Universidade Nova de Lisboa

Instituto de Higiene e Medicina Tropical

Violence in migrants and refugees in Europe: *determinants and preventable measures*

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Dedication

To my beloved family, of blood and heart.

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Thank you.

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Resumo

Introdução

A violência sexual e de género (VSG) é um problema global de saúde pública, ao qual refugiados, requerentes de asilo e imigrantes não documentados, estão particularmente vulneráveis. Nos centros de acolhimento Europeus, residentes e profissionais estão predispostos à vitimização e perpetuação de VSG.

Objetivos

Esta tese tem como objetivo contribuir para melhorar o conhecimento do conceito de VSG, casos reportados, causas, medidas preventivas, e fatores preditivos de vitimização em residentes (refugiados, requerentes de asilo e imigrantes não documentados) e profissionais (prestadores de serviços, e serviços de saúde), em centros de acolhimento Europeus.

Métodos

Foram utilizados dados recolhidos no âmbito do projeto Europeu "Senperforto", com o objetivo de contribuir para a proteção e promoção da saúde de refugiados, requerentes de asilo e imigrantes não documentados, de forma a prevenir a VSG nos centros de acolhimento. Senperforto incluiu um estudo sobre conhecimentos, atitudes e práticas relativo à VSG, de residentes e profissionais, que vivem e trabalham em centros de acolhimento, em oito países (Bélgica, Grécia, Hungria, Irlanda, Malta, Holanda, Portugal, Espanha). No total foram realizadas 600 entrevistas: 398 a residentes e 202 a profissionais. A análise de dados incluiu uma análise por componentes principais (ACP), testes de associação como o *Qui-quadrado* ou teste exato de *Fisher*, e técnicas de *machine learning*.

Resultados

O resultado da ACP relativo ao conceito de VSG para o grupo de residentes incluiu 14 dimensões de VSG que representam 83,56% da variância total de dados. No grupo de profissionais resultou em 17 dimensões de VSG correspondendo a 86,92% da variância total de dados. Para ambos, o conceito de VSG diferiu de acordo com o país de acolhimento, sexo, idade e estado civil. Nos residentes, foram encontradas diferenças relacionadas com a duração de residência no país de acolhimento/Europa, e com os tipos de alojamento. Para os profissionais, as diferenças estavam ligadas ao estatuto legal e competências educacionais.

Os participantes reportaram 698 casos de VSG (residentes 328, profissionais 370), correspondendo a 1110 atos de vários tipos de violência. As principais causas presumidas foram: frustração e stress (residentes 23,6%, profissionais 37,6%, *p*0,008) e diferenças relacionadas com aspectos culturais (residentes 19,3%, profissionais 20,3%, *p*0,884). Os participantes relataram que estes atos de violência poderiam ser evitados melhorando: intervenções preventivas de VSG (residentes 31,5%, profissionais 24,7%, *p*0,293); condições habitacionais (residentes 21,7%, profissionais 15,3%, *p*0,232); e comunicação (residentes 16,1%, profissionais 28,2%, *p*0,042). A maioria dos residentes não tinha conhecimento da existência de medidas preventivas nos centros de acolhimento (58,3%) ou no país de

acolhimento (72,4%). As medidas preventivas de VSG propostas pelos participantes incluíram: sensibilização sobre a VSG, melhoria das condições habitacionais e melhoria da comunicação entre residentes e profissionais.

Os modelos preditivos de VSG destacaram as condições habitacionais como uma característica importante para prever a vitimização. Assim, instalações sanitárias apropriadas, o tipo de alojamento, o estatuto legal, a idade, o tipo de ocupação e a idade das pessoas com quem as instalações sanitárias são partilhadas, foram variáveis essenciais para prever a vitimização. Ser residente ou profissional provou ter baixa característica preditiva.

