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Cardiovascular Diseases in Women's Prisons: Eating Habits from the Perspective of Professionals

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Posted Date: 3 March 2025

doi: 10.20944/preprints202503.0006.v1

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Cardiovascular Diseases in Women's Prisons: Eating Habits from the Perspective of Professionals

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Abstract: Background/Objectives: Cardiovascular diseases are the leading cause of death and disability worldwide, exacerbated by poor diet, sedentary lifestyles, and precarious living conditions. In women's prisons, diets often rely on ultra-processed foods that are nutrient-poor and high in sodium and fats, increasing cardiovascular risks. The lack of access to healthy options and the absence of nutritional education programs make prevention even more challenging. Additionally, sociocultural and emotional factors negatively influence inmates' eating habits. Given the scarcity of studies on this relationship, listening to professionals working in this context can help identify specific needs and develop nutritional intervention strategies to promote the health of this population. The main aim of this study is to report on the challenges faced by professionals working in a women's prison setting in relation to the prevention of cardiovascular disease, particularly in relation to eating habits. **Methods**: We adopted a qualitative, exploratory, and descriptive approach, using the focus group technique to collect data in a Portuguese women's prison, in July 2024. Data saturation was achieved in a single session. The data obtained was analyzed using thematic content analysis, according to Bardin's protocol (2016). **Results**: Three thematic categories emerged from the subsequent content analysis: 1) Contextual challenges of the prison system; 2) Socio-cultural factors contributing to resistance against behavioral change; and 3) Sustainable intervention strategy. **Conclusions**: This study highlights the complexity of the female prison system in addressing cardiovascular disease, with a focus on dietary habits. It highlights the significance of a multidisciplinary approach to address these challenges, as well as the urgent need to improve the production of scientific knowledge in this area, with a sense of creating and sustaining more powerful policies and strategies, effective and humanized.

Keywords: prison; women's health; eating habits; cardiovascular diseases; social vulnerability

1. Introduction

Cardiovascular diseases (CVDs) remain the leading cause of morbidity and mortality worldwide, accounting for approximately 17.9 million deaths annually [1]. The epidemiological transition of recent decades has seen a decline in communicable diseases and a sharp increase in noncommunicable diseases, largely due to lifestyle factors such as poor diet, physical inactivity and tobacco use [2]. In Portugal, CVDs will account for 27% of all deaths in 2020, with cerebrovascular diseases such as stroke and hypertension playing a significant role [3]. Despite the well-documented impact of CVDs, prevention remains a challenge, particularly in vulnerable populations such as prisoners, where structural and environmental barriers exacerbate existing health risks.

Prison populations face a disproportionate burden of chronic disease due to high rates of poverty, limited healthcare access, and unhealthy living conditions. Among incarcerated individuals,

 doi:10.20944/preprints202503.0006.v1

women represent a particularly vulnerable group due to distinct biological and social determinants of health [4]. Research indicates that female-specific cardiovascular risk factors, including menopause, hormone replacement therapy, pregnancy complications, and polycystic ovary syndrome, remain underexplored in prison healthcare policies [5,6]. Furthermore, the prison system itself imposes conditions that accelerate disease progression. Overcrowding, psychological stress, lack of physical activity, and substance use all contribute to heightened cardiovascular risk [7]. The most frequent risk factors for cardiovascular diseases in prison populations are overweight and obesity, diabetes, hypertension, smoking, dyslipidaemia, alcohol and other drug use, a sedentary lifestyle, metabolic syndrome, anxiety, depression and an unhealthy diet for the heart [4]. However, one of the most significant yet overlooked factors is diet.

Nutritional intake in prisons is often inadequate due to budget constraints, lack of oversight, and the prioritization of over quality cost. Studies have shown that prison meals frequently fail to meet basic dietary guidelines, leading to excessive consumption of processed foods high in saturated fats, refined sugars, and sodium, all of which are associated with an increased risk of CVDs [8]. To compensate for these deficiencies, many incarcerated individuals rely on commissary purchases, which are typically limited to low-nutrient, calorie-dense products, further exacerbating health disparities between those with financial resources and those without [9]. Additionally, food serves as a form of currency within the prison economy, reinforcing social inequalities and making the implementation of health-focused policies more complex [10].

