

inductive coding to build initial codes that captured key elements related to the study questions. In the third phase, these codes were collated into potential themes by grouping similar codes to identify broader patterns. In the subsequent phase, themes were reviewed and refined to ensure they accurately reflected the data. Finally, the process culminated in producing the initial draft of the findings, with the core themes and sub-themes organized to present a coherent and compelling narrative.

2.1.5. Theoretical framework

While in this study I primarily employ an inductive approach to analysis, the findings are interpreted through an analytical intersectional framework to gain a deeper understanding of the healthcare needs and access among formerly incarcerated women, and to explore how these insights can inform future research and policy (Bauer 2014; Black and Trounson 2019). Intersectionality offers a crucial lens for examining how multiple, overlapping social identities (i.e., gender, race, class, and incarceration) interact to shape individual's lived experiences, opportunities, and vulnerabilities in complex ways (Crenshaw 1989; Guan et al. 2021). In the context of public health, applying an intersectional framework involves recognizing its core tenets: the complexity of intersecting identities, the persistence of health disparities among historically oppressed populations, and the necessity of situating health outcomes within broader social and structural contexts (Bowleg 2012). Through this lens, intersectionality helps to illuminate how systemic inequities produce and reinforce health vulnerabilities among marginalized groups (McCollum et al. 2019).

Rigor and trustworthiness

Issues of credibility, transferability, dependability and confirmability, were considered throughout the study to ensure rigor and trustworthiness of the data and results (Lincoln and Guba 1986; Morse 2015; Campbell et al. 2020). Credibility and transferability were ensured through extended involvement and triangulation, including continuous debriefings with both the staff at the PRA and the participants (Campbell et al. 2020). Dependability and confirmability were enhanced through detailed description and reflexive thoughts which were routinely shared with my doctoral supervisor and advisors (Olmos-Vega et al. 2023). I repeatedly revisited the original transcripts, observational and debriefing notes to ensure that the findings remained grounded in the data. This study adheres to the consolidated criteria for reporting qualitative research (COREQ) checklist (Tong et al. 2007)

2.2. Governance of prison healthcare for incarcerated women in Israel: Document analysis with key-informants' insights

This sub-chapter presents the methodology applied to address study objective iii.

2.2.1. Study design

In this study, I employed a document analysis methodology (also referred to as document review), a qualitative method widely used in health policy and systems research to explore the governance and structure of healthcare systems (Bowen 2009). Document analysis can serve as either a standalone method or as a complimentary source of information to address specific research questions (Kayesa and Shung-King 2021). In the context of prison healthcare systems, this method is particularly valuable for evaluating governance structures, service delivery models, and the extent to which systems align with national policies and international standards for the healthcare of incarcerated individuals (Alves da Costa et al. 2022).

2.2.2. Document selection and interviews with key informants

The document selection process involved several steps. First, official institutional websites and databases were searched, including those of the MoH, the Ministry of Interior, the IPS, the Israeli parliament (Knesset), the Public Defender (PD), the State Comptroller (SC), and the National Health Insurance. The search was done using search strings composed of the following keywords: Prison OR Prisoners OR Health OR Women, to identify relevant documents. Search was conducted in both Hebrew and English. Additionally, a Google search was conducted to identify reports and publications from NGOs, using a free-text approach: "Prison healthcare Israel" OR "Prisoners Israel". Furthermore, three key-informants were contacted and interviewed using snowball sampling technique. Documents were purposively selected to ensure the inclusion of documents that include information on the studied topic. Publications from the past five years were prioritized to ensure that the analysis reflects recent developments and policy shifts. Documents were not included if they lacked information on healthcare aspects or prison conditions, or if they were solely focusing on issues related to political prisoners, given their distinct legal status and separation from the general prison population. In addition, I conducted interviews with three key-informants (KI), who are experts from diverse disciplines

using a snowball sampling technique. These included: an NGO worker focused on advocacy for PIP (KI_1), a social worker operating at the interface of the legal and prison systems (KI_2), and another social worker involved in prisoner rehabilitation in Israel (KI_3). The interviews served two main purposes: first, to assist in identifying relevant documents and policies; and second to provide a contextual understanding from multiple professional perspectives, thereby minimizing misinterpretation and facilitating a more nuanced understanding of the current situation (Lokot 2021). These interviews were strategically conducted at different stages, both prior and during the document analysis process. All key informants were fully informed of the study's aims and procedure, provided their consent to participate, and maintained ongoing contact throughout the study.

2.2.3. Theoretical framework and data analysis

Following the selection of the relevant documents, I employed an iterative data analysis approach based on the three steps suggested by (Bowen 2009): (1) skimming, involving and initial, superficial examination of documents; (2) reading, entailing a thorough review and thematic analysis; and (3) interpretation, which focused on answering the core research questions related to the who, what, where and how, in alignment with the study objectives (Bowen 2009). I conducted a deductive thematic analysis to identify recurring patterns and themes across the selected documents (Braun and Clarke 2006). This analysis was guided by selected building blocks and indicators outlined in the World Health Organization Prison Health Framework (WHO-PHF) (Alves da Costa et al. 2022). the framework includes:

- Building block 1: Health systems organization, financing, and health information systems
- Building block 2: Health services delivery, including preventive services, medical care, rehabilitation, and system performance
- Building block 3: Health outcomes, including morbidity and mortality indicators

The framework also outlines cross-cutting principles, including adherence to international human rights and standards, the reduction of health inequalities, and the consideration of special populations, including women. Regarding the interviews, one was audio-recorded and transcribed verbatim (Alves da Costa et al. 2022). For the remaining two, detailed notes were taken. Insights from all interviews were used illustratively to enhance contextual understanding and to inform interpretation of policy and governance-related findings.

2.3. Access to primary healthcare among women transitioning back into the community: A systematic literature review

Note: some aspects and texts in this sub-chapter are based on the associated publication (Agbaria et al., 2024)

This systematic review aligns with the fourth aim of the study and was conducted to answer the following questions: 1) What are the factors influencing primary healthcare (PHC) services uptake and retention among women transitioning from prison into the community? and 2) What are the barriers and facilitators women face accessing PHC in the community after release from prison?

The study was conducted and reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Page et al. 2021). The study protocol was registered in the international prospective register of systematic reviews (PROSPERO) under the registration number CRD42022374512.

2.3.1. Search strategy

The search was applied to five databases: PubMed, CINAHL, PsychInfo and Web of Science, to identify relevant records from 2012 up to October 2022. No geographical or language restrictions were applied. The search index was developed using the Population, Concept, Context framework (Peters et al. 2020) to identify the main concepts and to inform the search strategy, resulting in the terms: prisoners, prison, women, health, health services and post-incarceration. The detailed search index for each database is presented in (Appendix 3). Additionally, Google Scholar was searched, where I screened groups of 50 records, until no more relevant studies were identified. In total, 500 records were screened for eligibility. This was complemented by screening the reference lists of the included studies.

Inclusion criteria:

- Quantitative, qualitative, and literature reviews that reported PHC use by formerly incarcerated women.

- Studies reported the following outcomes: health insurance coverage, contact with first-providers (e.g., family doctors), prescriptions and adherence to medications, and the provision of health preventive and screening services provided within PHC settings.

Exclusion criteria:

- Studies conducted in prisons, or with juveniles.
- Studies solely reporting prevalence of health conditions or health behaviours
- Studies not presenting sex/gender disaggregated results
- Studies reporting specialized medical care utilization solely (i.e., mental health, treatment for SUDs, maternal health, HIV/AIDS, dental care, hospitalization, and acute care).

2.3.2. Data extraction

The web-based platform for systematic review management 'Rayyan' (Ouzzani et al. 2016) was used to facilitate the screening process. After removing duplicates, title and abstract were examined against the eligibility criteria. Potentially eligible studies were then screened for full text. Four authors were contacted for missing full texts or other information. The following data was extracted into a Microsoft Excel sheet: author, year of publication, country, setting, study aim, study design, sample characteristics, and study measures and outcomes.

2.3.3. Conceptual framework and data synthesis

A narrative synthesis approach was applied to organize and present the findings from the included studies (Stern et al. 2020), guided by an adapted version of the Levesque's model for patient-centered access to healthcare (Levesque et al. 2013). This multidimensional model conceptualizes access to healthcare as a user-centered process and defines it as the opportunity for individuals to identify and fulfill their healthcare needs. The framework comprises two interrelated domains: The supply-side domain, which includes five dimensions: approachability, acceptability, availability, affordability, and appropriateness. And the demand-side domain, which refers to an individual's corresponding abilities to perceive, seek, reach, pay, and engage with healthcare services (Levesque et al. 2013).

2.3.4. Quality assessment and risk of bias

The risk of bias in observational cohort and cross-sectional studies was assessed using the 14-item National Institutes of Health (NIH) quality assessment tool. For pre-post studies without a control group, a12-item NIH assessment tool was used (National Institutes of Health 2021). Qualitative studies were assessed using the 10-item checklist of the Critical Appraisal Skills Programme (CASP 2022). Quality scores were calculated as percentages of the number of applicable items. Studies with less than 50% of total quality scores were rated as high risk of bias, between 50-69% as moderate risk of bias, and above 70% as low risk of bias.

2.4. Study approval and ethical considerations

Qualitative interview with formerly incarcerated women: Ethical clearance was obtained from the Ethics Committee of the Medical Faculty of the University of Heidelberg (S-967/2021). Special attention was given to data protection and the consent and information forms to ensure transparency and participant autonomy. The study protocol was subsequently translated to Hebrew, and an English version of the ethics approval was obtained and submitted to the PRA's research unit. An online meeting was conducted with the research coordinator and two senior staff members. During the meeting, technical and ethical aspects of the study, including the specific needs of the study population, were thoroughly discussed and clarified. Written and verbal informed consents were obtained from both formerly incarcerated women and key-informants, and information sheets were provided to all participants. Formerly incarcerated women received remuneration in the form of online vouchers worth 50 Shekels (~14 US dollars), the amount and type of which were agreed upon with the PRA.

Systematic literature review and the document review studies: These studies did not include collecting data of individual participants, and therefore no ethics clearance was required.

3. Results

3.1. Healthcare needs and access during and after incarceration: A qualitative study with formerly incarcerated women in Israel

This sub-chapter presents the results of the qualitative study with formerly incarcerated women in Israel, corresponding to dissertation objectives i and ii, exploring the women's experience of health and healthcare during incarceration and beyond.

3.1.1. Participants' characteristic

Of the participants approached in the three PRA centers, 18 agreed to participate in the interviews, and two women filled in the questionnaire only. The median age of participants was 40 years and ranged from 22 to 60 years. Duration of imprisonment varied widely and ranged from four months to 16 years. Fifth of the participants served full-time in prison, and 70% were on probation (after serving 2/3 of their sentence). One participant refused to answer (table 4). For the 70% of the participants, this was the first imprisonment. Third of the participants stated that they were married or had a partner at the time of the study, and half of them had children. The length of imprisonment varied widely and ranged from four months to 16 years. While neither the questionnaire nor the interview guide included direct questions on the causes for incarceration, yet most of the participants referred to them during the interviews. From the most common to the least, overall participants were incarcerated for: violence and domestic violence, offences related to drug dealing or consuming, white collar offences (i.e., fraud, embezzlement, bribery and corruption), and murder or accomplice manslaughter. 90% of the participants stated that they visited their general practitioner at least once during the first month after release.

Table 4. Summary of selected participants demographics and health characteristics of the study participants

Variable	n (%) = 20
Median age at the time of imprisonment	32
Self-rated health status	
Bad/Very bad	4 (20%)
Good/Fair	15 (75%)
Excellent	1 (5%)
Self-reported history of disease	
Dental problems	13 (65%)
Migraine	13 (65%)
Depression/Anxiety	16 (80%)
Postpartum depression	3 (15%)
Post-Traumatic Stress Disorder	14 (70%)
Drug use before incarceration	7 (35%)
Brief Symptom Inventory	
Global Severity Index; Standard deviation	2.7; 0.85
Resilience Scale	
Mean score; Standard deviation	26.5; 8.3
Impact of health situation on the daily function	
Most of the time	5 (25%)
Often	12 (60%)
Rarely	3 (15%)
History of abuse	
Physical	8 (40%)
Sexual	8 (40%)
Psychological	9 (45%)
Marital status	
Divorced	6 (30%)
Married	6 (30%)
Single	8 (40%)
Education	
High-School	2 (10%)
Vocational training	11 (55%)
Academic degree	2 (10%)
No certificate	5 (25%)
Religious affiliation	
Jewish	12 (60%)
Muslim	8 (40%)
Employment	
Full-time	2 (10%)
Part-time	4 (20%)
Unable to work due to disability	4 (20%)
Not allowed to work	2 (10%)
Unemployed	8 (40%)

Through the analysis, three overarching themes were identified, representing the critical time-points illustrated by the participants: before incarceration (during trial and arrest), prison entry, and post-incarceration and transition into the community (Table 5). Within these timeframes, sub-themes were identified that reflect complex and interrelated healthcare needs and access. The themes are supported by quotations from the participants, along with an identifying letter and their age-group to protect their privacy.

Table 5. Summary of themes and corresponding subthemes identified through the analysis

Themes	Sub-themes and categories
1. Before incarceration: health during detention and trial	- Arrest and disruption of medical care - Conditions in detention centers - Onset of disease during the trial period - Lack of mental healthcare and awareness during trial
2. Prison entry and healthcare during incarceration	- Overcrowding and prison environment - Barriers for women with disabilities - Nutrition and physical activity in the prison - Isolation and solitary confinement - Medical care disruption upon entering prison - Interrupted reproductive care - Emerging health issues during incarceration - **Navigating prison healthcare: organization and medical personnel** - Barriers and facilitators to healthcare services in prison - Mistrust in the prison healthcare system - Mental healthcare in the prison - Medical treatment outside the prison: delays, shackling, and lack of privacy - Avoidance of medical care - Lack of social support during incarceration
3. Post-incarceration: health and healthcare during transition	- Transition and fear of stigma - Continuity of care and re-establishing primary healthcare in the community - Social support and recovery

3.1.2. Theme 1. Before incarceration: health during detention and trial

This theme illustrates the initial contact with the crime justice system and the challenges women faced during this period, in terms of health and healthcare needs. Generally, the interviews started with asking the participants to describe their experience of entering prison. In most of the cases, they would first begin with describing the period and events that preceded the prison entry. Women shared their experiences of being arrested and interrogated, as well as their experience during the trial period.

Arrest and disruption of medical care

In a few cases, where women were arrested, it often happens dramatically and even in the very early morning hours. Participants described the feeling of shock, and the inability to get themselves prepared. Often, this led to disruption in their medical or psychiatric treatment, especially for those who were taking medications on a regular basis. For instance, one participant with diabetes reported that she was arrested at four in the morning, and was not allowed by the police officers to take any personal belongings with her including her diabetes medications. She also stated that she was not provided with any treatment during the first days of being detained for interrogation, and the long interrogation periods led to her missing meals, and she was provided with only sandwiches during the interrogation. In another case, a breastfeeding woman suffered from infection as she wasn't able to breastfeed her child until she was provided a milk pump after the intervention of her lawyer and the assistance of a social worker at the detention facility.

> *"Detention centers are a nightmare. I was detained for 10 days before entering prison. I suffered from anxiety and stress during that period. I was arrested at 4 in the morning. I was in shock, it was traumatic. I fainted during the interrogations, and the doctor requested that I be transferred to the hospital, but that didn't happen*." (L_60_IDI)

Conditions in detention centers

One participant reported that during interrogation she was treated with respect, which she attributed to the fact that she was interrogated for fiscal offences and that she came from a high socio-economic and educational background. However, the transfer to the detention center was

described as another shocking experience, especially due to the body search, and the conditions of the facility. All participants who were placed in detention before their arrest, across different detention centers in Israel, described being placed in crowded cells that lacked proper ventilation, women from different backgrounds, dire hygiene conditions, and extensive exposure to secondhand smoke. The transportation between detention centers, interrogation centers, and courts, was also addressed, while participants described long travels and often stays in courts and other centers in distressing conditions.