Conclusão

Nos centros de acolhimento Europeus, as estratégias de prevenção primária deverão focalizar-se na harmonização do conceito de VSG, abordando possíveis diferenças relacionadas com características sociodemográficas. Os resultados sugerem que nos centros de acolhimento, tanto os residentes como os profissionais, os homens e as mulheres estão em risco de VSG, reduzindo os estereótipos: masculinos/profissionais - agressores e mulheres/residentes - vítimas. A elevada incidência de VSG apresentada nos nossos resultados sugere que a prevenção secundária deverá incidir numa maior sensibilização para o problema, melhorar as condições habitacionais e de trabalho, melhorar a comunicação, assegurar um procedimento de asilo equitativo e justo, e incluir os residentes e profissionais como participantes ativos no processo de desenvolvimento e implementação destas medidas. Enfatiza-se ainda, a necessidade emergente da criação e implementação de políticas e diretrizes europeias personalizadas que melhorem as condições habitacionais e de trabalho nos centros de acolhimento. Por último, estamos convencidos de que os Estados-Membros poderão beneficiar do desenvolvimento de capacidades e ferramentas para a implementação destas políticas e diretivas.

Palavras-chave: refugiados, requerentes de asilo, imigrantes não-documentados, violência sexual e de género, violência sexual, conceito, causas, medidas preventivas, políticas Europeias.

Abstract

Background

Worldwide sexual and gender-based violence (SGBV) is a major public health problem. Refugees, asylum-seekers and undocumented migrants (RAUM) are vulnerable to SGBV. In the context of European asylum reception facilities, residents and professionals are exposed to both SGBV victimisation and perpetration.

Objectives

This thesis aims to contribute to expand the knowledge on SGBV conceptualisation, reported cases and causes of SGBV, preventive measures and predictive factors of SGBV in residents (refugees, AS and undocumented migrants) and professionals (services and health care providers), living and working in EARF.

Methods

We used data collected in the scope of the European Project "Senperforto", aiming to contribute to health protection and promotion of young refugees, asylum seekers and undocumented migrants by preventing SGBV in asylum reception facilities. Senperforto included a knowledge, attitudes and practices study, of residents and professionals, living and working in asylum reception facilities, in eight countries (Belgium, Greece, Hungary, Ireland, Malta, the Netherlands, Portugal, Spain). In total 600 interviews were conducted: 398 residents and 202 professionals. Data analysis included a principal component analysis (PCA), Chi-square or Fisher's exact test, and machine learning techniques.

Results

PCA results regarding SGBV knowledge for residents included 14 SGBV dimensions representing 83.56% of the total data variance, while for professionals it resulted in 17 SGBV dimensions representing 86.92% of the total data variance. For both groups, SGBV conceptualisation differed according to the host country, sex, age and marital status. For residents, specific differences related to the time of arrival to host country/Europe, and type of accommodation were found, while for professionals, differences were linked to legal status and education skills.

Participants reported 698 cases of SGBV (residents 328, professionals 370), comprising 1110 acts of multiple types of violence. The main assumed causes were frustration and stress (residents 23.6%, professionals 37.6%, p 0.008), and differences related to cultural background (residents 19.3%, professionals 20.3%, p 0.884). Respondents assumed these acts could be prevented by improving: SGBV prevention interventions (residents 31.5%, professionals 24.7%, p 0.293); living conditions (residents 21.7%, professionals 15.3%, p 0.232); and communication (residents 16.1%, professionals 28.2%, p 0.042). The majority of residents were not aware of existent preventable measures in the asylum facility (58.3%) or host country (72.4%). Proposed SGBV preventive measures included: SGBV sensitisation and awareness, improving living conditions and improving communication between residents and professionals.

Predictive models highlighted living conditions as an important feature to predict SGBV victimisation. Accordingly, the appropriated sanitary facilities, accommodation types, age of people with whom sanitary facilities are shared, type of occupation, immigration status and age were key variables to predict victimisation. Being a resident or a professional proved to have low predictive characteristic.

Conclusion

In European asylum reception facilities, primary prevention strategies should focus on harmonising SGBV conceptualisation addressing potential differences linked to socio-demographic characteristics. SGBV seems to be more gender-balanced than what is stereotyped, contributing to demonstrate that both residents and professionals, male and female are at risk of SGBV, reducing the stereotypes male/professionals – perpetrators, and female/residents – victims. As SGBV was highly reported, secondary prevention should focus on sensitisation, enhance living and working conditions, improve communication, gender-balanced and fair asylum procedure, and include residents and professionals as active voices in its' development process. Furthermore, we stress the urgency of tailored European policies and directives improving living and working conditions in reception facilities. Finally, we are convinced that Member States should benefit from capacity building and facilitating tools in order to implement those policies and directives.