Despite growing recognition of the link between diet and cardiovascular health, there is a notable lack of research addressing the specific challenges of implementing effective nutritional interventions in women's prisons. Understanding the perspectives of professionals working in these settings is crucial for identifying systemic barriers and developing more effective prevention strategies. This study aims to explore the challenges faced by professionals in preventing CVDs among incarcerated women, with a particular focus on dietary habits. By examining their firsthand experiences, the research seeks to contribute to evidence-based discussions on prison nutrition policies and propose strategies for more equitable and sustainable health interventions.

2. Materials and Methods

2.1. Study Design

This was a qualitative, exploratory and descriptive study conducted at a female prison facility in Portugal in July 2024. This study design was chosen to enable an in-depth exploration of the distinctive challenges faced in the prevention of CVDs related to eating habits within this specific context. The qualitative design was deemed the most suitable approach to capture the complexity of the socio-cultural and contextual factors influencing eating habits and cardiovascular health in this vulnerable population.

2.2. Participants

A non-probabilistic sampling technique was employed, whereby all participants were recruited based on their interest in participating and their availability for the session. This approach ensured that the necessary human resources were available for the effective operation of the prison.

Inclusion criteria comprised (a) professionals employed at the facility, and (b) those who have functional roles providing direct services to incarcerated women.

Exclusion criteria were applied to individuals who had been working at the facility for less than six months, ensuring that participants had sufficient experience and familiarity with the prison context to provide meaningful insights.

2.3. Data Collection

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Study participants were provided with a disclosure page that outlined the study's purpose and the intent for its subsequent publication. We used a comprehensive focus group guide to collect data from the participants and informed consent was obtained from all participants before conducting the discussions.

All the participants completed a socio-demographic questionnaire including their age, gender, marital status, area of residence, educational qualifications, training for professional practice in the context, professional category, and length of time working in the area and context. No direct identifiers were collected, and strict confidentiality measures were maintained throughout the study to ensure participant privacy and confidentiality. The session was recorded using an audio recorder.

The focus group discussion involved six professionals in a single session and lasted about ninety minutes. The methodological procedure resulted from group discussion on topics led by the moderator. In addition to the moderator, another researcher meticulously recorded the participants' facial expressions while a third researcher took brief notes summarizing the topics of discussion during the session.

The principle of homogeneity among the group of participants [11] was achieved because all participants were professionals working in the same women's prison. This common marker facilitated focused and comprehensive exchanges. Each participant had equal opportunities to contribute. While we considered scheduling an additional session, six members were ideal for encouraging in-depth discussions and active participation. This setup allowed significant sharing of insights and quick consensus on key issues, which led to shorter dialogues. As a result, we achieved data saturation in the first meeting, successfully fulfilling the outlined research objectives. The audio recordings were transcribed and the data obtained was analyzed using thematic content analysis, following the assumptions of Bardin [12].

2.4. Ethical Considerations

Ethical approval for the study was granted by Ethics Subcommittee for Life and Health Sciences at the University of Minho (Approval number CEICVS 073/2024, Approval date 26 June 2024) and the Directorate-General for Reintegration and Prison Services (DGRPS) authorized it for realization (Approval number DGRSP 96/CCCRE, Approval date 28 June 2024).

2.5. Data Analysis

Thematic content analysis was conducted following Bardin's (2016) methodological framework. Statements from participants were transcribed and identified with the letter P (Professional), followed by a numerical sequence indicating the order in which they first spoke. The analysis proceeded without qualitative data analysis software, relying instead on a structured and systematic manual approach.

The transcripts were reviewed to identify key terms relevant to the research question. Initially, themes related to cardiovascular disease prevention in prisons were identified, and subsequent readings allowed for the emergence of codes specifically associated with eating habits. Three independent coders compared their classifications, reaching a consensus on the codes that most accurately captured participants' perspectives. In a second round, two coders further refined these classifications to ensure consistency in representing emerging themes related to dietary habits. Similar codes were grouped into broader categories, and relationships between these categories were explored.