> *"The detention centers are simply a nightmare. I thought that was the difficult part, until I realized that my interrogation was taking place in a different location. I had to wake up at 4 in the morning, transported in the prison vehicle while cuffs placed on my hands and feet, and again, body search. The body search is very humiliating, and the cuffs are harmful on the one hand, and humiliating on the other. Nobody deserves this."* (N_50_IDI)

Onset of disease during the trial period

Participants reported a range of health problems they faced during the interrogation, but these were more pronounced during the legal proceedings and trial, especially in cases where the trial was lengthy (i.e., more than two years). Participants described developing psychological distress, including depression and anxiety disorders, requiring psychiatric and psychological therapy. Other participants with prior mental illness said that the process worsened their conditions.

> *"I was on trial for 2 years. As it started to get closer to the end, my psychological situation started to worsen. Also, physically I wasn't okay. I wasn't functioning, couldn't cope. I was depressed; I was at home all the time and I was barely able to function as a mother."* (V_40_IDI)

Some participants said that the psychological and emotional impact of this period extended to their families.

> *"The trial process lasted 4 years, during which I developed a psychological illness. My husband had a heart attack during that time, I was the one who performed resuscitation on him. This made my anxiety worse. I started psychological treatment and started with medications which I continue to take to this day."* (N_ 50_IDI)

Lack of mental healthcare and awareness during trial

Participants frequently cited a lack of understanding within the justice system regarding their mental health conditions, particularly by the prosecution. They stated that their mental illnesses or other psychological conditions were not considered during their trial and conviction process. This was particularly evident in the accounts of two participants who were diagnosed with post-partum depression, which according to their statements, was connected to the offences they committed:

> *"They (the prosecution) were not able to appreciate or understand my situation that led me to do what I did, because they didn't go through this experience of postpartum depression."* (F_30_IDI)

One participant was placed under psychiatric supervision before her trial. When asked about treatment, she mentioned that she did not receive any, despite being treated before the event by a psychiatrist in the community due to her post-partum depression, and the physical and sexual abuse that she suffered from as a child and as an adult.

> *"I was placed under supervision in a mental health facility by a court order. There I was treated as a prisoner. I was there for a month and most of the time it was male police in the room, 90 shifts…sometimes, the officer would leave the cuffs on my hands even when I am in bed…The staff were kind because I was under observation, not for receiving treatment, but there was not even much consideration from the professional personnel there."* (S_20_IDI)

3.1.3. Theme 2. Prison entry and healthcare during incarceration

This theme starts with describing the experience of entering prison, the prison structural and environmental conditions, and healthcare needs and services in prison. Entering prison was consistently described as a profoundly difficult and often *"shocking"* and *"humiliating"* experience.

> *"Entering prison is an immense stress and shock for human beings, even if they know the system, and I did know the system. It is one of the biggest humiliations a person, and especially a woman, can ever experience."* (L_60_IDI)

Participants highlighted the drastic transition from being independent women who have family responsibilities to being deprived from their freedom and autonomy as a form of punishment. This led, in some cases, to self-harm attempts shortly after entering prison.

> *"I was very scared the day I entered the prison, especially for a normative person like me, with family, grandchildren…At the beginning, I didn't leave my cell for days. There was no explanation or guidance. No awareness. My anxieties got worse. How did I survive this? I don't know…"* (H_60_FGD)

Participants stated that before being moved to their cells in the prison, they are placed in what is called 'the compound', which is a part of the prison procedure to prepare the women for the transition to the prison, While the concept was clear and understandable to the participants, they described its conditions to be similar to the detention centers, and for them, it was better to move inside the prison already.

Overcrowding and prison environment

Participants across interviews described the various wings and departments of the prison. They frequently described the overcrowded cells, and in some cases, the lack of beds. The cells were described as poorly ventilated, an issue that exacerbates in the hot summer. Participants stated that one wing only had air conditions, and three wings had air conditioning, which in this context, is "not a luxury but rather a necessity", as described by F. Other issues included poor hygiene, low-quality drinking and washing water. The water pipes were described as very old and rusty, and some said that there is a widespread hair loss among women in the prison because of the water's low quality. While certain wings were designated for specific groups, such as a wing for women with SUDs or mothers with their children, these designations were not always upheld. In some cases, women were placed in cells with others from vastly different backgrounds and offence categories, which some found distressing. For example, J, a 30-year-old participant incarcerated for eight months for a minor drug-related offence, was placed in a cell with a woman convicted of murder and another woman convicted of child abuse.

> *"I was put in the same room with violent women, sex-workers, and others convicted of murder. It is not easy to get along with. We all fight on the same territory."* (A_50_FGD)

Barriers for women with disabilities

Participants emphasized that the prison environment was not adequately equipped to accommodate people with disabilities. One participant said that she had to negotiate her special requirements both before and upon entering prison. Although she secured a court order mandating necessary adaptations, she stated that these were only partially implemented by the IPS. Eventually, she was placed in a cell with other women who assisted in her navigating the new environment.

> *"I have a disability, so in the beginning and despite my disability they put me in a cell, a smelly cell with four other girls. I didn't know where to sit, I didn't know what I'm allowed to sit on...No one provided me with an explanation or guidance. I cried and shouted, begged them to listen to me, but to no avail..."* (Y_30_IDI)

Nutrition and physical activity in the prison

Prison conditions pose further challenges to maintaining health among incarcerated women. One participant described prisons as a *"very destructive place in terms of health"* (Y, 30). Participants identified several factors that contributed to their ill health. These included mainly the poor nutrition and lack of nutritional options, whether those served to them or those available for purchasing from the prison canteen.

> *"The nutrition is awful. It is mainly carbs, there is a lack of vegetables, and that's why I avoided eating prison food. I would only buy things from the canteen, but nothing really healthy…I even became vegan only to be able to get vegetables. We also experienced hair loss, infections, vomiting…"* (Z_30_FGD)

Exercise and sports were also limited. Participants reported a lack of space for physical activity and routine sports classes. Some stated that the 'education staff' in the prison arranged that trainers come to the prison to provide classes like Yoga and Pilates once a week. Additionally, extensive exposure to secondhand smoke was also reported by the participants, including in areas and cells that were designated as smoke-free.

> *"I continued to do sports as I used to do before prison, but it wasn't always possible, they closed the courtyard, and there is no awareness of the importance of physical activity there…"* (P_40_IDI)

One participant, who complained about the heavy smoke exposure while in detention, reported that she was placed in isolation, as it was the only alternative available after she complained about the issue.

> *"I have a scar on my eye because of the exposure to smoke. Even in the therapeutic wing I was in, which is considered the best wing in the prison, everyone smokes. I appealed to the court, I won, but it didn't help, they (the prison management) do not implement court orders."* (L_60_IDI)

Isolation and solitary confinement

Some participants reported experiencing various forms of solitary confinement and isolation, with these terms being used interchangeably, and each method included different settings within the prison. These procedures were used as either a punishment (e.g., after attempting self-harm), or due to being perceived as a threat to others, and therefore being isolated from other prisoners. All women who experienced solitary confinement/isolation described it as a deeply distressing experience, with long-lasting impact effects on their mental health that often continued after release. During the COVID19 pandemic, isolation rooms were used for those who developed symptoms. As a result, some chose not to report symptoms to avoid being placed there.

> *"I was sent to solitary confinement at 2am in what is called 'Halalit'. I was terrified and begged the officer not to leave me there alone. She then put me in the 'cameras room'. There is nothing there as well, but at least there is a guard and you can leave to work during the day… but still, this was more difficult than anything else I experienced in prison… I had psychiatric issues before that, and I was balanced with medications. But after this experience, I started hearing voices in my head, something that I did not have before that."* (S_20_IDI)

Medical care disruption upon entering prison

Some participants stated that they had their medical records with them when they entered the prison, yet this was not considered by the prison management. Entering prison was also associated with medical treatment disruption, including medical follow-ups, and discontinuity of complex dental treatments that began in the community. Most commonly, however, was the disruption in psychiatric care, and the discontinuity of prescription medications.

Instead, they were often provided with what was described as alternatives, it is not clear however if these were same drugs with different commercial names, or different generic drugs.

> *"They (the prison clinic) provide alternatives and not the originally prescribed medications because some of the medications are not allowed in prison. I changed at least 4 times, some of these alternatives caused me severe depression."* (P_40_IDI)

Nutritional supplements and Vitamins were generally not provided, and women were not allowed to bring them with them into the prison. One participant managed to get approval for vitamins after appealing to the court, but she had to pay for the vitamins herself. Yet they were not allowed to bring their own medications and were not provided with medications.

> *"I told the prison staff that I needed vitamins. I was also depressed, and couldn't eat. I told them what I used to take before prison, like b12, iron etc. But my requests were denied. I filed a legal petition, and after 4 months I got approval for multi-vitamin which I had to pay for myself."* (K_50_IDI)

Interrupted reproductive care

Participants reported fragmented or inaccessible gynecological services, as well as restricted and inconsistent availability of hygiene and sanitary products in the prison canteen. was also underscored as evident in the interviews. At least two participants described entering prison during a critical time for their reproductive health: one shortly after childbirth, and another during follow-up for suspicious medical findings. Both reported extended delays in seeing a gynecologist, and one ultimately postponed the postnatal examination until after her release. Another participant had to interrupt fertility treatment due to incarceration.

Emerging health issues during incarceration

Participants reported a wide array of physical and psychological conditions experienced during incarceration. In some cases, these conditions existed before imprisonment and worsened while in prison. One participant described how she was successfully treated for a certain health condition before entering prison but that this condition had returned during her incarceration, and due to inadequate care, her condition deteriorated and ultimately resulted in a disability.

"When I entered prison, I wasn't able to function. I suffer from PTSD, bi-polar disorder, and manic-depression. So, in such conditions, it exacerbates." (S_20_IDI)

Another participant stated:

"I suffered from migraine my entire life, and in prison it got worse. I also had sleeping problems so they also gave me a sleeping pill. Not that it helped…but better than nothing." (P_40_IDI)

Additionally, dental issues, including pain and the need for dental treatments, were common complaints, as were injuries experienced in prison, which were often met with sub-optimal and delayed care.

"I had strong tooth pain in prison. I asked to see the dentist and he did some treatment. But they didn't really treat me properly, they started telling me 'We have a lot to do'… They gave me something for the pain, and I continued treatment after I was released." (Z_30_IDI)

Three participants with a history of SUDs described "forced abstinence", where they were placed in isolation on their first days without access to professional or specialized treatment.

"When I entered prison, I started asking for sleeping pills and I ate a lot, anything so I don't think about drugs. I entered the prison 60kg and left 95kg after 8 months. I then decided with the PRA to get clean from drugs. They supported me with the process." (D_30_FGD)

Navigating prison healthcare: barriers and facilitators to healthcare services in prison

Organization and medical personnel

Participants stated that the first contact is with the medic, which they usually meet only after requesting that from the prison guard. Sometimes it takes time to get to the clinic to see the medic, mainly due to logistic considerations, which include registrations and the need to be accompanied by a prison guard. Women shared their experiences of seeking healthcare in prison, highlighting numerous challenges.

"To be in prison is very difficult, but to be sick in prison is like death." (L_60_IDI)

Participants frequently described the difficulty of securing a medical appointment, as registration was required in advance, and waiting times were excessively long. This was coupled with logistic constraint in the prison, and confusion among newly incarcerated women, as those procedures were unclear upon their arrival.

> *"To get a doctor's appointment, you need to register a week before, but you don't receive updates regarding your appointment request. The doctor arrives on certain days, and there is no guarantee that he will see you. Also, the movement in the prison is conditioned by accompanying guards. If there is no available guard, you will miss the doctor's appointment. And then you need to wait another week at least."* (A_60_FGD)

One aspect that seemed to work however, is the screening services, including mammogram for example, which were scheduled on specific days and performed in a concentrated manner, and not according to specific requests or needs, and they were sometimes provided by a local hospital.

Mistrust in the prison healthcare system

Participants described the medics as incompetent and unprofessional in most cases. They described their interactions with the prison doctors, who were often family doctors but with no specialization, and described the treatment they received from them as "sub-optimal". They also described extensively the long waiting time to see a specialist. Some participants reported having to negotiate with the prison medical personnel and sometimes with prison staff who sometimes discouraged them from pursuing certain examinations or treatments, particularly if they were nearing release.

> *"A medic comes to the prison three times a day, and they are always there. But most of them lack professional training. There was a medic who didn't know how to perform blood tests and also didn't know how to read measurements. She told me that my blood pressure was 140 and asked if it was good… I replied, good for whom?"* (Y_30_IDI)

> *"I went to the clinic for blood tests and the clinic director's response was, 'When are you supposed to leave prison?' I asked why it was important for her to know, and she replied that she was just asking to know if it was worth it to do the tests now."* (S_20_IDI)

Participants described judgmental attitudes of some of the medical personnel and often felt that their health complaints were not taken seriously. In some cases, women described being treated in the prison clinic surrounded by male prisoners only, which made them feel uncomfortable. Participants also expressed mistrust in prison healthcare personnel, which also included concerns for sharing sensitive health issues, and described the low-quality of care. These factors led many women to postpone treatment until after their release.

> *"I didn't feel like I trusted the medical staff there, and also, I didn't feel like I wanted them to know about my personal health issues. I eventually had to do a necessary test because I was worried for my health, but until this day, I didn't get the results of this test."* (B_ 30_ IDI)

Mental healthcare in the prison

The lack of specialized care extended to psychological services. Participants described long waits to see a psychiatrist, and when they did, their sessions were brief. The inconsistent Instead, a social worker was more frequently available, though experiences with social work programs varied.

> *"She (the psychiatrist) comes once a week to the prison, but you cannot register to get an appointment with her, but rather you have to tell your consultant, and she calls her and tells her why you want to see her...and it doesn't always happen"* (S_20_IDI)

For some, social workers were not always available. It also seems that in the initial phase, there might have been some mistrust in the social workers of the prison. For instance, one participant said that after prison entry she was interviewed by a social worker if she had suicidal thoughts. The participants said that for many other women, it is known that they should not share all their thoughts with the fear that they might be placed in isolation instead of getting proper treatment. For another participant, the relationship with the social worker developed over time and it was detrimental in her rehabilitation process, during and after incarceration.

> *"For a long while after entering prison I was depressed and didn't want to do anything. Then I met with a social worker who suggested that I take part in groups and such things. I started doing that and when my situation improved, I also started working in the prison. She supported me throughout the whole process."* (F_ 30_FGD)

Medical treatment outside the prison: delays, shackling, and lack of privacy

For participants who had to be transferred to an external healthcare facility (e.g., a public hospital), logistical and security considerations within the prison influenced the process. In some cases, women reported that prison staff attempted to discourage them from attending their appointment. Others found the transportation itself inconvenient due to the shackling of their hands and feet, also during treatment, causing them both physical discomfort and feelings of embarrassment about being handcuffed in public.

> *"While I was in the hospital, I was in cuffs, on my hands and feet all the time. I told the guards it was painful and showed them the blue marks on my hands from the cuffs, but they refused to remove them. I went into the bathroom with one hand and one foot in cuffs."* (S_20_IDI)

Lack of privacy was another challenge that women faced during the hospital stay. They reported feeling uncomfortable by the constant presence of the overwhelmingly male prison guards. Additionally, families were not notified in cases of hospitalization, and women were prevented from contacting them while in the hospital.

> *"There are a lot of officers around you, sometimes including the intelligence officer... Even during the examination. When I had a gynecological examination, they had to arrange a female guard to be me in the examination room"* (D_30_FGD)

Avoidance of medical care

The challenges women faced while receiving medical care, especially outside the prison, along with hearing about similar experiences from others, led some to refuse or forgo medical appointments. The prospect of being cuffed, in particular, was a major deterrent.

> *"It was very inconvenient to the point where I gave up on many appointments. Even one time, after I had already arrived at the hospital. I entered prison shortly after I gave birth and I didn't do any examination or follow-up, I just did them after my release to avoid the inconveniences and the humiliation"* (F_ 30_IDI)

On the other hand, participants noted that hospital staff treated them with sympathy. Some recalled instances where the staff members requested the removal of their handcuffs, but these were often denied by the guards.

Some participants highlighted reasons why they think they were treated differently and got the treatment they needed. For instance, some filed special petitions through their lawyers after being denied treatment by the prison or to request evaluation by a specialist. Others, knowing they would likely be incarcerated by the end of their trial, sought medical treatment in the community before entering prison.