Keywords: refugees, asylum-seekers, undocumented migrants, sexual and gender-based violence, sexual violence, conceptualisation, causes, preventive measures, European policies.

Index

Figure Index

Table Index

List of Acronyms

AS Asylum-seeker(s)

AUC Area Under the Curve

CAB Community Advisory Board

CEAS Common European Asylum System

CR Community Researchers

EARF European Asylum Reception Facilities

EP European Parliament

EU European Union

FGM Female Genital Mutilation

GBV Gender-based Violence

HIV Human Immunodeficiency Virus

HPV Human Papilloma Virus

IPV Intimate Partner Violence

KAP Knowledge, Attitude & Practice study/survey

LGBTI Lesbian, Gay, Bisexual, Transgender and Interserx

ML Machine Learning

MS Member States

MSF Médecins Sans Frontières

MSM man having sex with man

NGO Non-Governmental Organisation

PCA Principal Component Analysis

PC(s) Principal component(s)

PTSD Post Traumatic Stress Disorder

RAUM Refugees, asylum-seekers and undocumented migrants

ROC Receiving Operating Characteristics

SGBV Sexual and Gender-Based Violence

STI Sexually Transmitted Infection

SV Sexual Violence

SVM Support Vector Machine

UNHCR United Nations High Commissioner for Refugees

UNFPA United Nations Population Fund

VAW Violence Against Women

WHO World Health Organisation

CHAPTER 1. INTRODUCTION

1. INTRODUCTION

Refugees, asylum seekers (AS) and undocumented migrants (RAUM) are a vulnerable population to sexual and gender-based violence (SGBV), with unique physical, mental, economic, and social concerns (1–4). Since the Beijing Declaration in 1995 (5), the international community has assumed the need for a 'more holistic support for refugee and displaced women, including those who have suffered all forms of abuse, including gender-specific abuse, (…)' (p.216). Nowadays, we assist for the first time since the World War II, to a massive movement of people seeking international protection, fleeing conflict, persecution and SGBV (6). Many of these people intending to reach European countries are refugees, AS and undocumented migrants entitled to protection under the 1951 Refugee Convention and its 1967 Protocol (7).

SGBV is a major public health problem and a threat to human rights (4,8,9). In 1996, the World Health Assembly adopted a resolution declaring violence as a leading public health problem. In this declaration, the WHO urged member states to assess violence in their own country, to act and to communicate the magnitude of the problem. Specific requests have been made to promote public health interventions preventing and reducing the burden of violence such as:

a) The characterisation of all types of violence, their magnitude, causes and public health consequences, taking into account gender sensitivity;
b) To assess the types and effectiveness of measures and programmes to prevent violence and mitigate its effects;
c) To promote interventions aiming to prevent the problem worldwide;
d) To ensure the coordinated and active participation of WHO technical programmes;
e) To reinforce the collaboration between different stakeholders with governments, local authorities and other organizations of the United Nations system in planning, implementing, and monitoring violence prevention' programmes (10).

Moreover, to address the complexity of violence and its roots, a socio-ecological comprehensive and holistic approach, focusing on causes and prevention of violence is preconized (3).

The lately proactive measures taken worldwide relates to the 2030 Agenda for Sustainable Development (11), where violence prevention is highlighted as the 'key component for development and for improving quality of life in all parts of the world' (p.1). Moreover, the 2030 Agenda sustains a top priority to all member States to significantly reduce all forms of violence and related death rates everywhere (11).

Considering the recent migration trends, King & Lulle (12) states that the development of a long-term vision for European migration policies, evidence-based, and sustained in reliable and comparable data is called for. '(…) the EU needs a more coherent migration policy, and more high-quality research evidence of a large-scale comparative nature to help to improve policies directly related to the realities of migration in a pragmatic way.' (p.56). Moreover, de Haan affirms that research addressing violence should prioritise the in-depth understanding of the problem (13) in different settings and addressing vulnerable groups, elaborating effective preventive measures and responses (3). In this sense, our research intends to contribute to the development of evidence-based SGBV prevention measures, adopting a public health approach and socio-ecological model.