Following Bardin's (2016) approach, the main themes were operationalized by analyzing sentences as context units within participants' statements, as shown in Table 1.

This method enabled a deeper understanding of the conditions in which these perspectives emerged, shedding light on the institutional policies and structural factors influencing their experiences.

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Table 1. Diagram representing Bardin's assumptions (adapted from Bardin, 2016).

Content analysis operations	**Cardiovascular diseases in women's prisons: eating habits from the perspective of professionals**		
Categories	Contextual challenges of the prison system	Socio-cultural factors contributing to resistance against behavioral change	Sustainable intervention strategies
Constitution of the analytical corpus	The material relating to the participants' statements was obtained through voice recording. A socio-demographic questionnaire was used to characterize the participants. The observer recorded the participants' facial expressions in detail and the note-taker summarized the topics of discussion during the session.		
Context units	Formal registration unit: a minimal fragment of content, such as a sentence or a statement, taken from the analytical corpus was used to identify or characterize each category.		

3. Results

3.1. Participant Socio-Demographics

Two-thirds of the participants were married men, while the remaining third were single women. The average age of the participants was 53.67 (± 9.651), with ages ranging from 47 to 74 years old. All participants lived in the surrounding metropolitan area. Although they are mostly health professionals, the six individuals have been working in different fields in the context for approximately 20 years, including coordination, clinical direction and management, training, psychology and nursing.

3.2. Categories

Table 2 provides the themes and their descriptions and quotes. Three themes were extracted deductively from the data collected. These included (1) contextual challenges of the prison system; (2) socio-cultural factors contributing to resistance against behavioral change, and (3) sustainable intervention strategy. Each theme provided a structured approach to gather valuable insights into the diagnosing of concrete needs, promoting reflection and developing new strategies for implementation.

Table 2. Key categories.

Categories	**Description**	**Quotes**
Contextual challenges of the prison system	*The participants show knowledge and endeavor in nutritional assessment and primary and secondary prevention. However, they realize that the success of these interventions faces many challenges inherent in the contextual nature of the prison system.*	**P3 -** (...) prisoners (...) spend many hours in their cells (...) it's a cubicle, they take two steps and get from one side to the other, a sedentary lifestyle is compulsory, it's impossible for it not to have an impact on health. […] **P5 -** (...) we have to contextualize the environment we have, because: we're in the "outside population" and we know that a sedentary lifestyle is a high risk for cardiovascular diseases, but here... we try to raise awareness of sedentary lifestyles, to avoid sedentary lifestyles, but often here, due to the rule of imprisonment, it's imposed, because you don't have a job and, while a user who isn't deprived of their liberty, "In the morning, go out, have a coffee, go for a walk, walk, avoid the car", here... if she doesn't have any activities, she has to be locked up in a minimum space, which, if she walks

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from her desk to her chair for an hour, doesn't do her any good. So here we have to find ways of tackling sedentary lifestyles by understanding the context (...) sometimes health education in prisons isn't about the strategies and the approach (...) we have to contextualize the environment we're in (...) I can't say to a woman, "Eat a variety of fruit", when it's essentially three pieces of fruit served. (...) So we have to direct, (...) realize (...) the environment we have and the resources we have, on all sides, to make this approach - which is sometimes a contradiction to what we have out there... [...]

P5 - (...) Several events have already taken place, (...) this population also (...) doesn't adhere (...) we've used a thousand and one strategies (...). [...] **P2 -** And our big obstacle in this environment is the education of the inmates themselves, their level of schooling is very low (...), and they have much more important priorities than not putting salt in their food and giving up smoking (...). [...]