> *"I slipped on my back; I was taken to the hospital three days after my lawyer intervened."* (Y_30_IDI)

> *"Once you file petitions to court, then they (the IPS) have to do something about it. The prison services do not think out of the box, they never put any effort...*" (P_40_IDI)

Language barriers also play a role in access to care. Women from different linguistic backgrounds (particularly Arabic speaking women) stated that the limited Hebrew knowledge discouraged them from seeking medical care, especially during psychological distress. Another participant stated that her Hebrew improved while in prison and that helped her manage her healthcare needs during incarceration and after release.

> *"I moved between different wings. I was in the therapeutic wing for three years, which is the best. Really, you should just be a 'positive inmate'. It is a wing for wealthy prisoners who are functioning in the prison and the management trusts them."* (Y_30_IDI)

Lack of social support during incarceration

Several women stated they had no support outside of prison, neither from family nor friends. This affected the benefits they could have while in prison, such as transferring money to the canteen or getting other items to the prison. Woman who were allowed to have certain medication or items goods were not able to have them due to lack of support from outside the prison. Others described the ways and challenges in maintaining contact with their families. For those who had children, mothers or other family members cared for the child while the mother was in prison.

> *"In prison, you get one video call for 15-30 minutes once a month or twice a week. On Mother's Day we could see our kids for 3 hours. I had to go through a special committee first. I waited 3 months until I received the response, which was close to my release day. The consultant told me: "you are leaving soon, why do you need that now!".* (S_20_IDI)

3.1.4. Theme 3. Post-incarceration: health and healthcare during transition

Transition and fear of stigma

Women described the complex and often contradictory emotions that accompanied their release from prison. One participant reported that the emotional distress during this period manifested in physical health issues. While regaining freedom brought initial relief, many struggled to adjust, especially when faced with family conflicts. One participant, who was separated from her husband and shared custody of her children, described the following:

> *"It gets more difficult with time. I don't have patience anymore for my kids, so I reduced my time with them to twice a week. To get here (to the PRA centre) every morning and to deal with the situation is not easy, because here you have to face the things that happened and are still happening, so you sink…"* (P_40_IDI)

Participants, mainly from the Arab-Palestinian community in Israel, expressed concerns about social stigma and judgment upon reentry. However, this did not seem to be a widespread issue.

> *"People made comments, and I could hear them saying 'oh she was in prison'. Before, I would react immediately, constantly thinking and carrying it with me, but now, I don't care."* (F_20_IDI)

Continuity of care and re-establishing primary healthcare in the community

When asked about seeking healthcare and re-enrolling in the national health insurance after release, participants generally described the experience as positive. Many expressed relief at being able to see their community clinics, see their doctors again, and receive care in a familiar and respectful setting. Most women reported being treated with openness and without judgment by healthcare staff, and felt their concerns were taken seriously. However, these cases were primarily reported by those who had shorter periods of incarceration.

Most of the participants were unaware that their health insurance remained valid during the first year of imprisonment (according to law), and most reported difficulties obtaining their medical records from the prison. This limited the continuity of care for most of them.

> *"This is the most positive thing in the story. It was no problem returning. I was a bit shocked, finally sitting in front of normal doctors and speaking in a normal way… but like, it's just an initial shock. The transition back into the healthcare system was quick and smooth."* (R_50_FGD)

Women requiring ongoing psychiatric care faced greater challenges. Several described long waiting periods to secure appointments and difficulties navigating the public mental health services. This was particularly challenging when appointments overlapped with work or with mandatory presence at the PRA.

> *"I waited a very long time for a psychologist appointment. I was required to attend psychiatric treatment at a mental health facility, but the appointments clashed with my schedule at the PRA. Also, the therapeutic groups at that facility were not suitable for former prisoners."* (H_60_IDI)

Social support and recovery

When asked about sources of support, the vast majority of the participants identified the PRA and their relationships with social workers and staff members as central to their recovery and reintegration. These relationships were described as crucial in helping them rebuild their lives and regain sense of stability and self-worth.

> *"Right now, I am still in treatment here, so we continue the conversations. Otherwise, I would still be in prison... It helps the soul, and when the soul is healthy, the body is healthy too…"* (B_30_IDI)

Another participant emphasized the impact of the PRA support in her life:

> *"I wouldn't be standing on my feet today without them. I'm clean from drugs and away from many bad influences. All of this is thanks to the individual and the group sessions and the support from the social workers here."* (F_20_IDI)

This support was particularly important for women who had no prior access to psychological or social support, as stated by A (60_FGD), who had spent over 16 years in prison, reflected:

> *"If I had the opportunity to talk and share what was going on in my life and receive proper help, I wouldn't be sitting here today. I still come to the PRA, even after my mandatory period with them ended."*

3.2. Governance of prison healthcare for incarcerated women in Israel: Document analysis with key-informants' insights

This sub-section presents the findings from the document analysis to explore the healthcare governance for incarcerated women in Israel, corresponding to thesis objective iii.

3.2.1. Overview the included documents

Overall, eight documents were included in this study. Four were retrieved from the following governmental websites: Three from the SC, and one from the PD websites. Another four publications were retrieved from the NGO Physicians for Human Rights Israel (PHRI), including two position papers. All published between 2020-2022. Identification numbers (ID) are used as a reference for each document for better readability (Table 6). The following section presents the findings from the included documents, organized according to the main building blocks and other domains of the prison health framework.

3.2.2. Prison healthcare governance and oversight

The included governmental reports have largely overlooked issues of healthcare governance and the assignment of responsibility for healthcare delivery within the IPS. In contrast, reports from the NGO Physicians for Human Rights-Israel addressed these gaps. Their reports describe the IPS as operating *"without a clear work plan and without conducting any professional assessment of the needs of the prison population"* (KI_1, ID: 6,7). The NGO addressed the issue in their comprehensive report (ID: 5), stating that many of the internal procedures related to healthcare provision within the IPS are not publicly available. Unlike the National Health Insurance Law, which outlines publicly available healthcare services, the majority of IPS healthcare protocols remain disclosed, leaving most incarcerated people unaware of their rights to medical services. Additionally, they highlight the inconsistent and insufficient reporting of health-related data. The NGO also addresses the role of the MoH, citing a "*dubious interpretation of the National Health Insurance Law*" (ID: 5), to justify its lack of responsibility to the health of PIP. As a result, the MoH does not engage in monitoring or supervising healthcare services provided by the IPS (ID: 5). According to Physicians for Human Rights, the

MoH Ombudsman (tasked with handling prisoner's complaints) is not perceived by prisoners as a relevant or accessible body. Consequently, very few complaints are submitted, and those tend to be inadequately addressed, often without independent review. Currently, the Ministry of Public Security, which oversees the IPS, is the body in charge of both setting and overseeing prison healthcare system and policy in Israel (ID: 5).

Table 6. Included documents in ascending chronological order according to publication year and then according to document source

ID[a]	Author, year	Topic of focus	Type of document and data source	Gender specific aspects in the documents
1	(Public Defender 2024)	Conditions in arrest and incarceration facilities	Audit from the years 2021-2022 Inspections	Brief description of the living conditions in the prison
2	(State Comptroller 2022b)	The medical array for prisoners in Israel	Follow-up audit on a previous audit from 2015 Inspections	Psychiatric care
3	(State Comptroller 2021)	Prisoners Rehabilitation in Israel	Rehabilitation programs in the IPS, the PRA, and the continuity of rehabilitation throughout the period of incarceration	Not Available
4	(State Comptroller 2020)	The condition of detention centers in the Israeli Prison Services	Audit Inspection conducted in 2019	Not Available
5	(Michaeli et al. 2020a)	Healthcare system in the Israeli Prison Services	Examination of health record of prisoner's complaints and other health data obtained in 2018 under a Freedom of Information Request	Not Available
6	(Physicians for Human Rights Israel 2023)	High court appeal to improve the healthcare services for prisoners	Online article Report on legal activity	Not Available
7	(Physicians for Human Rights Israel 2022)	Appeal to court for the provision of health services for prisoners according to the state's health basket	Online article Report on legal activity	Not Available
8	(Abbas and Ziv 2021)	The right to inform the families of prisoners about their health conditions and if they were hospitalized	Position paper	Not Available

[a]Identification number

Although the IPS announced in 2014 that it had begun drafting a long-term, multi-year work plan for prison healthcare, the plan had not been finalized or implemented as of 2020. PHRI and in collaboration with other human rights NGOs appealed multiple times to the high court of justice to compel the IPS to provide healthcare in accordance with the national health basket, but with no success. The NGO highlighted that the IPS continues to maintain control over the healthcare in prisons and resists integration with the national healthcare system (ID: 6,7). This was also consistent with the insights

Financing

According to existing regulations, medical treatment for people serving less than one year should be financed by the HMOs with which they were enrolled before incarceration (ID: 2). However, both governmental and NGOs reports consistently highlight that the IPS covers these costs instead. The 2022 SC audit (ID: 2) also found that the IPS failed to maintain proper documentation regarding medical expenditures. Furthermore, the interface between the IPS and the National Health Insurance, and medical institutions appears to be limited. This lack of coordination may have implications for the IPS healthcare budget and may contribute to delays or denials of medical treatment, citing budget restraints. This was also emphasized during an IDI with key-information from a local NGO advocating for prisoners' healthcare access, and emphasized concern regarding budget-related barriers to treatment. Similarly, The NGO reported that the healthcare budget declared by the IPS is significantly lower than the actual one. The average expenditure per prisoner for medical services exceeds that of the HMOs for individuals with comparable health profiles, almost by double (KI: 1). The report reiterated that the provision of medical services by the IPS increases costs, contributing to overall inefficiency in economic management in the IPS (ID: 5).

Health workforce

In addition to the structural limitations, reports frequently pointed to insufficient medical staffing, both in terms of quantity and professional qualifications. Access to specialized care remains limited. According to the SC audit (ID: 2), the IPS health system does not include nurses in its staffing structure. Instead, some prison security staff receive training to provide first-aid and serve as "medics" in shifts in the prisons' clinics. The audit found that 62 out of 111 medics were not placed on shifts rotations, potentially affecting their professional skills. One facility lacked nine medics required by staffing standards. Shortage of Physicians was also documented. The audit reported that 17.25 doctors' positions (around 23% of the required

number) were unfilled, and the gap had worsened compared to a previous audit (ID: 2). Specialist clinics were previously operated through a health corporation under a non-competitive engagement agreement with the IPS. This arrangement lacked formal extensions or oversight mechanisms. By 2022, this had been replaced following a tender process, and new collaboration was formed with four hospitals to provide specialist care. As for 2022, the audit also noted that only three out of the 43 doctors working within the IPS were medical specialists. Additionally, 50% of the physicians in the IPS were over 57 years old (the customary retirement age within the IPS), indicating a potential for further shortages in the near future (ID: 2).

Health information and continuity of care

One social worker-who works at the intersection between the courts and the IPS-described the lack of accessible and or well-communicated information as a persistent barrier (KI_2). She described receiving incomplete or non-informative health records of individuals in incarceration or arrested. This issue is particularly acute in cases involving psychiatric evaluations of incarcerated individuals. On the other hand, when asked about the communication of the psychiatric evaluations that are conducted before prison, the interviewee said that they transfer the information, but they *"never know what is done with this information, there is rarely feedback from the IPS on such issues"* (KI_2) This issue is repeated also at the time of release from prison, where the transfer of medical records especially regarding medical treatments or check-up conducted during incarceration remain limited and fragmented. For the rehabilitation authorities, these effects can affect the treatment and habilitative plans, and further strain the limited resources, especially when psychiatric or psychological evaluations need to be repeated after release due to lack of information (KI_3, ID: 3). During the interviews, it was mentioned that there is an initiative from the IPS to establish an application for health records transfer, yet this has not yet been implemented.

3.2.3. Health services provision and infrastructure

There is one inpatient medical facility within the IPS, whereas psychiatric care is provided through a mental health center managed by the MoH. However, this facility lacks a unit for incarcerated women and minors requiring psychiatric hospitalization. Although an inter-ministerial initiative was launched in 2018 to establish a secure psychiatric department for prisoners in southern Israel, it had not been implemented as of the latest reporting (ID: 2). This

specific gap in psychiatric care for women was addressed in the interviews with key-informants, who highlighted the lack of appropriate and timely psychological and psychiatric care, especially for women experiencing acute psychiatric distress in prison, where they are often placed in isolation cells within the prison rather than receiving timely and adequate mental health care (KI_1,3).

Two reports included inspections of the IPS medical facilities. One report found that 16 out of the 30 IPS clinics required renovations, including adjustments to improve accessibility for persons with disabilities. The SC follow-up audit noted that most of the previously recommended renovations had not been carried out (ID: 4). A separate report by the PD documented complaints gathered during inspection visits to various facilities. Prisoners, including women, men, and minors, frequently raised concerns about the quality of medical care. The most common issues reported were delayed access to healthcare and very long waiting times. According to the report, these complaints were presented to the prison staff during the inspections, who responded that the issues *"will be treated promptly"* (ID: 2). However, no follow-up on resolution or the outcomes of these complaints was provided.

Rehabilitation and social work

According to the State Comptroller's report (ID: 3), the 1971 Prison Ordinance (amendment 42, 2012) states that *"prisoner rehabilitation is a core mission of the IPS"*. The IPS operates a rehabilitation division tasked with implementing rehabilitative efforts for the prisoners. However, at the time of the audit, significant gaps were identified in the actual provision of rehabilitative services within the prison system. Notably, the regulations had not yet been enacted by the IPS. The audit found that 77% of prisoners released between 2016 and 2020 (a total of 32,621 individuals) were released without parole restrictions or rehabilitative treatment. Between 2017 and 2019, around 57% of the rehabilitative programs defined for incarcerated individuals were not provided (ID: 3). Prisoners identified as needing such programs, especially those related to addiction and fraud offences, were not placed in relevant groups or dedicated rehabilitation units. Among prisoners convicted with domestic violence, the recidivism among those who received treatment in an IPS rehabilitation program was 30.2%, compared to 39.9% among those who did receive such treatment. Prisoners serving short-term sentences were also found to be largely excluded for rehabilitative programs. As the report states: *"This fact reflects a substantive disparity between the IPS's perception–which advocates preparing prisoners sentenced to short prison terms for their reentry into society, and its actual activity in this*

regard" (ID: 3). In terms of inter-agency communication and continuity of rehabilitation, the report found that the IPS's computerized data systems lacked relevant information regarding the prisoners' rehabilitative needs and the extent to which they were integrated into treatment programs. Recidivism among individuals with unique rehabilitation needs, such as those with mental disorders, was estimated at 70%, a population that represents approximately 10% of all released prisoners annually. The PRA, the responsible body for rehabilitation in the community, currently does not offer any dedicated treatment programs for this population.

3.2.4. Influencing factors: prison environment

A significant issue highlighted in the reports was overcrowding in detention and incarceration facilities (ID: 1, 4). In 2022, the average personal space per individual is approximately three-square meters, substantially less than the 6-12 square meters typically found in Western countries (ID: 1). Other environmental concerns were also noted. Prisons and detention centres were generally described as poorly ventilated, raising concerns about hygiene and excessive heat, especially given the widespread lack of proper air conditioning. According to the PD report (ID: 1), women incarcerated in Neve Terza prison reported extreme heat in their cells and a lack of nutritious food options, stating that *"We receive cucumbers only"* (ID: 1). In some cases, food was reportedly kept in the showers. Additional concerns included the limited variety of food in the canteen, high prices of available goods, and a lack of essential items for women. The PD report also raised alarm over the lack of separation between different groups within the prison population. In the women's prison for instance, juveniles were incarcerated alongside adults, and individuals in pre-trial detention were held with those already convicted (ID: 1).

3.2.5. Cross-cutting principles: gaps in data and policy

Cross-cutting themes such as adherence to international guidelines and the needs of special populations received limited attention in the reviewed documents. None of the governmental reports examined referred to internationally recognized standards or guidelines for the treatment of incarcerated individuals, especially women (e.g., The Nelson Mandela or the Bangkok Rules).