This doctoral thesis is organised into five chapters. Chapter 1 provides a literature review synthesising the state of the art regarding the main subjects, namely migration in the European context, conceptualisation of violence and SGBV, and finally SGBV and migration. Chapter 2 presents the general and specific objectives of this research. Chapter 3 describes the project on which this thesis is based – Senperforto Project, and the methods used to reach our specific objectives. Chapter 4 presents the results of this research. In chapter 5 we present the discussion and the main conclusions of this thesis.

1. Migration in the European context

Migration is considered a potential development tool for societies when based in humane, just and well-governed migration policies (14). It can lead people out of poverty, increase educational opportunities and labour demand, foster innovation and enable the exchange of knowledge, skills, and culture (14). However, migration can contribute to social disparities and inequalities in access to services, if international human rights are not ensured. Further, the social, cultural, economic and political context in which people' movements occurs, might largely determine whether migration translates into increased well-being and opportunities, or into deprivation and vulnerability (14).

According to the United Nations (15) migration can be defined as the 'movement of people, either within a country or across international borders. It includes all kinds of movements, irrespective of the drivers, duration and voluntary/involuntary nature. It encompasses economic migrants, distress migrants, internally displaced persons (IDPs), refugees and asylum seekers, returnees and people moving for other purposes, including for education and family reunification' (p.6).

Worldwide, international migration is a growing phenomenon. Every month the number of people trying to reach stable countries is increasing despite the conditions, means, and consequences. The UNHCR stated that by the end of 2015, 65.3 million of people were forced to displacement due to direct or undirected violence - persecution, conflict, generalized violence, SGBV or human rights violations (16), accounting for the highest number of displaced people since the World War II (16). This number has reached a new record in 2016, with 65.6 million of people being forcibly displaced worldwide. Regarding refugees' movement, a new record was reached with 22.5 million at the end of 2016 – 1.4 million were newly displaced (17). Yet, 40.3 million internally displaced people and 2.8 million AS were seeking international protection and waiting for their legal status to be defined (17).

In 2016, 55% of the refugee population was fleeing from three countries – Syrian Arab Republic, Afghanistan, and South Sudan. While the top five countries receiving the largest number of refugees were Turkey, Pakistan, Lebanon, Islamic Republic of Iran and Uganda (17). Regarding asylum claims, the number remains high with 2.0 million of new claims. The countries that received more applications were Germany, United States of America, Italy and Turkey (17).

Considering the specific context of the European Union, the data is similar to the worldwide population flow. In 2015, 950 469 refugees and migrants reached Europe, engaging in a dangerous journey by the Mediterranean Sea. These arrivals by Sea were mainly fleeing from Syrian Arab Republic (49%), Afghanistan (20%) and Iraq (8%) (6). In 2016, the main countries of origin for asylum applications were the same: Syria (334,820), Afghanistan (182,985) and Iraq (126,955). For the countries of reception, in the same year, Germany, Italy, France and Greece have registered an increase in claims, while Hungary, Sweden and Austria have registered a decrease (18). In the European Union, economic grown and political stability are believed to have a pull effect on immigrants (18). Nevertheless, the reasons related to migration can be a combination of economic, political and social factors, either in the country of origin – push factors or in the country of destination – pull factors (18).

1.1 Refugees, asylum-seekers, and migrants

Worldwide we assist to (forced) population flows. According to the UNESCO (19) population in movement is diverse and can be categorised into 'labour migrants (regular and irregular), smuggled migrants, trafficked persons, unaccompanied and separated children, environmental migrants, as well as refugees, asylum-seekers, and individuals seeking family reunification.' (p.9). Even if categories can be defined, the reasons for migration are mixed and can change throughout the migration journey (19).

Migration is not something new, as it has always existed. Even though, a clear and universally accepted definition for migrants is still inexistent. The concept of migrant is diverse and

differs according to the discipline where is used. Migrants can be defined as people who are moving from their country of origin/residence, freely or forced (20). This definition includes people who are forced to flee their country. However, the UNHCR preconizes that refugees are a separated group of migrants since they are fleeing persecution and seeking international protection (20). According to the definition set by 1951 Convention (7), Article 1º, a refugee is a person who '(…) owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country (…)' (p.14). In sum, a refugee is someone leaving his/her country against his/her own will. People who are eligible for refugee status are protected under the legal framework of 1951 Convention. An asylum seeker is a term used to define the status of a person seeking international protection, but whose claim for asylum has not yet been evaluated and conclusive. AS states for a person with pending legal status (16).