P6 - (...) Within prisons, we have something vital, which is smoking. (...) in these people who are in a confined space from 7 pm until 7 am, at least 12 hours in a given space (...) it's obvious that it's going to be very difficult to intervene, at least in the initial phase, to get them to stop smoking. […] **P4 -** We've even had some smoking cessation programs, with strong communication. Still, the effectiveness is... (...) it's a context of a lot of tension, a lot of stress, (...) every day a person is subjected to enormous tension (...) **P5 -** Even us professionals, watch out! Even us professionals! (...) **P4/P5 -** Almost everyone! **P5 -** (...) We're not deprived of freedom, but we are conditioned, right? And... Looking out of a window and seeing bars, and at the end of the day going out, and that feeling "I'm on the street!" - that will accumulate for years and years! So... And we smoke, even the professionals who smoke, in all this stress, in all this... sometimes we smoke more than we should, but we feel it too. And how can you impose that on someone who's also closed in a tiny space, staring at a wall (...) [...] **P4 -** (...) in terms of the work of all the clinical services, we do a lot of treatment in slightly more complicated situations (...) both in terms of smoking reduction... and often in terms of behaviour. And sometimes, unfortunately, the reward itself is the cigarette. Because the system is like that (...) Because our capacity to act is also very limited. [...]

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		P1 - We have a recurrence of self-injurious behaviour [...] **P4 -** (...) We're talking about very complicated personalities. […] **P6 -** (...) the phenomenon of self-mutilation, (...) para-suicide. [...]
Socio-cultural factors contributing to resistance against behavioral change	*The strong resistance to behavioral change by inmates, along with the need to prevent riots and conflict among participants led to many attempts to fail.*	**P3 -** (...) What we want is anything but revolts. Well, we have a mini market here, (...) just like (...) outside, (...) it sells everything... and (...) the state has a hard time being coherent here because in prison there is freedom within walls. You can't forbid people from having their own choices, but you have to see if those choices (...) could be extremely harmful to their health (...) ... the state here doesn't restrict people's freedom. So apparently, it's contradictory... […] **P6 -** (...) The positive nuance (...) of this minimarket is that the profits from the "canteen" (...) always go to the inmates themselves. (...) The downside, without a doubt, is that they have all kinds of products at their disposal (...) and they have to, as part of their accountability process, realise what is good for them and what isn't. [...] **P2 -** For example, primary and secondary prevention measures are implemented and then there's no therapeutic adherence because in the morning they don't want to get up (...) They have a gym, they have yoga, but they don't want to, because they want to stay in their cell watching the soap opera. If they have financial support from outside, they don't even need to go to work, and so, on the question of the user's responsibility, if there was a change in mentality it would be revolutionary (...)! […] **P3 -** (...) The system (...) is also based on a great deal of hypocrisy. (...) If our legislation says straight out, in black and white, that the citizen prisoner has all the rights as any other citizen, except those resulting from the prison itself (...) it's all designed to (...) relieve the prisoner of responsibility! […] **P6 -** (...) The system wants there to be no riots, no rebellions, and for people to be relatively calm. This is sometimes counterproductive to what we're working on (...) [...].
Sustainable intervention strategies	*Participants describe healthy eating as a sensitive yet urgent topic that requires attention. Although various efforts have been made, progress*	**P5 -** [We think some care should be taken when approaching] The food part, even the products, everything that's on sale in the canteen, and a lot of processed foods that exist (...) Even (...) sensitising the canteen, and (...) using measures to restrict the purchase of some foods in extended situations... (...) Nobody starves to death. We all