Regarding special populations, the 2022 State Comptroller audit briefly acknowledged the situation of elderly prisoners, stating that in 2020 there were approximately 300 elderly prisoners aged 65 and above in the IPS facilities (elderly age definition differs in carceral settings). Yet, there was no systematic program tailored to the changing composition of the prison population, particularly in terms of aging and the prevalence of chronic illnesses (ID: 2). Physicians for Human Rights further emphasized that the prison system was ill-equipped to meet the needs and welfare of older prisoners and individuals with chronic conditions. They also highlighted concerns regarding the rights of family members to be notified in the event of hospitalization, noting that this right is often not upheld within the (ID: 8, KI_3). Other minority groups such as foreign nationalities or transgender people were not addressed. Additionally, gender-sensitive policies or services were not addressed. Except for stating in the Prison Ordnance that men and women are held in separate facilities based on sex, there is no elaborate policy on the treatment of trans-gender individuals.

The reviewed documents did not address the specific needs of other minority groups, such as foreign nationals or transgender individuals. Gender-sensitive policies or services were also largely absent. Aside from the provision in the Prison Ordinance stipulating that male and female prisoners must be held in separate facilities based on their sex, there is no detailed policy concerning the treatment and placement of transgender individuals.

3.3. Access to primary healthcare among women transitioning back into the community: A systematic literature review

This sub-section presents the results of the systematic review of the global literature on the access to PHC among formerly incarcerated women, corresponding with study aim iv.

Note: some aspects and texts in this sub-chapter are based on the associated publication (Agbaria et al., 2024)

3.3.1. Search results and study characteristics

After removing duplicates, 3524 records were screened for abstract and title, resulting in 191 records that were selected for full-text screening. The final dataset consisted of 37 peer-reviewed publications that were published between 2013 and 2022 (figure 4).

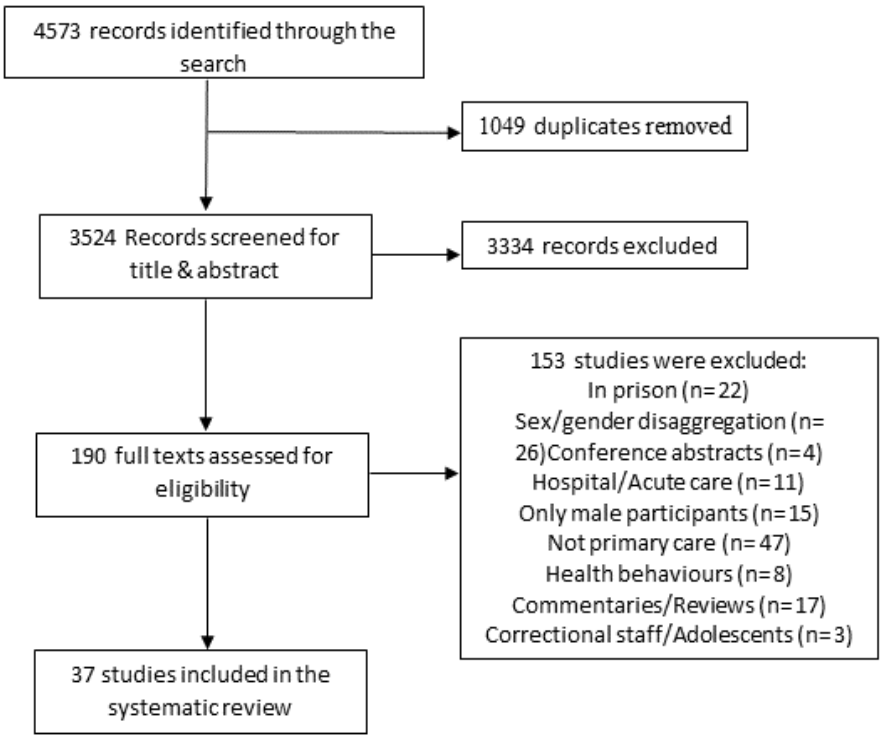

Figure 1. PRISMA flow diagram of study selection. Source (Agbaria et al., 2022)

Of the included papers, 21 were quantitative, and 15 were qualitative studies. A case study that was reported in an opinion paper was also included. The final included studies originated from western countries only, including the United States (US) (n=25), Canada (n=7), and Australia (n=5). Tables 6 and 7 provide a summary of the characteristics of the included studies.

Table 6. General characteristics of the included quantitative studies

Source: (Agbaria et al., 2022)

Author, year	Design	City/ Region, Country	Study aim	Post release follow-up	Sample size n (%)	Age	Risk of bias
(Abbott et al. 2017b)	Retrospective review of medical records	New South Wales, Australia	Health information transfer and continuity of care arrangements between prison and community providers for women in prison	N/A	210	Mean age: 35.74[§]	(6/14) B
(Burns et al. 2021)	Quasi- experimental	Wisconsin, US	Medicaid coverage in the month of release and secondary outcome as a proxy measure of coverage on the day of release	33 months	8 (10%)	Mean age: 34.6	(10/12) A
(Busen 2014)	Pre-post	Houston, US	Interprofessional education course to address the health care needs of women transitioning from prison to the community	1-11 months	12	Mean age: 46.5	(4/12) C
(Calais-Ferreira et al. 2022)	Prospective cohort study	Queensland, Australia	Usual provider continuity index, Continuity of care index, and having at least one extended primary care consultation (> 20 minutes)	2 years	254 (24%)	Mean age: 31.67[§]	(11/14) A
(Dickson et al. 2018)	Pre-post	Appalachian Kentucky, US	Health care under the Affordable Care Act compared with pre-ACA and whether being insured is associated with a usual source of care	3 months	371	Mean age: 32.6	(10/12) A
(Emerson et al. 2022)	Cross-sectional	Oakland, Birmingham, Kansas City, US	Health services needs of older adult women compared with younger women	N/A	510	Old group mean age: 56.4	(6/14) B
(Fahmy et al. 2018)	Non-randomized control trial	British Columbia, Canada	Receiving an appointment at a family doctor for people recently released from prison	N/A	250 family doctors	N/A	(7/12) B
(Hall et al. 2022)	Cross-sectional	Oakland, Birmingham, Kansas City, US	Knowledge, beliefs, and health practices regarding cervical health, healthcare access and use	N/A	383	Mean age: 37	(7/14) B
(Hughes et al. 2020)	Cross-sectional	14 states in the US	To examine the differences between male and female inmates with regard to chronic illness diagnoses and health care receipt during reentry	3, 9, and 15 months	159 (20.8%)	Mean age: 30.4	(8/14) B

(Kouyoumdjian et al. 2018a)	Retrospective cohort	Ontario, Canada	Utilization of Primary care compared with the general population	0-6 days, 7-29 days, 30-89 days, 90-179 days, 180-364 days ,365-730 days	6107 (12.5%)	Mean age: 32	(10/14) A
(Kouyoumdjian et al. 2018b)	Retrospective cohort	Ontario, Canada	Proportion of women who were overdue for cervical cancer	3 years before and 3 years after the index date[a]	4553	Mean age: 36	(8/14) A
(McConnon et al. 2019)	Retrospective cohort	Ontario, Canada	whether screen-eligible individuals were overdue for breast and colorectal cancer screening on the index date	3 years before index date; Index admission; 3 years after index admission[b]	Screening eligibility for colorectal cancer 317 (8.3%), for breast cancer 249 (100%)	Mean age: 39.5[*§] Mean age: 50.45[*§]	(11/14) A
(McLeod et al. 2020b)	Mixed-methods	British Columbia, Canada	Access to family doctor post-release	3 days post-release	172	Age range: 31–50	(7/12) B
(Morse et al. 2017)	Pre-post	New York, US	Having a primary care provider and receipt of recommended testing and treatment	9 months	100	Mean age: 38.3	(8/12) B
(Norris et al. 2021a)	Retrospective cohort	Ontario, Canada	Healthcare use in prison and during the follow-up periods after release, and by type of health care compared to age-matched females in the general population	Days 0–6, 7–29, 30–89, 90–179, 180– 364, and 365–730	6,107	Median age: 33	(11/14) A
(Oser et al. 2016)	Cohort	US	African American women's use of health services after release from prison	18 months	181	Mean age: 36	(10/14) A
(Patel et al. 2022)	Pilot	Philadelphia, US	To enroll women into Medicaid before release and set up their first doctor's appointments to ensure continuous access to treatment	N/A	1,292	N/A	(6/14) C
(Pickett et al. 2020)	Cross-sectional[c]	Kansas City, US	STI testing within one-year post-intervention	N/A	133	Mean age: 35.1	(9/14) A

(Puljević et al. 2018)	Cross-sectional[c]	Queensland, Australia,	First dispensing of smoking cessation products after release from prison	2 years	221 (22.8%)	N/A	(9/14) A
(Redmond et al. 2020)	Cross-sectional	US	Perceived discrimination and the association between discrimination and self-reported physical health	6 months	109 (15%)	Mean age: 46	(9/14) A
(Young et al. 2015)	Prospective cohort	Queensland, Australia	Time-to-event hazard rates of primary care physician contact	1, 3- and 6-months	189 (22.3%)	Mean age: 34.2	(9/14) A

Abbreviation: N/A = Not applicable/not available, US = United States- this abbreviation will be used in this section for improved readability. [*]Data for the entire sample. [§]Mean age calculated by the author. [a] Date of admission to prison leading to first release in 2010. [b]Date of the admission leading to the initial release in 2010 in the corrections group, or July 2010 for the general population group.

[c]Based on the methodology used in another published paper of the same study. Risk of bias: A- low, B- moderate, C- high risk.

Table 7. General characteristics of the included qualitative studies

Source: (Agbaria et al., 2022)

Author, year	Design	City/Region, Country	Study aim	Post release follow-up	Sample size n (%)	Age	Risk of bias
(Abbott et al. 2017a)	Phone interviews	New South Wales, Australia	To examine the ways in which women in contact with the prison system experience access to healthcare in the community	1–6 months	29 (72.5%)	Mean age: 44.65[§]	(9/10) A
(Barnert et al. 2022)	Semi-structured interviews	US	To identify challenges and solutions to eliminating gaps in Medicaid coverage during reentry	N/A	28 clinical and policy experts	N/A	(9/10) A
(Crawford et al. 2022)	Semi-structured interviews	South-Central Texas region, US	To explore the experiences of Latina mothers impacted by incarceration in the South-Central Texas region?	N/A	12	Mean age: 38.4[§]	(9/10) A
(Jennings et al. 2021)	Semi-structured interviews	Hennepin County, Minnesota, US	To describe physicians' views on how transitions into and out of incarceration impact care plans for patients	N/A	23 Physicians	Mean age: 48	(9/10) A
(Kapetanovic 2014)	Semi-structured interviews	Mid-Atlantic, US	To explore health and health promotion of recently released women	12 months	10	Mean age: 43[*]	(9/10) A
(Norris et al. 2022)	In-person or phone interviews	Arkansas, US	To elevate formerly incarcerated women's voices regarding their perspectives on healthcare in in the community	3-5 years	63	Age range: 18-29	(9/10) A
(Ramaswamy et al. 2015)	Semi-structured interview	Kansas City, US	To describe the health priorities of women recently released from jail	6 months	28	Mean age: 35	(7/10) B

(Ramaswamy et al. 2018)	Semi-structured interview	Kansas City, US	To understand factors that support or undermine sexual and reproductive healthcare use among women recently released from jail	6 months	28	Mean age: 35	(7/10) B
(Salem et al. 2013)	Focus group discussion	US	To understand the healthcare needs of homeless female ex-offenders	N/A	14	Mean age: 42	(9/10) A
(Salem et al. 2021)	Focus group discussions	Los Angeles, California, US	To understand experiences of formerly incarcerated, homeless women as they prepared to transition to the community	N/A	18	Mean age: 37.6	(9/10) A
(Schonberg et al. 2019)**	Semi-structured interviews	New York, US	To learn what factors affect the doctor patient relationship and what family physicians can do to improve care for women returning to the community	Median: 21 months	10	Median age: 27	(7/10) B
(Schonberg et al. 2020)**	Semi-structured interviews	New York, US	To understand the contraceptive needs and pregnancy desires experienced by women after release	Median: 21 months	10	Median age: 27	(10/10) A
(Sered and Norton-Hawk 2019)	Interviews and ethnographic observations	Massachusetts, US	To provide those who work in correctional institutions a broader view of the lives of justice-involved women outside of those institutions	9 years	47	Median age: 37.9§	(6/10) B
(Stelson et al. 2018)	Semi-structured interviews	US	Reentry experiences of mothers released from an urban jail	25 months	15	Mean age: 28	(6/10) B
(Thomas et al. 2019)	Semi-structured interviews	Upstate New York, US	The experiences of women who participated in a pilot medical clinic for recently released women	N/A	13	Age range: 26-61	(9/10) A

Abbreviation: N/A = Not applicable/not available, US = United States- this abbreviation will be used in this section for improved readability. *Data for the entire sample. §Mean age calculated by the authors of the original publication. Risk of bias: A- low, B- moderate, C- high risk.

After outlining the results of the screening process, the subsequent sections present findings drawn from the studies included in this systematic review. These findings are organized according to the main conceptual domains and corresponding abilities defined in Levesque's access to healthcare model (Levesque et al. 2013), to understand the factors influencing access to PHC among women post-incarceration.

3.3.2. Approachability and acceptability

The approachability dimension considers the supplier side in terms of outreach programs, screening, and information available for the patients. Women who were enrolled in a pre-release healthcare program, and those with chronic health conditions, reported better linkage of care after release (Abbott et al. 2017b). In Canada, a 'Peer Health Mentoring Program' helped women navigate health and PHC access after release (McLeod et al. 2020b)**.** In New York, the US, women who participated in a post-release programme received medical check-ups, including testing, screening, and treatment for various conditions (Morse et al. 2017). The same study also reported that the majority of the participants did not have a PC provider prior to program enrollment. In a qualitative study to evaluate another PC program in New York, formerly incarcerated women reported feeling empowered to overcome system barriers, make decisions related to their healthcare needs, and felt motivated to adopt healthier lifestyle (Thomas et al. 2019). Additionally, they prioritized clinic appointments and reported better health literacy and understanding of their personal health needs. A 12-week health promotion program for recently released women in Houston, the US, reported improved health literacy and benefited from access to dental care through the program (Busen 2014). In Queensland, Australia, non-Indigenous women who participated in a transitional program, reported increased contact with PC doctors during the first month after release, while Indigenous participants in the same study reported decreased contact (Young et al. 2015).

Ability to perceive and seek healthcare

Gender and age Women had increased utilization of PHC services and extended medical consultations post-release, compared to their male counterparts and women in the general population. Studies from Ontario, Canada, and from Queensland, Australia, showed that formerly incarcerated women utilized PHC at all time periods compared to male prisoners

and to women in the general non-incarcerated population (Calais-Ferreira et al. 2022; Kouyoumdjian et al. 2018a; Norris et al. 2021). Women in In Queensland, Australia, who reported PC doctor visits during the first month after release were twice as likely to utilize PHC within six months after release compared to those who had no PC doctor visits (Young et al. 2015). In Kansas City in the US, women reported frequent use of primary and preventive healthcare within six months after their release (Ramaswamy et al. 2015). A qualitative study of 15 mothers released from jail in mid-Atlanta in the US reported frequent visits to the PC provider or the child's pediatrician in the first few weeks of release (Stelson et al. 2018). Similar patterns were reported among women released from Kansas City jails in the US (Pickett et al. 2020). A study conducted in 14 states across the US reported that women had a 3% increase in the odds of seeking medical care after release compared to their male counterparts (Hughes et al. 2020). The same study showed that having a chronic disease and older age were associated with higher odds of utilizing healthcare during that period. In a study that compared younger and older justice-involved women (age 18–49, and $\geq$ 50 years respectively) in three US cities, women in the older age group were more likely to have a PHC provider compared to the younger women (84.7% vs. 51.6%), a medical home (88.5% vs. 78.5%), and health insurance (83.4% vs. 60.6%) (Emerson et al. 2022). In Massachusetts, the US, having expanded Medicaid at the state level facilitated access to healthcare for women after release (Sered and Norton-Hawk 2019).

Health literacy Formerly incarcerated, homeless women in Southern California in the US who had multiple chronic conditions, reported a lack of knowledge of healthcare needs, and insufficient understanding of the health insurance policies in the US (Salem et al. 2013; Salem et al. 2021). Women reported lack of knowledge as to where to find needed healthcare resources (Kapetanovic 2014).