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	remains slow and the journey ahead is long.	have needs from time to time. Maybe today we need to eat a chocolate, or an ice cream, or a cake, whatever. Everyone does. Now, it can't be that the meal is replaced by whatever, can it? (...) There's a reduction. For example, in the kitchen, (...) there's a reduction in salt in the food, but then there's no control and they can buy ketchup, mustard, and mayonnaise in the canteen. The food comes with reduced salt, but then there's a bottle of ketchup and mustard in your pocket. (...) Maybe if the guards were more sensitive..., but they can only warn, they can't take it away from them [...]. **P5 -** The evolution is positive, they're much more sensitised, they're more careful, (...) but then there are also other situations here (...) ... the psychiatric part, even in terms of medication, which often (...) also leads to demotivation (...). the psychiatric part, even in terms of medication, which often (...) also leads to excess weight (...) there's a lack of motivation (...) [...]. **P2 -** (...) Things have changed, it's true, but so has the profile of the inmate (...). [...] **P3 -** But (...) our legislation (...). [...] **P6 -** (...) The effort must be multidisciplinary, and concentrated, and... resources must be maximized. [...] **P3 -** But before that, and this is the hardest part, it's up to each state, each country, to create the necessary conditions so that all this can be implemented. […] **P2 -** The General Directorate, the State, the Ministry of Justice... In the 20 years that we've been here, the attitude of those in charge - precisely because they don't want to be bothered (...) It's very complicated to make changes, even structural changes, changes in mentality, procedures... we're always up against several walls and a lot has already been done. And things have changed... a little... they're changing a little... But until that happens... [...] **P6 -** (...) We're in the limbo of what's legal and what's not. […] **P6 -** (...) If the prison leadership said, "You can't smoke", it would be the end of the world! [...] **P2 -** The issue of inmates taking responsibility (...) is very important! One of the things we've noticed for many years (...) is that they almost take no responsibility for everything to do with their health and think it's our obligation, one-way, to resolve all situations, whatever they do. [...] **P5 -** And at the same time, let's make it clear and get

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	the message across that (...) everyone is responsible! Everyone! So it's not because I'm a nurse that I have to take more responsibility than the psychologist or the prison guard or the teacher. [...]
	P6 - What (...) is saying was my last point, which was positive mental health. (...) We're not going to be able to implement great strategies with results if we don't have positive mental health if we don't have something different. (...) If the person continues to be unstable, if the person continues to have negative thoughts, if the person continues to be withdrawn, if the person continues to be in a state of brutal anxiety, they're going to continue to have pleasure mechanisms (...) "I eat for pleasure, I smoke for pleasure (...)". So, in principle, mental health also has (...) a big say - I think. **P4 -** And that sense is a gap and it's one of the things we're most sensitized to (...) [...].

4. Discussion

The results presented transparently reflect the sharing by professionals in this female prison context of the contextual, socio-cultural and structural challenges they have experienced about the difficulties faced in preventing CVD in the establishment, with an emphasis on the eating habits of the women prisioners.

4.1. Contextual Challenges of the Prison System

Professionals working in the prison system recognize the importance of nutritional assessment and the implementation of both primary and secondary prevention strategies for cardiovascular disease. However, their ability to enact meaningful change is severely constrained by structural and environmental challenges inherent to incarceration. One of the most significant barriers is the forced sedentary lifestyle, which limits opportunities for physical activity and exacerbates health risks [7]. While some facilities offer structured exercise programs such as gym classes, yoga, and team sports, professionals report low motivation and participation among inmates, reflecting broader challenges in promoting long-term behavioral changes [13].

The quality and variety of food available in prison settings further complicates health interventions. In many institutions, meals are outsourced to external contractors, resulting in nutritionally inadequate food that often fails to meet dietary recommendations [8]. A lack of fresh fruits and vegetables, combined with the over-reliance on processed foods, contributes to poor diet quality, increasing the risk of obesity, hypertension, and other cardiovascular conditions [9]. These dietary limitations not only hinder CVD prevention efforts but also reduce adherence to broader health strategies aimed at improving inmate well-being [14].

A low level of education and health literacy among incarcerated women presents an additional challenge. Many inmates struggle to understand the long-term benefits of healthy eating, leading to low engagement in dietary interventions [15]. Professionals report that in an environment where more immediate health concerns, such as smoking cessation and self-harm prevention, demand constant attention, nutrition remains a lower priority [16]. The competing demands on prison healthcare services, combined with limited resources, make it difficult to implement sustainable dietary improvements. Without targeted interventions that account for both environmental

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constraints and socio-cultural barriers, the effectiveness of cardiovascular disease prevention efforts remains limited.

4.2. Socio-Cultural Factors Contributing to Resistance Against Behavioral Change

Socio-cultural factors present major challenges to implement sustainable dietary and health behavior changes in prison settings. Many incarcerated women exhibit a strong resistance to adopting healthier habits, often due to a dependency mentality, where responsibility for their well-being is perceived as resting solely with prison staff rather than as a personal obligation [15]. This passive approach to health management undermines efforts to encourage long-term lifestyle modifications, making it difficult for professionals to instill a sense of autonomy and accountability regarding nutrition and cardiovascular disease prevention [8].

The presence of prison commissaries, offering processed and nutrient-poor foods, further reinforces maladaptive eating behaviors. While the «freedom within walls» policy allows inmates to make personal dietary choices, it complicates the implementation of public health-driven nutrition strategies [9]. Efforts to improve the nutritional quality of commissary offerings often provoke resistance, as restrictions on unhealthy food options are perceived as an infringement on personal rights. This conflict between individual autonomy and institutional health policies raises ethical and practical concerns, as limiting access to processed foods could trigger strong reactions such as hunger strikes, bartering, and self-harm [14].

The psychological stress inherent in incarceration also plays a critical role in shaping dietary behaviors. Chronic tension and emotional distress drive inmates toward coping mechanisms such as smoking and the consumption of ultra-processed foods, both of which have well-established links to increased cardiovascular risk [16]. Despite the implementation of smoking cessation programs and other interventions, their effectiveness remains limited by the ongoing psychological strain that characterizes prison life [7]. Without addressing the underlying mental health burdens that contribute to these behaviors, efforts to promote healthier eating habits and reduce cardiovascular disease risk will continue to face substantial obstacles.

4.3. Sustainable Intervention Strategies

Efforts to implement sustainable health interventions in prisons face significant structural and cultural challenges, requiring a multidisciplinary approach that balances the resistance of inmates with the administrative constraints of the correctional system. Participants in this study highlight the complexity of introducing dietary changes, citing the reduction of salt in meals as a positive step. However, the availability of condiments such as ketchup and mayonnaise undermines these efforts, emphasizing the need for more comprehensive policies that regulate food options while respecting inmates' autonomy [8].

Mental health emerges as a crucial factor in the success of any intervention strategy. The strong association between emotional distress, anxiety, and maladaptive behaviors—such as smoking and the consumption of ultra-processed foods—suggests that addressing mental health is essential to promoting sustainable behavioral change [15]. Without integrating psychological support into dietary and lifestyle interventions, efforts to improve cardiovascular health in prison settings are unlikely to yield lasting results [16].

Professionals also stress that effective interventions depend on collaboration among all stakeholders in the prison system, extending beyond health professionals to include correctional staff, administrators, and the inmates themselves. The success of health initiatives relies on a coordinated effort, supported by clear and enforceable public policies that account for the specific challenges of the prison environment [7]. Without structural commitment at multiple levels, interventions remain fragmented and difficult to sustain, limiting their long-term impact on inmate health.

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4.4. Strenghts and Limitations

This study was conducted in a prison that stands out nationally for the exceptional conditions it offers its inmates. Compared to other prisons in the country, this facility has a much more developed infrastructure, offering a range of resources and activities that promote physical and mental well-being. These include yoga and gymnastics classes, the presence of a gymnasium, sports games, and services such as hairdressing, laundry, and a daycare center. These conditions favor the implementation of health promotion strategies and encourage the adoption of healthier habits, factors that are not as accessible in other prison units. Thus, the privileged context of this institution is a relevant force for the development of more effective and sustainable interventions.

On the other hand, there is an important limitation with regard to the approach to smoking cessation taken by the establishment's professionals, most of whom are smokers, but who express an understanding of the reasons behind the abuse of tobacco by the inmates in the context, as well as a feeling of identification with the cause, «*[…] we feel it too.*», while pointing out the difficulty that arises from the fact that «*[…] how can you impose that on someone who's also closed in a tiny space, staring at a wall (...) our capacity to act is also very limited (…)*», which is partly justified by the fact that «*[...] it's a context of a lot of tension, a lot of stress, (...) every day a person is subjected to enormous tension (...)*», but, at the same time, by «*[…] in principle, mental health also has (...) a big say (…)*».