Stigma and perceived discrimination in the healthcare system Women in Sydney, Australia, avoided seeking healthcare due to fear of stigma and perceived lack of receptiveness from their healthcare providers. However, they identified facilitators to healthcare access, including having a health condition that was prioritized by their healthcare providers (e.g., HIV or schizophrenia), self-efficacy, and family support (Abbott et al. 2017a). Researchers in British Columbia in Canada used patient role to examine the possible influence of history of incarceration on accessing PHC. They found that women with a history of incarceration faced discrimination which hindered their access to PHC, even among those who had health insurance

coverage (Fahmy et al. 2018). African-American women also reported experiencing gendered racism in the community healthcare (Oser et al. 2016). Formerly incarcerated women in another study in the US were less likely to report discrimination in healthcare settings compared to their male counterparts (Redmond et al. 2020). Latina mothers in Texas who experienced sexual violence during their incarceration, and those who were sex-workers, reported that fear of discrimination led them to avoid seeking PHC after release from prison (Crawford et al. 2022). When asked about their experiences with healthcare in the community after release, women who experienced sexual violence reported unavailability of care, a lack of compassionate healthcare providers, and the need for healthcare professionals who recognize their unique healthcare needs (Norris et al. 2022). In contrast, a survey conducted in three US cities that evaluated perceived healthcare quality post-release reported positive interactions with healthcare providers and satisfaction with care, and no extensive amount of discrimination among formerly incarcerated women (Hall et al. 2022).

3.3.3. Availability and affordability

Health insurance In the US, studies show that Medicaid coverage gaps during reentry are considered a significant public health concern. Clinical and policy experts called for terminating the federal 'Medicaid Inmate Exclusion' upon incarceration (Barnert et al. 2022). A study that evaluated insurance enrollment initiatives in the US, found that both Medicaid eligibility expansion program, and Medicaid enrollment assistance were associated with substantially increased Medicaid enrollment during the month of release, especially when enrollment assistance started before release (Burns et al. 2021). This study also found that women were 15% more likely than men to enroll in Medicaid during the first month of release. In rural Appalacia in the US, women released after the implementation of the Affordable Care Act were more likely to have healthcare coverage compared to those released pre-implementation (84% and 27% respectively) (Dickson et al. 2018). In Philadelphia (the US), 1,292 incarcerated women took part in a pilot program to facilitate pre-release Medicaid enrollment and connect them with community health centers, and half of them received health care services through Medicaid in the weeks after release. Those who declined Medicaid enrollment, cited mistrust in the healthcare system and insufficient understanding of insurance laws (Patel et al. 2022).

Ability to reach and pay

Financial and structural factors Women in Kansas City (the US), reported financial constraints and transportation barriers as obstacles to PHC access after release (Ramaswamy et al. 2015). Costs and co-payments restricted the access to PHC for women after release in the US, even with health insurance. Formerly-incarcerated women in the US who reported not using contraceptives were more likely to lack health insurance compared to contraceptive users (Hall et al. 2022). Women in the US reported that social support, having a medical home, affordable transportation, and financial resources facilitated their use of sexual and reproductive health services after release from jail (Ramaswamy et al. 2018). The same study also reported that neighborhood safety influenced when the women scheduled doctor appointments.

3.3.4. Appropriateness and ability to engage

Coordination and continuity Few of the included studies explored the arrangements of healthcare between prison and the community. A study of New South Wales prisons reported poor discharge arrangements and lack of information sharing before release, despite a majority of the incarcerated women having an identifiable doctor in the community (Abbott et al. 2017b). From the perspective of PC doctors in the US, continuity of care between incarceration and release is likely to be disrupted due to discontinuation of the patient-physician relationships, inadequate sharing of health information, and lack of insurance coverage (Jennings et al. 2021). The same study reported that informing community doctors regarding expected release date improved the care plan for the patient. Formerly incarcerated women in Sydney, Australia, reported disruption in medical care and in the relationship with healthcare providers upon release (Abbott et al. 2017a). In a case study presented by Kouyoumdjian et al. (2015), the important rule of PHC providers in Australia in achieving continuity of care between incarceration and release was highlighted. This was achieved through continuous communication between the community PC practitioners and the prison-based physicians. In contrast, women who lost their insurance upon incarceration in the US reported being assigned a PC doctor whom they did not know or trust (Hall et al. 2022). Similarly, women who participated in post-release SUDs programmes had to switch to a new PC doctor who was affiliated with the same programme (Schonberg et al. 2019).

A qualitative study with formerly incarcerated women in New York city, found that participants experienced disruption in their contraception use post-release due to their incarceration experience, lack of insurance, and relationship with health care providers (Schonberg et al.

2020). In a two-year follow-up study of adult smokers after release from prison in Queensland, Australia, only 9% of the female participants were provided with subsidized smoking cessation pharmacotherapy by their PHC providers, compared to 52.2% of women in the general community (Puljević et al. 2018).

Delayed cancer screening In Ontario, Canada, formerly incarcerated women were overdue on cervical cancer screening compared to women in the general population, an issue also persisted at three years after release (Kouyoumdjian et al. 2018b). Another study of the same sample reported that women were still overdue for colorectal breast cancer screening three years after release from prison (McConnon et al. 2019).

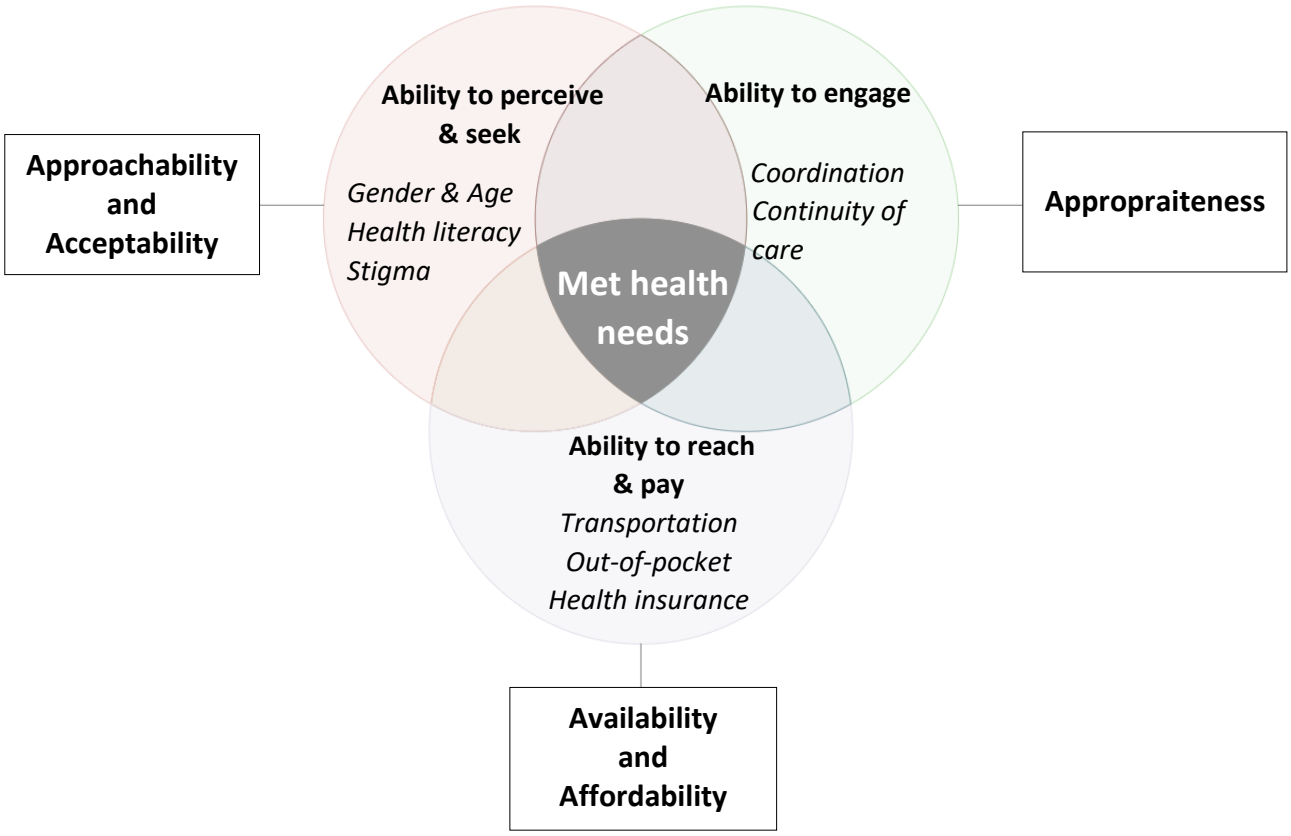

Figure 2. Summary of key findings from the included studies. Adapted from (Levesque et al, 2013)

4. Discussion

This chapter synthesizes the findings from the three components of the dissertation. It presents a comprehensive understanding of the health needs and healthcare access to care among women with experiences of incarceration. The results consistently reveal enduring barriers faced by this population, both in Israel and globally, in seeking and receiving healthcare, whether during incarceration or after release. This research contributes to the growing body of literature on the intersection of health and incarceration, by unpacking the lived experiences of women as they navigate healthcare systems in both custodial and non-custodial contexts. It also offers insights into the distinct features of healthcare governance for people deprived of liberty, particularly the consequences of operating prison healthcare systems separately from national health systems. These structural conditions have profound implications for the health, dignity, and rights of incarcerated women.

The discussion is organized into two main sections. The first section draws on the findings from the qualitative interviews with formerly incarcerated women in Israel, along with findings from the document analysis and the interviews with key-informants, to address dissertation objectives i - iii. The second section focuses on objective iv, using insights from the systematic literature review to situate the findings within the broader international context. Each section also outlines the strengths and limitations of the respective study component. The chapter concludes with a synthesis of key implications for policy, practice, and future research.

4.1. Women's healthcare needs and access during and after incarceration in Israel

To the best of my knowledge, this is the first study to provide a comprehensive account of incarcerated women's healthcare experiences in the Israeli context. Using reflexive thematic analysis, recurring themes and subthemes were constructed based on the participants' narratives, and organized across three overarching stages: before incarceration (including detention and trial), during incarceration, and after release (transition back into the community). In the following sub-sections, I will revisit key conceptual themes that cut across these stages. This reorganization enables a more focused examination of the underlying structural and institutional patterns shaping women's access to and experiences of healthcare.

The recurring sub-themes underscore persistent challenges, including disruption in medical care across the stages of incarceration, lack of social support, systemic gaps in service delivery, and failures in ensuring continuity of care. The findings also emphasize the psychological and physical toll of incarceration on women's health. Although research on this topic in Israel remains limited, prior studies have noted the neglect of incarcerated women's health needs (Einat et al. 2015; Hadas 2002).

The impact of incarceration on women's health

Health and access to healthcare emerged as central factors shaping women's experiences across all stages of incarceration. These findings also speak to broader debates on the complex relationship between incarceration and health. Previous studies have examined whether incarceration causes "unique harms" to women's health (e.g., by positioning incarceration as a profound stressor), or whether it reflects "selective effects", whereby pre-existing vulnerabilities, rather than imprisonment itself, account for observed health disparities (Testa et al. 2020). While longitudinal studies are better suited to fully disentangle these dynamics, the findings presented here offer contextual insights into the women's experiences and perceptions.

Notably, all participants reported at least one physical health condition, with many reporting multiple conditions, most commonly mental health diagnoses. Although the statistical power of the psychological distress scale is limited, the global severity index from the BSI-18 indicated moderate to high levels of distress among the participants. Additionally, consistent with previous research, the findings highlight the elevated prevalence of trauma, history of abuse, and mental health needs among incarcerated women in Israel (Chen and Gueta 2015; Chen and Gueta 2017). In this study, these conditions seemed to intersect with, and be exacerbated by the prison experiences.

For instance, some participants reported the onset of new health conditions during incarceration, which they attributed to the intense stress of trial proceedings and the shock of entering prison. At prison entry, all the women in this study described experiencing what Sykes (1958) termed the "pains of imprisonment" (Sykes 1958), which is the psychological suffering of incarceration, including deprivation of liberty, lack of privacy, separation from children and family, and a profound sense of identity loss, both as a human being and as a woman. While previous research suggests that psychological distress may diminish over time as individuals adapt to the prison environment (Walker et al. 2014), the study findings point to persistent and

compounding stressors, shaped by both personal and institutional factors. These include diminished capacity for self-care, erosion of privacy and dignity, and strained relationships with prison staff (Bright et al. 2023).

Experiences of isolation and solitary confinement were described as particularly distressing, especially among women with pre-existing mental health conditions (Reiter et al. 2020; Simes et al. 2022). In other cases, women reported that being housed with cellmates who had severe mental health conditions or histories of violent offences negatively impacted their own psychological wellbeing. A study by Vaisman and Einat (2021) supports this observation, showing that joint confinement can cause significant distress to women without prior mental illness, potentially leading to long-term psychological and physical consequences that may impede reintegration and rehabilitation. Based on their findings, the authors recommended separating women with and without diagnosed mental illness, or at minimum, ensuring appropriate support and rehabilitation (Vaisman and Einat 2021).

An additional noteworthy finding was the participants' experience of completing the resilience questionnaire (CD-RISC-10). During the debriefing meetings, several women described the process as positive, highlighting that the items were formulated in a way that emphasized strengths and affirmative personality traits. This stood in contrast to the more emotionally taxing questions related to mental health and prison experiences. These reflections underscore the value of incorporating strength-based assessment in research with vulnerable populations. Future research could build on this further by exploring individual's coping strategies and the capacity to manage the emotional deprivations of incarceration (de Viggiani 2007).

Another concerning issue raised by the participants was the routine use of shackling during medical treatment, especially during appointments outside the prison. As described in the interviews, shackling extended far beyond physical discomfort, often resulting in delaying medical appointments to avoid being restrained (Robinson et al. 2021). Participants also reported that medical appointments and check-ups were, in most cases, conducted in the presence of male guards, adding to the feelings of exposure and humiliation. These findings are consistent with broader evidence from a retrospective study of 2,950 hospital visits by incarcerated individuals in 14 hospitals across Israel (2020-2022). The study found that over 95% of patients were shackled during both inpatient and outpatient treatment. Nearly half were accompanied by two or more guards, and in many cases, both hands and legs were restrained (Bar et al. 2023). The authors emphasized the urgent need for a more transparent and humane approach to this issue. In light of these findings, there is a pressing need to develop evidence-

based, legally grounded guidelines that safeguard patients' rights while balancing clinical responsibilities and safety requirements (Haber et al. 2019).

Participants in this study detailed a range of environmental and structural conditions of the prison they believed adversely undermined their ability to maintain healthy habits. These included concerns related to food diversity and quality, a lack of opportunities for physical activity, and inadequate hygiene standards. All factors that are often encountered by incarcerated women, and are detrimental to their physical and mental wellbeing (Augsburger et al. 2022; Belt 2021; Goomany and Dickinson 2015; Harner and Riley 2013; Van Hout and Mhlanga-Gunda 2018). Although these aspects were not explored in-depth in this study, future research should consider the role of nutrition and physical activity as central components of prison health, particularly in light of evidence linking nutrition to women's self-esteem and self-worth during incarceration (de Graaf and Kilty 2016). Additional concerns raised by the participants included overcrowding and extensive exposure to secondhand smoke, both of which pose significant risk to health in custodial settings (Harner and Riley 2013; MacDonald 2018; Santos et al. 2017; Walker et al. 2014).

Healthcare needs and barriers to access in prison

The impact of incarceration on women's health also extends to their interaction with prison healthcare services. This was a central issue that emerged from the interviews, with participants describing multiple barriers they encountered while seeking medical care (Condon et al. 2007; Einat and Chen 2016). While previous studies have suggested that incarceration may offer some health benefits for women's health (Alves et al. 2016; Douglas et al. 2009), particularly through access to previously inaccessible treatments, such as detoxification and psychosocial interventions (Bartlett and Hollins 2018) , positive experiences in this study were limited. This research adds new insights by illustrating not only the health challenges women face, but also the systemic and procedural obstacles that prevent them from accessing timely and adequate care, as highlighted also in the document analysis and key-informant's interviews. Some of these barriers were logistical, such as long waiting times and unclear procedures, while others were deeply embedded in the organizational and institutional culture. Although a few participants mentioned positive experiences, such as access to screening tests through community hospital partnerships, the majority reported hurdles that undermined their ability to receive appropriate treatment.