Thus, despite ongoing efforts to promote health, the influence of one's own habits poses a challenge to create an environment conducive to sustainable behavior change.

On the other hand, there is an important limitation regarding the approach to adhering to and maintaining a healthy diet in this prison due to the presence of a mini market with free access to all types of food, where profits are redirected to benefit the prisoners: «*[...] Well, we have a mini market here, (...) just like (...) outside, (...) it sells everything... and (...) the state has a hard time being coherent here because in prison there is freedom within walls. You can't forbid people from having their own choices, but you have to see if those choices (...) could be extremely harmful to their health [...] The positive nuance (...) of this minimarket is that the profits from the "canteen" (...) always go to the inmates themselves. [...] The downside, without a doubt, is that they have all kinds of products at their disposal (...)*». In addition, according to the professionals, approaches to adhering to a healthy diet need to be interdisciplinary: «*(…) Even (...) sensitizing the canteen (...) there's a reduction in salt in the food, but then there's no control and they can buy ketchup, mustard, and mayonnaise in the canteen. The food comes with reduced salt, but then there's a bottle of ketchup and mustard in your pocket. [...] Maybe if the guards were more sensitive..., but they can only warn, they can't take it away from them [...]. The effort must be multidisciplinary, and concentrated, and... resources must be maximized. (...)*».

5. Conclusions

This study highlights the challenges of promoting cardiovascular health in women's prisons, with a particular focus on inmates' eating habits. Structural and socio-cultural obstacles were identified, such as the imposed sedentary lifestyle, the limited food on offer, low levels of health literacy and the behavioural resistance of in-mates. Although the existence of a mini market within the prison promotes autonomy, it encourages the consumption of ultra-processed products, jeopardizing healthy eating strategies. In addition, the impact of stress and deprivation of liberty encourages compensatory behaviours, such as smoking and excessive intake of sugars and fats.

In this sense, it is essential to adopt an interdisciplinary and integrated approach, involving health teams, prison management and inmates themselves in the development of effective strategies. The implementation of eating education programs, combined with the strengthening of mental health, can help to reduce the risks identified. The results of this study underscore the need for more effective and humanized public policies capable of improving prison food conditions and, consequently, the quality of life of inmates.

Author Contributions: Conceptualization, A.M., I.R., M.R., A.T., F.L. and A.P.; methodology, A.M., I.R., M.R., A.T., F.L. and A.P.; software, A.M., I.R., M.R., A.T., F.L. and A.P.; validation, F.L. and A.P.; formal analysis, A.M.,

 doi:10.20944/preprints202503.0006.v1

I.R., M.R., A.T., F.L. and A.P.; investigation, A.M., I.R. and M.R.; resources, A.P.; data curation, A.M., I.R. and M.R.; writing—original draft preparation, A.M. and I.R.; writing—review and editing, M.R., A.T., F.L. and A.P.; visualization, A.M., I.R., M.R., A.T., F.L. and A.P.; supervision, A.P.; project administration, A.P.; funding acquisition, A.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with Ethics Committee of UNIVERSITY OF MINHO (Approval number CEICVS 073/2024, Approval date 26 June 2024).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study. Written informed consent has been obtained from the patients to publish this paper.

Data Availability Statement: The data supporting this study are not publicly available due to ethical and privacy restrictions related to the confidentiality of participants and the sensitive nature of the prison environment. Access to the data is restricted in compliance with ethical guidelines and institutional policies.

Acknowledgments: This work is part of the project 'Therapeutic Reconciliation in Empowering People after Acute Myocardial Infarction: An Integrative Approach to Care', which is part of the 'Health Education in School Contexts and Communities' Structuring Project, registered with the Health Sciences Research Unit: Nursing (UICISA:E), Coimbra, Portugal.

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

CVD	Cardiovascular disease

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