A recurring issue was the shortage of specialist doctors, whose appointments often involved long delays, and institutional practices that actively discouraged women from seeking care. These findings were reinforced by the document analysis, particularly in relation to excessively long waiting times for medical care and a critical shortage in medical personnel, especially specialized physicians within the IPS (State Comptroller 2022b). These findings also underscore the chronic deficiency in mental healthcare services for incarcerated women in Israel, particularly for those experiencing acute psychological distress. In such cases, women are often placed in isolation cells as a protective measure. However, as reflected in the participants' accounts, this practice often exacerbates their conditions and appears to have a profoundly negative impact on their mental and physical health, often persisting even after release from prison. A recent systematic review highlighted this gap, emphasizing the scarcity of research on prison-based mental healthcare for women. The review also called for enhanced mental health support, including improved relationships with prison staff and the promotion of psychological well-being within the prison environment (Bright et al. 2023).

Notably, neither the interviews nor the documents referenced the absence of nurses in the IPS healthcare system. Instead, the initial point of contact for medical issues is typically through medics, many of whom are inadequately trained. Furthermore, it was reported that some of these medics were, in fact, prison guards with only basic medical assistance training, rather than professionals with healthcare qualifications. This emerged as one of the factors contributing to the widespread mistrust in the healthcare system. Issues related to the recruitment of healthcare personnel and the lack of integration with the MoH also emerged. In particular, the direct employment of physicians by the IPS, or through manpower agencies, was seen as contributing to potential dual loyalty conflicts, situations where medical professionals may face competing obligations to their patients and to the prison authorities (Filc et al. 2014; Pont et al. 2012).

Concerns about autonomy, lack of privacy, and the frequent dismissal of health complaints by both healthcare staff and prison authorities were repeatedly raised. These issues were perceived to have a negative impact on both physical and mental well-being, especially when compounded by existing healthcare conditions and limited treatment options (Bellass et al. 2024; Prosen and Lukić 2024). These findings align with existing literature that highlights persistent barriers to prison healthcare, including restricted access, confidentiality concerns, failure to recognize prisoners as legitimate patients, and the inherent conflict between prison security policies and healthcare ethics (Capon et al. 2020; Condon et al. 2007; Filc et al. 2014; Pont et al. 2018).

These compounded factors led some women to intentionally avoid or defer necessary medical treatment until after their release, a decision that may further exacerbate long-term health risks and deepen existing health inequalities.

Discontinuity of care and health information exchange

A persistent theme raised by participants was the disruption of medical at prison entry. Many women reported being unable to continue essential treatments or medications, even when these were clinically necessary. In many cases however, alternatives for medications were provided, but due to lack of clarity on these alternatives among the participants, further research is warranted. Although no participants explicitly confirmed the continuation of medications after release, the absence of communication between prison and community health systems, combined with the lack of systemic medical record transfer, suggest that treatment discontinuity is highly likely after release.

The findings also point to a critical gap in gender-sensitive healthcare within the prison system. While only a few specific cases were shared, they strongly indicate a neglect of reproductive and gender-specific health needs. This lack of tailored care not only exacerbates existing health vulnerabilities but can also infringe on reproductive rights, for example by delaying gynecological evaluations or halting fertility treatments (Rajagopal et al. 2023). These results underscore the need to integrate routine reproductive healthcare services into the prison system. This should include screening for sexually transmitted infections, provision of adequate menstruation and hygiene products, access to prenatal and postpartum care (Knittel et al. 2017), and ensuring continuity of fertility treatment, in alignment with national public health guidelines.

The experience of incarceration is therefore a significant determinant of health outcomes among women in Israel, both during and after incarceration. Understanding these unique selective effects is essential for effectively addressing their health and healthcare needs, and for preventing the long-term harms associated with incarceration (Testa et al. 2020).

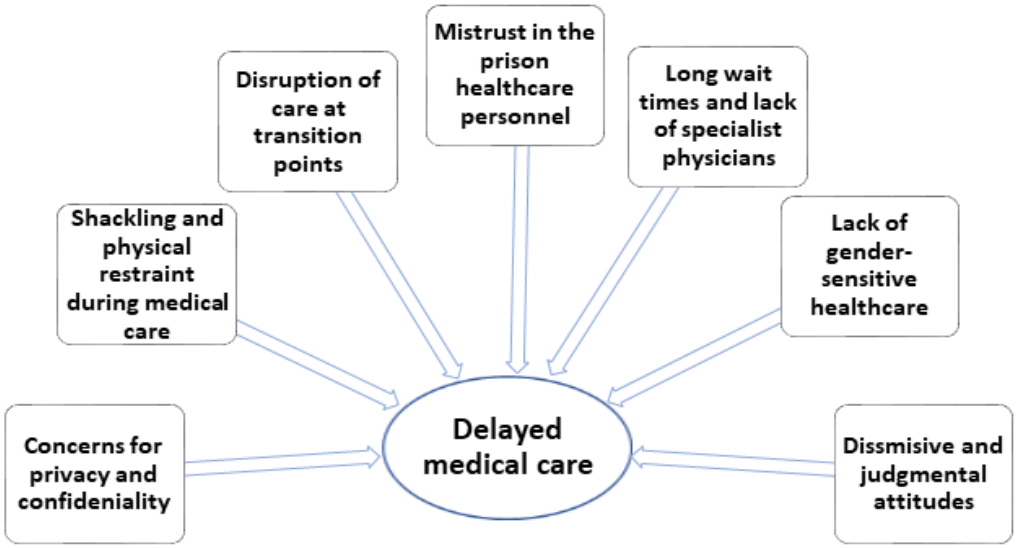

Figure 3. Factors leading to delayed medical care among incarcerated women in Israel as described by the study participants

The findings also reveal significant gaps and inconsistencies in the documentation of health procedures and patient histories within the IPS. These deficiencies hinder the capacity of post-release services to accurately assess individuals' healthcare needs, communicate effectively across institutions, and formulate appropriate treatment plans. This issue is particularly salient in the context of the PRA, where mental healthcare continuity is a central concern. Yet, the failure to transfer complete and timely medical records from prison facilities often compels PRA professionals to restart psychiatric evaluations and treatment plans, placing further strain on the already limited resources. Even when frameworks like the PRA demonstrate great potential for supporting women's mental and physical health, their effectiveness is undermined by inadequate inter-agency communication and lack of coordinated transitional care. These findings underscore the urgent need to establish an integrated discharge and referral system, implement effective medical information-sharing (i.e., interoperable electronic health records), and strengthen institutional linkages between prisons, the PRA, and community healthcare providers. Without such infrastructure, the continuity and quality of post-release care remain compromised, with long term implications post-release (Dague et al. 2025).

4.1.1. Strengths and limitations

This dissertation utilized qualitative methods to address the first three study objectives, incorporating multiple methods, including in-depth interviews and document analysis. The use of methodological triangulation enabled a richer, more comprehensive exploration of the topic. The exploratory descriptive approach allowed for a nuanced understanding of women's experiences, grounded in their own voices and contextual realities. Given the limited research on this topic, especially within the Israeli context, this methodology provided an effective framework for investigating an understudied phenomenon and how it manifests (Doyle et al. 2020). Purposive sampling also aligned well with the study's objectives, as it facilitated the inclusion of information-rich cases (Patton 2002).

However, some limitations must be acknowledged. The study was conducted in a single setting and did not include other sub-populations such as women who gave birth or had children with them in the prison. While not all women who are released enter the PRA program, I was informed that many who do not are either institutionalized for SUDs treatment or experience homelessness. These circumstances made their recruitment for this study particularly challenging. Future research should seek to include these hard-to-reach populations to provide a more comprehensive understanding of their healthcare needs.

Furthermore, a follow-up round of interviews was initially planned as a second phase of data collection, scheduled for six months after the first round. However, this did not take place due to the outbreak of war in October 2023. Further attempts were also hindered by the escalating security situation, which restricted my travel options. Additionally, the previous participants who had left the PRA were no longer reachable. Moreover, I was not able to get access to health data from medical records at the PRA, as these were cited to be incomplete and hold no reliable information.

Finally, while qualitative studies are not designed to be statistically generalizable, concerns regarding transferability are still relevant. This is also relevant to the local context, where political prisoners (mainly Palestinian women from the occupied Palestinian territories) were not included in this study as they are placed in separate incarceration facilities, and are subject to a different judicial procedure. Nevertheless, I aimed to provide rich, detailed descriptions of the research setting and procedure to enhance the potential for transferability and to enable readers to assess the applicability of findings to other contexts (Ahmed 2024).

As for the document analysis, this study is the first to synthesize key aspects of healthcare governance for incarcerated women in Israel. The use of the health system framework guided the analysis, contributing to broader discourses on prisoners' rights, public health, and the roles of different state actors. The analysis focused on governmental and NGOs documents, ensuring the authenticity, credibility, representativeness, and significance of each source (Kridel 2015). Limiting the review to the past five years allowed for a more current and policy-relevant understanding of the situation. However, this temporal restriction may have excluded some pertinent documents, and there is a possibility that relevant materials were not identified. Additional limitations stem from the methodology itself. Document analysis can be affected by incomplete or biased information, difficulties in interpreting content within its social and cultural context and challenging in determining the most relevant excerpts for analysis (Bowen 2009).

4.2. Access to primary healthcare among women transitioning back into the community: Systematic literature review

Note: some aspects and texts in this sub-chapter are based on the associated publication (Agbaria et al., 2024)

This systematic review included 37 studies that examined the experiences of formerly incarcerated women in accessing PHC in the community after release. Guided by Levesque's conceptual framework, the review explored the barriers and facilitators to PHC access experienced by this population. The findings reveal that formerly incarcerated women face numerous and intersecting challenges in seeking and utilizing PHC services at various stages following their release. Despite its importance, access to PHC remains a critical yet underexplored issue among this population. Existing literature reviews have largely focused on specific health issues such as mental healthcare, SUDs treatment, and acute care services (Edwards et al. 2022; Erickson et al. 2019; Shirley-Beavan et al. 2020; Stanton and Rose 2020), rather than on primary care access. Consistent with recent reviews (Cooper et al. 2024; Paynter et al. 2023), the majority of the included studies originated in Western, high-income countries, most notably the US, followed by Canada and Australia. This geographic distribution reflects the persistent limited evidence concerning health issues and access among incarcerated populations in many regions around the world. At the same time, the predominance of US-based studies is unsurprising given the country's exceptionally high incarceration rates. This systematic review focused studies published from 2010 onward, a period marked by growing recognition of the rising incarceration rates and the complex healthcare needs of incarcerated women. This shift was primarily due to the introduction of key international standards addressing the health and human rights of incarcerated women, such as the Bangkok Rules in 2010 (UN Office on Drugs and Crime 2011)

Barriers to PHC seeking post-release: health coverage gaps and systemic exclusions

The findings indicate that the ability to perceive and seek healthcare (the first domain of the Levesque's framework) is shaped by a range of factors, including health and system literacy, minority or Indigenous status, and perceived discrimination within the healthcare system. While a few studies included LGBTQ+ or transgender women in their samples, specific data on these

subpopulations were lacking. Given the unique vulnerabilities and health risks faced by transgender individuals during incarceration and post-release, targeted policies and inclusive data collection are necessary to address their healthcare needs (Van Hout et al. 2024). Few studies have explored the financial and structural barriers that affect access to PHC among formerly incarcerated women. Factors such as co-payments, financial restraints, and geographical location, and limited public transportation hindered their ability to schedule and attend medical appointments. A lack of health insurance and poor coordination between prison healthcare and community services further disrupt continuity of care, leading to treatment delays and disrupted relationships with healthcare providers. As such, interventions to expand health insurance coverage for people released from prison are crucial (Testa and Porter 2023; Zhao et al. 2024).

These challenges are exacerbated in contexts where incarcerated people are excluded from national health systems (Linnane et al. 2023; Scallan et al. 2019) or lose insurance coverage upon incarceration (Testa and Porter 2023). The health consequences of these exclusions are particularly acute during the transition from prison to community life, contributing to widening health disparities. These findings are concerning given that they occur in high-income countries, with otherwise strong universal health coverage indices (Winkelman et al. 2022). While universal health coverage is a key-target within the Sustainable Development Goals (SDGs), achieving this goal requires more than just theoretical access, but rather, individuals must be able to afford and reach healthcare services, as Evans et al. (2013) notes, access alone does not guarantee actual utilization.

Utilization patterns and implications for primary care

This complexity is important for interpreting the PHC use patterns among formerly incarcerated women as reflected in the findings of this review. While much evidence highlights multiple and frequent barriers to accessing PHC, some studies report high rates of PHC utilization among this population. This could be explained by their heightened healthcare needs, as previously discussed. Gender has been consistently associated with different patterns of PHC utilization, while studies point to higher utilization among women compared to men (Redondo-Sendino et al. 2006; Thompson et al. 2016). Similar patterns were reported among individuals from socio-economically disadvantaged groups (Wang et al. 2013).

It should be noted however that the included studies were conducted in varied contexts and reported on different stages across the healthcare access continuum. These variations reflect the complexity of interpreting healthcare access and utilization, and the need for a nuanced approach to understand access (Bright and Kuper 2018). These findings underscore the need for PHC providers to engage this population for early interventions and preventive care (Cooper et al. 2024).

Transitional programs and continuity of care

As evident in the findings from the included studies, systemic factors contribute to the discontinuity of care, including the lack of arrangements between incarceration facility and the community health agencies, disruption in the patient-physician relationships, disruption in insurance coverage, and lack of proper sharing of medical and health information (Jennings et al. 2021). However, transitional and health promotion programs can play a critical role by bridging those gaps and improving the transitional process and continuity of care for women transitioning back into the community. An example comes from the US, where community-based transition clinics models were developed to facilitate access to PHC during re-entry to ensure continuity of care (Flanagan 2004). These programs help with addressing systemic barriers by equipping women the tools and information necessary to navigate the healthcare system upon release. In line with these findings, a previous systematic review of post-release programs for women with SUDs found that transitional programs improved continuity of care by facilitating pre-release planning and enhancing linkage to health and social services in the community (Edwards et al. 2022). These interventions were also associated with better health outcomes and reduced reliance on acute care services, particularly among low-income or uninsured individuals, particularly among low-income or uninsured individuals (Khanassov et al. 2016; Wang et al. 2012). Future research is needed to assess the scalability, cost-effectiveness, and long-term impact of these interventions across different settings.

The Israeli context

Although no studies from Israel were identified on post-release healthcare access, this issue emerged in the interviews with formerly incarcerated women. Two key points are worth noting: first, women described an easy and smooth process of reactivating their health insurance and re-enrolling in their HMOs after release.

Nonetheless, most women were released without receiving their prison medical records. When records were obtained, it was often through a legal intervention, and they typically contained only brief and insufficient summaries of the care provided in prison. Future research could further explore the role of probation services in facilitating healthcare transitions from prison to the community settings, as illustrated by the case of PRA in Israel.

4.2.1. Strengths and limitations

This is the first systematic review to synthesize evidence on the factors affecting access to PHC among women transitioning from prison back into the community. Several limitations, however, warrant mentioning. As previously noted, despite a comprehensive search strategy, the evidence included in this review originated exclusively from western, high-income countries. Additionally, variations in PHC systems across the different contexts represented here may pose additional limitations to data interpretation. Nevertheless, I draw on previous cross-national comparative studies that underscore the value and potential of such research in informing the development of PHC services, while considering the beliefs and values of both the healthcare providers and users (Campbell 2007).

4.3. Intersectionality and health of incarcerated women

The intersectionality framework is well suited to critically examine health inequalities among incarcerated women (Bowleg 2008). While intersectionality was most directly applied in the qualitative interviews with formerly incarcerated women, it also served as a broader analytical orientation throughout the dissertation. Viewed through this lens, this study offers a deeper understanding of how women's health trajectories are shaped by a complex interplay of interlocking systems of inequality, power dynamics, social positioning, access to resources, and systemic marginalization (Sun et al. 2018). The application of this analytical approach revealed multiple overlapping axes of vulnerability and privilege that shape both healthcare and incarceration experiences. These include gender, age, education, language, disability, ethnicity, socio-economic status, history of abuse, and patriarchal structures. Recognizing these intersecting dimensions of identity and institutional systems is essential in understanding how incarceration contributes to, or worsens, women's physical and mental health, during and after incarceration (Vohra-Gupta et al. 2023).

This study also highlights the varied ways in which women responded to the challenges they faced. For instance, some participants with higher levels of education and socio-economic status were able to strategically leverage the legal system to advocate for their healthcare needs. This suggests that some women can negotiate power within the prison system, while using their agency, despite the limitations, to obtain certain services and medical treatments (de Graaf and Kilty 2016). These findings support the need for an intersectionality-informed care approach, one that moves beyond a monolithic view of "incarcerated women" and instead considers the role of intersecting identities in shaping their capacity to navigate socio-ecological systems (Erwin et al. 2021). Such an approach is also valuable in identifying and addressing the specific needs of other minority groups within the prison system.

Few studies have examined how the intersecting social identities contributed to health disparities among people with a history of incarceration. For instance, Latham-Mintus et al. (2023) found that incarceration history was associated with poorer physical and mental health outcomes among older adults, especially older women of color. Similarly, Duncan et al. (2020) found that life stressors were significantly associated with increased risky sexual behaviours among incarcerated cisgender Black gay, bisexual, and men who have sex with men, compared to non-incarcerated men. In the Israeli context, intersectionality has been employed in qualitative and quantitative studies to explore how race, ethnicity, geographical location,

discrimination, immigration status, and socio-economic disadvantages shape health inequities and healthcare access, especially among marginalized women (Daoud et al. 2022; Daoud et al. 2019). The present study suggests that pathways into and through incarceration reelect and amplify these intersecting vulnerabilities, with clear implications for women's health and healthcare access both during and after incarceration. An intersectional approach thus enables a more nuanced understanding of challenges women face in navigating healthcare systems during and after incarceration (Hankivsky 2014; Vohra-Gupta et al. 2023).

Importantly, access to health-promoting resources in prison and exposure to health risks along the incarceration pathway cannot be understood as isolated, binary, or additive factors. Rather, they must be analyzed as interdependent and dynamic processes (Warner and Brown 2011). This is particularly crucial when considering incarcerated women, who often experience heightened dependency and vulnerability in seeking and receiving care (Hankivsky 2014).

Finally, intersectionality allows for advancing health equity and social justice through critical analysis of health disparities, illness experience, and systematic influences on health outcomes. While intersectionality can be challenging to define and apply consistently in research, future empirical studies could benefit from adding well-established frameworks, such as the socio-ecological model (Sun et al. 2018). This would allow for a more robust, multi-level examination that spans individual, interpersonal, community, and structural dimensions, and better address how healthcare systems equitably serve marginalized populations (Abrams et al. 2020; Bowleg 2017).

4.4. Implications for policy and research

The findings of this study underscore critical gaps in the organization and delivery of healthcare services for incarcerated women in Israel. A central structural issue lies in the complete separation of prison healthcare and the wider national health system. As emphasized through the document analysis and interviews with key informants, the IPS operates with minimal oversight, allowing it to independently interpret health-related decisions based on internal and budgetary priorities, rather than clinical needs or evidence-based practices (Filc et al. 2014; Michaeli et al. 2020a). As such, the healthcare of one of the most vulnerable populations is managed by a security-oriented institution with chronic underfunding, lack of healthcare policy, and systemic inefficiencies (State Comptroller 2022a). Consistent with other global contexts, this study confirms that incarcerated women in Israel do not receive care equivalent to that available in the community, despite this being a core tenet of the international minimum standards for treating incarcerated people. The lack of integration between prison and community healthcare systems not only perpetuates health disparities but also undermines continuity of care, especially at points of transition. This is particularly concerning in the context of women's incarceration, where healthcare needs are often more complex due to higher rates of trauma, mental illness, and histories of abuse. Based on the findings from the interviews, the document analysis, and the systematic literature review, several interlinked policy and research implications have emerged:

Governance reform and healthcare services integration

The study findings underscore the critical need for restructuring the healthcare system to fall under the authority of a medical institution. Such reform requires a system-wide, participatory approach involving the MoH, the IPS, the PRA, civil society, and community healthcare providers to develop trauma-informed, gender-responsive, and rights-based policies. This also entails ensuring medical independence and ethics, professional standards, and accountability. However, due to the political nature of the prison system, any proposed reform must be context-sensitive. As this study and previous reports by NGOs have shown, the IPS has repeatedly resisted integration with the national health system, while the MoH has remained largely disengaged from prison health governance. Additionally, the justice system appears to have minimal influence over the IPS decisions regarding healthcare policy.

Mixed-governance models, with shared responsibilities between the justice and health sectors, can offer a feasible interim solution. This should also include the aspect of recruiting and employing healthcare workers in the prison while maintaining professional levels, appropriate specialties, and proper training in medical ethics and the human rights of incarcerated people (Pont et al. 2012). Additionally, any reform should be accompanied by improvements in living conditions in the prison, with emphasis on hygiene, nutrition, and separation between different groups. Therefore, to achieve a successful and effective transition, reform needs to be evidence-based, with strong political commitment, inter-agency collaboration, adequate resource allocation, and oversight and evaluation (Van Hout et al. 2024).

Furthermore, while principles of equivalence have long been a guiding framework for prison healthcare (Pont et al. 2018), emerging scholarship argues for a shift toward equivalent objectives rather than merely equivalent services. Given the unique vulnerabilities and complex needs of the prison population, especially incarcerated women, achieving health equity may require delivering care that exceeds what is typically available in the community (Charles and Draper 2012; Lines 2006). Transformative research and interventions to improve healthcare for incarcerated women can be better informed by incorporating an intersectional approach, to address power dynamics, social injustices, and variability within this population. This nuanced perspective allows for better alignment with public health imperatives, helps prevent harm, and enhances continuity of care and rehabilitation.

Disease monitoring, health information sharing and continuity of care

There is a pressing need for standardized disease monitoring and routine health screening within the prison system to detect and respond to emergent health issues. These data should be consistently reported and integrated into national surveillance systems, while ensuring the protection of privacy and confidentiality (Hewson et al. 2024). Continuity of care remains a fundamental challenge. Establishing health-related information and structured medical record-sharing systems between prison and community-based healthcare providers is crucial.

On a global scale, this routine health information reporting and sharing contribute to reporting into the WHO's service coverage index, which is a crucial first step toward improving the health of incarcerated people and ensuring equitable progress toward the SDG target of universal health coverage (Winkelman et al. 2022).

Downstream approaches and cross-sector advocacy

While upstream structural reforms are challenging and often slow to implement, downstream interventions remain essential. First, there is a need for more involvement of the medical community regarding the healthcare of people in prisons. This can happen through joint advocacy, which very often lies within civil organizations and human rights NGOs. There is a need to raise awareness among primary care physicians, community, and reproductive health workers to the heightened vulnerability to chronic illnesses, the histories of trauma and abuse, and the impact of incarceration on women's physical and mental health. Targeted awareness-raising among community health professionals is needed not only to reduce stigma, but also to recognize the short- and long-term health consequences of incarceration. An additional intervention that can be advocated for is the inclusion of telemedicine in the prison healthcare system in Israel (Hewson et al. 2024).

Schnittker and John (2007) demonstrated that any contact with the criminal justice system can significantly increase the risk for health implications, regardless of incarceration duration. Their conclusions reinforce that addressing structural healthcare failures in prisons is not only a matter of public health, but also one of social justice and human rights. Future research should focus on developing context-specific models for integrating prison healthcare into the national health system, improving services delivery, and assessing the long-term health outcomes among incarcerated women.

Finally, any future research and interventions should also consider the scale and effectiveness of alternatives to incarceration for women in Israel, especially those with psychological conditions. Addressing vulnerabilities must begin early in the incarceration pathway, and not solely at its end, with a focus on women who have experienced abuse and trauma, a gap that remains unaddressed in current systems.

Summary

The proportion of women in the global prison population has been growing at a steady and concerning rate. Their pathways to incarceration are shaped by complex interplay of trauma, abuse, and intersecting social, economic, and structural inequalities. Compared to both incarcerated men and to women in the general population, incarcerated women face significantly heightened physical and mental health morbidities. Yet, their healthcare needs are often overlooked within punitive, male-dominated carceral systems, and are further exacerbated by fragmented prison healthcare governance. In both global and Israeli contexts, the health of incarcerated women remains a critically under-researched and under-prioritized area in academic literature and public policy. This dissertation addresses this gap in Israel, where no comprehensive assessment exists on the availability, accessibility, or quality of healthcare services for incarcerated women.

This dissertation comprises three interlinked studies. First, qualitative interviews with formerly incarcerated women in Israel were conducted to: (i) explore their perceptions of health and healthcare needs during and after incarceration, and to (ii) examine their lived experiences in accessing care in the prison. Second, a document analysis was undertaken to (iii) explore the organization and governance of healthcare within the Israeli prison system, with a focus on gender-specific aspects. Finally, a systematic review of international literature was conducted to (iv) identify factors influencing access to primary healthcare for women following release from prison.

Eighteen formerly incarcerated women were purposively recruited through the Prison Rehabilitation Authority in Israel. Reflexive thematic analysis of interview data revealed themes structured around three timeframes: in the data: pre-incarceration, during incarceration, and post-incarceration. Key findings included histories of trauma and abuse, disruptions to healthcare across incarceration stages, the impact of imprisonment on physical and mental health, discontinuity of care, limited social support, and systemic gaps in psychological care and gender-responsive care. The intersectionality framework provided critical insights into how individual identities and institutional systems shaped women's healthcare experiences.

The documents analysis included eight publications from government and non-government sources, analysed using a prison healthcare system framework. Findings underscore the absence of a defined healthcare policy within Israeli prisons, a lack of integration with the national health system, and minimal attention to gender-specific healthcare needs.

The systematic review incorporated 37 peer-reviewed studies, synthesizing findings through the lens of a healthcare access model. Results demonstrated individual, contextual and systematic barriers and facilitators to primary healthcare access and utilization during re-entry into the community.

Overall, the dissertation reveals persistent, multifaceted challenges across the incarceration stages, including adverse prison conditions, systemic neglect, inadequate healthcare staffing, and significant barriers to timely and appropriate care. This study calls for a more integrated, gender-sensitive, and equity-driven approach to prison healthcare governance, emphasizing continuity of care, integration with public health systems, and responsive transitional support.

These insights offer important implications for future research, policy, and practice aimed at reducing health inequities for incarcerated and formerly incarcerated women. Drawing on the analysis of governance structures, systematic review insights, and lived experiences, the study recommends reforms in prison healthcare governance, disease monitoring, health information sharing, and coordinated cross-sector approaches to ensure adequacy and quality of care across the incarceration trajectory and beyond.

Zusammenfassung

Der Anteil von Frauen an der weltweiten Inhaftiertenpopulation wächst stetig und das mit alarmierender Tendenz. Frauen werden durch ein komplexes Zusammenspiel von Traumata, Missbrauch und sich überschneidenden sozialen, wirtschaftlichen und strukturellen Ungleichheiten inhaftiert. Sowohl im Vergleich zu inhaftierten Männern als auch zu Frauen der Allgemeinbevölkerung sind inhaftierte Frauen mit deutlich mehr körperlichen und psychischen Gesundheitsrisiken konfrontiert. Dennoch werden ihre Gesundheitsbedürfnisse in den von Sanktionen geprägten, von Männern dominierten Strafvollzugssystemen oft übersehen, was durch eine fragmentierte Gesundheitsversorgung in Gefängnissen noch verschärft wird. Sowohl im globalen als auch im israelischen Kontext ist die Gesundheit inhaftierter Frauen nach wie vor ein Bereich, der in der weder in der wissenschaftlichen Literatur noch in der öffentlichen Politik ausreichend beachtet wird. In dieser Dissertation werden die fehlende systematische Bewertung der Verfügbarkeit, Zugänglichkeit und Qualität von Gesundheitsdiensten für inhaftierte Frauen bearbeitet.

Die Arbeit umfasst drei miteinander verknüpfte Studien. Erstens wurden qualitative Interviews mit ehemals inhaftierten Frauen in Israel durchgeführt, um (i) ihre Wahrnehmung von Gesundheit und Gesundheitsversorgung während und nach der Haft zu erforschen und (ii) ihre Erfahrungen mit dem Zugang zu medizinischer Versorgung im Gefängnis zu untersuchen. Zweitens wurde eine Dokumentenanalyse durchgeführt, um (iii) die Organisation und Steuerung der Gesundheitsversorgung im israelischen Gefängnissystem zu untersuchen, wobei geschlechtsspezifische Aspekte im Vordergrund standen. Schließlich wurde ein systematischer Literaturreview durchgeführt, um (iv) Faktoren zu ermitteln, die den Zugang zur medizinischen Grundversorgung für Frauen nach ihrer Entlassung aus dem Gefängnis beeinflussen.

Achtzehn ehemals inhaftierte Frauen wurden gezielt über die israelische Behörde zur Rehabilitierung von Gefangenen rekrutiert und interviewt. Die reflexive thematische Analyse ergab Themen, die um drei Zeiträume herum strukturiert waren: vor der Inhaftierung, während der Inhaftierung und nach der Inhaftierung. Zu den wichtigsten Erkenntnissen gehörten Trauma- und Missbrauchserfahrungen, Unterbrechungen der Gesundheitsversorgung, die Auswirkungen der Inhaftierung auf die physische und psychische Gesundheit, die Diskontinuität der Versorgung, begrenzte soziale Unterstützung und systembedingte Lücken in der psychologischen und geschlechtsspezifischen Versorgung. Das Framework der

Intersektionalität lieferte wichtige Einblicke in die Art und Weise, wie individuelle Identitäten und institutionelle Systeme die Gesundheitserfahrungen von Frauen beeinflussen.

Im Rahmen der Dokumentenanalyse wurden acht Quellen aus staatlichen und nichtstaatlichen Einrichtungen mithilfe eines Frameworks für das Gesundheitssystem in Gefängnissen untersucht. Die Ergebnisse verdeutlichen das Fehlen einer definierten Gesundheitspolitik in israelischen Gefängnissen, die unzureichende Integration in das nationale Gesundheitssystem sowie die vernachlässigte Berücksichtigung geschlechtsspezifischer Gesundheitsbedürfnisse.

Das systematische Literaturreview umfasste 37 peer-reviewed Studien und fasste die Ergebnisse auf Basis eines Modells für den Zugang zur Gesundheitsversorgung zusammen. Die Resultate zeigten individuelle, kontextuelle und systematische Hindernisse und Erleichterungen beim Zugang zur Gesundheitsversorgung und die der Inanspruchnahme zur Wiedereingliederung.

Insgesamt zeigt die Dissertation anhaltende, vielschichtige Herausforderungen während der verschiedenen Phasen der Inhaftierung, darunter schlechte Haftbedingungen, systemische Vernachlässigung, unzureichende Personalausstattung im Gesundheitswesen und erheblicher Hindernisse für eine rechtzeitige und angemessene Versorgung. Die Ergebnisse fordern einen stärker integrierten, geschlechtersensiblen und auf Gerechtigkeit ausgerichteten Ansatz für die Gesundheitsversorgung in Haftanstalten, der die Kontinuität der Versorgung, die Integration mit öffentlichen Gesundheitssystemen und eine reaktionsfähige Übergangsunterstützung in den Vordergrund stellt.

Die gewonnenen Erkenntnisse haben wichtige Implikationen für die künftige Forschung, Politik und Praxis, die darauf abzielen, gesundheitliche Ungleichheiten für inhaftierte und ehemals inhaftierte Frauen zu verringern. Auf der Grundlage der Analyse von Gouvernante-Strukturen, Erkenntnissen aus systematischen Überprüfungen und gelebten Erfahrungen werden Reformen im Bereich der Gesundheitsversorgung in Haftanstalten, der Krankheitsüberwachung, dem Austausch von Gesundheitsinformationen und koordinierter sektorübergreifender Ansätzen empfohlen, um die Angemessenheit und Qualität der Versorgung über den gesamten Haftverlauf und darüber hinaus sicherzustellen.

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Eigenanteil An Datenerhebung Und -Auswertung Und Eigene Veröffentlichungen

Own share in data acquisition and data analysis

Peer-reviewed publication related to this dissertation (first authorship)

Agbaria, N., Wirth, M., Winkler, V., Moazen, B., Van Hout, M. C. and Stöver, H. (2024). **Determinants of access to primary healthcare for formerly incarcerated women transitioning into the community: a systematic review of the literature**. BMJ Public Health *2 (2)*. 10.1136/bmjph-2023-000735.

This publication correspondence to dissertation objective iv, and is based on the methodology (sub-chapter 2.3) and the results (sub-chapter 3.3). The respective discussion sub-chapter (4.1) also discuss the results and study strengths/limitations. The discussion of the findings of this study (sub-chapter 4.2) and parts of the implications (sub-chapter 4.3) were also included in this publication. My contribution to this publication consisted of conceptualization, literature search and screening, data extraction, quality and risk of bias assessment, formal analysis, data visualization and writing the original draft.

Submitted publication (first authorship):

Agbaria, N, Stöver, H., Davidovitch, N., McMahon, S., Winkler, V., Bärnighausen, K. (2025). **Women's Healthcare Needs and Access Across the Incarceration Pathway: A Qualitative Study**

This submitted-publication correspondence to dissertation objective i - iii, and is based on the methodology (sub-chapter 2.1) and the results (sub-chapter 3.1). The discussion of the findings of this study (sub-chapter 4.1) and parts of the implications (sub-chapter 4.3) were also included in the manuscript. My contribution to this publication consisted of conceptualising, methodology, ethical approval, recruitment, data collection, transcribing and translating the interviews, coding, thematic analysis, and writing the original draft.

To be submitted:

Agbaria, N, Stöver, H., Winkler, V. (2025). **Governance of prison healthcare for incarcerated women in Israel: Document analysis with key-informants' insights**

This planned publication correspondence to dissertation objective iii, and is based on the methodology (sub-chapter 2.2) and the results (sub-chapter 3.2). The discussion of the findings of this study (sub-chapter 4.1) and parts of the implications (sub-chapter 4.3) were also included in the manuscript. My contribution to this publication consisted of conceptualising, methodology, ethical approval, recruitment, document search and screening, translating, thematic analysis, and writing the original draft.

Conference presentation related to this disserataion:

17th World Congress on Public Health- Rome, 02-06.05.2023

Oral presentation: Determinants of access to primary healthcare for formerly incarcerated women transitioning into the community, 05.05.2023

Visited conferences during my doctoral studies:

1. European Conference on Health Care in Prison: Side event at Lisbon Addictions
   Lisbon, Portugal, 21.10.2024

2. Gender and Drugs Symposium, Lisbon Addictions conference: Side event by the European Drugs and Gender Group
   Lisbon, Portugal, 22.10.2024

3. Lisbon Addictions conference, 23-25.10.2024

4. 12. Europäische Konferenz zur Gesundheitsförderung in Haft „Äquivalenzprinzip im Faktencheck"
   Murten, Schweiz, 24-26.05.2023

Other peer-reviewed publications, first and co-authorship

The following publications are not related to this dissertation but were conducted during my doctoral studies

Moazen, B., **Agbaria, N.**, Ismail, N., Mazzilli, S., Klankwarth, U. B., Amaya, A., Rosello, A., D'Arcy, J., Plugge, E., Stöver, H. and Tavoschi, L. (2024a). **Interventions to increase vaccine uptake among people who live and work in prisons: A global multistage scoping review**. J Community Psychol *52 (8)*, 1091-1107, doi: 10.1002/jcop.23077.

Moazen, B., Ismail, N., **Agbaria, N.**, Mazzilli, S., Petri, D., Amaya, A., D'Arcy, J., Plugge, E., Tavoschi, L. and Stöver, H. (2024b). **Vaccination against emerging and reemerging infectious diseases in places of detention: a global multistage scoping review**. Front Public Health *12*, 1323195, doi: 10.3389/fpubh.2024.1323195.

Agbaria, N., Finkelstein, A., Zwas, D. R. and Daoud, N. (2024). **Perceptions of Barriers and Facilitators to Reducing Exposure to Secondhand Smoke in the Home: A Qualitative Study With Palestinian–Arab Women in Israel**. Nicotine & Tobacco Research *27 (2)*, 282-290, doi: 10.1093/ntr/ntad257.

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Curriculum Vitae

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Academic qualification

2021- Present	**Dr.Sc.hum candidate** Heidelberg Institute of Global Health, University of Heidelberg Research Group: apl.Prof. Dr. Volker Winkler – RG: Epidemiology of Transition
2014-2015	**Master of Science in International Health Program (MSc)** Heidelberg Institute of Global Health, University of Heidelberg
2005-2010	**Bachelor of Science in Nursing (BSN)** *Hebrew University of Jerusalem*

Research and professional experience

June 2024 - January 2025	**Research assistant** Institute for addiction research, Frankfurt University of Applied Sciences, Frankfurt Research assistance within the EU funded project *RISE-Vac 'Reaching the hard-to-reach'* to increase access and vaccine uptake among the prison population in Europe.
November 2017 - June 2021 From July 2021 to February 2025	**Project director, Researcher, Consultant** Cardiovascular Wellness Center for Women, Hadassah University Hospital, Jerusalem - Design and implementation of community-based health promotion programs for diabetes and CVD prevention, and health literacy program - Design and implementation of Resilience Training program - Leading a qualitative study on exposure to household second-hand smoking exposure among women - Consultancy, contributing to grants applications - Developing health promotion materials for social-media platforms
2016 - 2018	**Consultant** Health promotion unit, the "Healthy cities network" project, Israel Developed and advised on public health initiatives.
2010 - 2014	**Intensive care nurse, clinical instructor** Intensive care unit, Hadassah University Hospital, Jerusalem Supervision and clinical instruction for nursing students and new staff

Professional training and certificates

- Academic writing for qualitative and mixed methods research, completed in March 2023
- Advanced Systematic Reviews and Meta-Analysis, completed in May-2024
- Systematic literature Reviews, completed in May-2019
- Collaborator in the 'Heidelberg Research to Practice Group'- focusing on systematic reviews as a tool to present research for policy recommendations

Technical skills

- NVivo Qualitative analysis software
- Working experience with R, SPSS
- Systematic review management software: Covidence, Rayyan
- Microsoft Office Suite

Languages

Native Arabic speaker, fluent in English and Hebrew, advanced level in German (C1)

Appendices

Appendix 1: Interview guide

Setting up the interview	**Focus group discussion/ In-depth interview**
- Signing consent forms - Completing the short survey - Opening and ensuring informed consent and confidentiality of the interviewee	Thank you for taking the time to meet with me today. My name is Nisreen, and I would like to discuss your experiences… The focus group discussion is expected to last no more than one hour, but the duration may vary based on the flow of the discussion. I will be recording the session to ensure I capture all your comments accurately. While I'll also be taking some notes during the session, I won't be able to write fast enough to document everything comprehensively. Because we're recording, please make sure to speak up so that we capture all your comments clearly. Also, when you speak, kindly state your name or a nickname of your choice. All responses will be kept confidential, and your real names will not appear on the transcripts. Remember, you are not obligated to discuss anything you don't want to, and you have the option to end the interview at any time. Do you have any questions about what I have just explained?
3-4 open ended questions	- Tell me please about the experience of entering prison, how was the beginning for you? - How was the prison experience for you? - Did you have experience with the prison healthcare? - Have you ever felt that you have been treated unfairly in the health system?
Probes	- How did you feel about it? - How was that helpful for you? - How did that affect you? - Could you please elaborate on that? - What else can you tell me about this experience?
Concluding the interview	Is there anything more you would like to add? I'll be analyzing the information you and others gave me and a draft report. I'll be happy to share with you in the future a copy to review or to present to you the findings. Thank you for your time, I appreciate your participation in this study.
After the interview	- Writing down notes - Check the recording and make a back-up copy - Debriefings: with the PRA, participants, and the research team

Appendix 2- Questionnaire used in the study with formerly incarcerated women

Note: these are the questions used in the survey, the original form of the questionnaire was adapted to a friendly-user version

1. **Date of birth/age**
2. **What is your nationality**
3. **What is your ethnicity**
4. **What is your country of birth?**
5. **What is your education level?** (the highest level of education which is achieved)
6. **How would you define your religion affiliation?**
7. **What is your marital status right now?**
8. **Do you have children?**
9. **When were you released from?**
10. **What is your current legal status?**
11. **What was the duration of your last incarceration?** Years_____ months_____
12. **Apart from the last time, have you been imprisoned before?**
13. **How old were you when entered prison for the first time?**
14. **How do you rate your health?** (excellent/ Good/ Fair/ Bad/ Very bad)

15. have you ever been diagnosed with one of these disease/conditions?

Heart disease (including myocardial infraction, hypertension)	Depression
Diabetes type 1, Diabetes Type 2, Pre-diabetes	Psychosis (Schizophrenia)
chronic respiratory disease (asthma, bronchitis)	Bi-polar disorders
Musculoskeletal (arthritis, rheumatism,)	Post-traumatic stress disorders (PTSD)
Viral liver disease	Prescribed medications for a mental or emotional problem
HIV/AIDS	Previous attempt to self-harm or suicide
STDs	Prescribed medications for a mental or emotional problem
Skin problems	
Problems with mouth teeth or gum	
Disability (please specify)	
Other (please specify)	

16. Have you been a victim of any type pf the following violence? (Physical violence/ Sexual violence/ Psychological violence/ Other type of violence)

17. How much of the time has your physical health or emotional problems limit your daily activities or the work you can do?

18. Questions related to drug use

19. Was your offence committed to financially support drug use? Yes / No

20. (BSI-18) Below is a list of problems and complaints that people sometimes have. Please read each item carefully and indicate to what extent you have experienced these problems in the last month, including today.

21. Resilience scale (CD-RISC)

22. Did you get assistance in getting healthcare? If yes, from whom?

Appendix 3- Search strings and terms used for each database

Database	Terms
Pubmed	**S1-** prisoner* OR inmate* OR detainee* OR offender* OR incarcerat* OR imprison*
	S2- Women OR Girls OR Girl OR Woman OR Women's Groups OR Women Groups OR Women's Group OR Femal*
	S3- Health OR Primary health care OR Continuity of Patient Care
PsychInfo	**S1-** prison or jail or correction facilities
	S2- reentry from prison to community OR (recidivism or reoffending or repeat offenders) OR (treatment or intervention or therapy or management or rehabilitation) OR (reentry or reintegration or re-entry or re-integration) OR post release programs OR ((ex prisoners or ex convicts or former inmates or released prisoners or incarcerated) and continuity of health care and barriers or obstacles or access and multimorbidity or comorbidity)
	S3- (Women or females or woman or females) or female offenders women offenders or women inmates)
CINAHL	**S1-** prison or jail or incarceration or imprisonment or correction facilities or prisoners or inmates or criminals or offenders or incarcerated people
	S2- post release programs OR post-release recidivism
	S3- post release programs OR post-release recidivism OR reentry from prison to community OR (reentry or reintegration or recidivism) OR (formerly incarcerated and access healthcare or (health care)) OR (formerly incarcerated or ex-convict or postincarceration or previously incarcerated)
	S4- post release programs OR post-release recidivism OR reentry from prison to community OR (reentry or reintegration or recidivism) OR (formerly incarcerated or ex-convict or postincarceration or previously incarcerated)
	S5- formerly incarcerated and access healthcare or (health care)
Web of science	**S1-**((((ALL=(prison*)) OR ALL=(jail*)) OR ALL=(incarcerate*)) OR ALL=(inmate*)) OR ALL=(correctional facility*)
	S2- ALL=(post release OR transition*)

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This work is as much theirs as it is mine.

Eidesstattliche Versicherung

Statutory Declaration

Bei der eingereichten Dissertation zu dem *Healthcare Needs and Access For Women During and After Incarceration*

1. handelt es sich um meine eigenständig erbrachte Leistung.
   I herewith formally declare that I have written the submitted dissertation.
1. Ich habe nur die angegebenen Quellen und Hilfsmittel benutzt und mich keiner unzulässigen Hilfe Dritter bedient. Insbesondere habe ich wörtlich oder sinngemäß aus anderen Werken übernommene Inhalte als solche kenntlich gemacht.
   I did not use any third party support except for the quoted literature and other sources mentioned in the text. Content from other work, either literally or in content, has been declared as such
2. Die Arbeit oder Teile davon habe ich bislang nicht an einer Hochschule des In- oder Auslands als Bestandteil einer Prüfungs- oder Qualifikationsleistung vorgelegt.
   The thesis has not been submitted to any examination body in this, or similar, form.
3. Die Richtigkeit der vorstehenden Erklärungen bestätige ich.
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4. Die Bedeutung der eidesstattlichen Versicherung und die strafrechtlichen Folgen einer unrichtigen oder unvollständigen eidesstattlichen Versicherung sind mir bekannt. Ich versichere an Eides statt, dass ich nach bestem Wissen die reine Wahrheit erklärt und nichts verschwiegen habe.
   I am aware of the legal consequences of this declaration. To the best of my knowledge I have told the pure truth and not concealed anything.

Ort und Datum Unterschrift

Angaben Zu Verwendeten Ki-Basierter Elekrtonischer Hilfsmittel

Information on the use of AI-based tools

Zur Dokumentation der verwendeten Hilfsmittel ist der schriftlichen Ausarbeitung ein besonderer Anhang hinzugefügt, der eine Liste und Beschreibung aller verwendeter KIbasierter Hilfsmittel enthält. Der besondere Anhang zur Dokumentation der verwendeten Hilfsmittel erfüllt folgende Kriterien:

To document the tools used, a special appendix has been added to the written report, which contains a list and description of all AI-based tools used. The special appendix to document the tools used meets the following criteria:

1. Auflistung der Ziele, für die die KI-basierten Hilfsmittel in der vorliegenden Arbeit eingesetzt wurden.
   List of the goals for which the AI-based tools were used in this work.
   - AI AI-based tools were used in this dissertation for the sole purpose of language-related support. Specifically, these tools were used for proof-reading, including grammar checking, correction of typos, and sentence structure.

2. Dokumentation der Verwendungsweise der KI-basierten Hilfsmittel.
   Documentation of how AI-based tools are used.
   - ChatGPT

3. Nennung der Kapitel und Abschnitte der vorliegenden Arbeit, in denen die KI-basierten Hilfsmittel eingesetzt wurden, um Inhalte zu erzeugen.
   Identification of the chapters and sections of this work in which AI-based tools were used to generate content.
   - No AI generated content was used in this dissertation or in development of original arguments.

Der Gebrauch dieser Hilfsmittel inklusive Art, Ziel und Umfang des Gebrauchs wurde mit meinem offiziellen Betreuer / meiner offiziellen Betreuerin Apl.Prof. Dr. Volker Winkler abgesprochen.
The use of these aids, including the type, purpose and extent of use, has been agreed with my official supervisor Apl.Prof. Dr. Volker Winkler.

Mir ist bewusst, dass insbesondere der Versuch einer nicht dokumentierten Nutzung KIbasierter Hilfsmittel als Täuschungsversuch zu werten ist:
I am aware that in particular the attempt to use AI-based tools without documentation is to be regarded as an attempt at deception:

Gem. § 16 Abs. 2 der Promotionsordnung „Dr. med. / dent.“:

„Ergibt sich vor Aushändigung der Promotionsurkunde, dass der Kandidat/die Kandidatin bei einer Promotionsleistung getäuscht hat, so können einzelne oder alle Promotionsleistungen für ungültig erklärt werden. In schweren Fällen kann die Zulassung zum Promotionsverfahren zurückgenommen werden.“

According to § 16 paragraph 2 of the doctoral regulations for "Dr. med. / dent.": "If it emerges before the doctoral certificate is issued that the candidate has cheated in a doctoral achievement, individual or all doctoral achievements can be declared invalid. In serious cases, admission to the doctoral process can be withdrawn.
Und § 16 Abs. 2 der Promotionsordnung „Dr. sc. hum.“:

„Ergibt sich vor Aushändigung der Promotionsurkunde, dass der Doktorand / Doktorandin bei einer Promotionsleistung getäuscht hat, so kann der Promotionsausschuss diese Promotionsleistung oder alle bisher erbrachten Promotionsleistungen für ungültig erklären. In besonders schweren Fällen kann der Promotionsausschuss die Annahme als Doktorand / Doktorandin endgültig widerrufen.“
And § 16 paragraph 2 of the doctoral regulations “Dr. sc. hum.”: “If it emerges before the doctoral certificate is issued that the doctoral candidate has cheated in a doctoral achievement, the doctoral committee can declare this doctoral achievement or all doctoral achievements to date invalid. In particularly serious cases, the doctoral committee can permanently revoke the acceptance as a doctoral candidate.

_____

Ort und Datum Unterschrift