International migration comes in diverse forms and is not stable. These different concepts can be dynamic as a claim/application is approved or denied. Each legal status described (refugees, AS and undocumented migrants) can turn into each other (ex: AS to refugee status; or student migrant as economic migrant). In this sense, an AS can become a refugee or an irregular migrant (20). The migration process is related to legal decisions, broader social perception, and especially in reception countries, linked with value, utility, and worth of migrants (19).

Migration is one of the most important determinants of global health and social development (3,11,21,22). Moreover, migration is becoming one of the biggest challenges to the international community (23,24). Recognizing the challenge that migration represents for European countries health systems, the EU has developed both general and specific migration policies (12,25), which are addressed in the following point.

1.2 The Common European Asylum System

At the international level, the universal framework on refugees' protection is the 1951 Geneva Convention relating to the status of refugees and its 1967 Protocol (4,26). This Convention defines the refugee status and rights of displaced persons, as well as the legal obligations of States to protect them (4,26). The European Union recognized the freedom of movements and open borders to all people. Yet, this claims the need for a joint approach from all Member States ensuring high standards of protection of refugees in agreement with the 1951 Geneva Convention. In this sense, the EU has been moving towards common immigration policy, the so-called CEAS (Common European Asylum System) (27), aiming to develop a comprehensive and balanced European migration policy, based on solidarity and responsibility principles (28).

Since 1999, with the Tampere European Council, and 2004 with The Hague Programme, that an attempt and commitment to creating a CEAS has arisen. Member States agreed to share the same fundamental values and frameworks to guarantee equal standards to protect refugees, AS and vulnerable migrants. Several steps were taken to reach the current policy on asylum system. The first pillar of the CEAS was achieved with the adoption of important legal instruments including the Council Directive 2003/9/EC laying down minimum standards for the reception of asylum-seekers (29). A common policy was built upon existent directives and measures regarding asylum procedure (30). This common asylum system included: a uniform status of asylum and subsidiary protection, a common system of temporary protection, a common procedures for the granting and withdrawing of asylum or subsidiary protection, criteria and mechanisms for determining which MS is responsible for considering an application, standards regarding reception conditions, and partnership with third countries (30). In 2009, with the Stockholm Program implemented during 2010-2014, the objective was re-enforced, aiming to achieve 'a common area of protection and solidarity based on a common asylum procedure and a uniform status for those granted international protection' (30): p.4) The programme defined relevant guidelines for legislative and operational procedures regarding the areas of freedom, security and justice (31).

Another important mark was the Treaty of Lisbon (2008), where measures on asylum were improved into a common policy. In this sense, the common system should include: a uniform status of asylum, a uniform status of subsidiary protection, a common system of temporary protection, common procedures for the granting and withdrawing of uniform asylum or subsidiary protection status, criteria and mechanisms for determining which Member State is responsible for considering an application, standards concerning reception conditions, partnership and cooperation with third countries (30).

In the last years, to face the challenge that migration represents and to achieve a CEAS, the EU has defined concrete directives, resolutions, regulations, norms and policies (12). However, the implementation is still some way off and requires more coherent application within countries (12). The lack of a concrete scope in covering the complexity of the problem was defined as an obstacle to prevention and response policies (32).

Migration in the European context represents a challenge to European countries, with refugees, asylum-seekers and migrants exposed to a high number of factors that can induce vulnerability. The CEAS is a framework responsible to protect refugees, AS and undocumented migrants. Considering that violence and sexual and gender-based violence are a worldwide public health problem of which these communities are exposed, we will describe its conceptualisation in what follows.

2. Conceptualisation of Sexual and Gender-Based Violence

2.1 Concept of violence

According to de Hann (13) the 'Scientific understanding of human violence is one of the most urgent tasks of our time' (p.27). The concept of violence is evolving with the development of our society. From a sociologic perspective, Galtung (33) affirms that 'violence is present when human beings are being influenced so that their actual somatic and mental realisations are below their potential realisations. When the potential is higher than the actual is by definition avoidable, and when it is avoidable, then violence is present.' (p.168). According to the same author, violence can be personal or structural, physical or psychological, manifest or latent, intended or not intended and finally, with objects or without objects. The typology of violence, according to Galtung (33) can be seen in figure 1.

Figure 1. *A Typology of Violence*

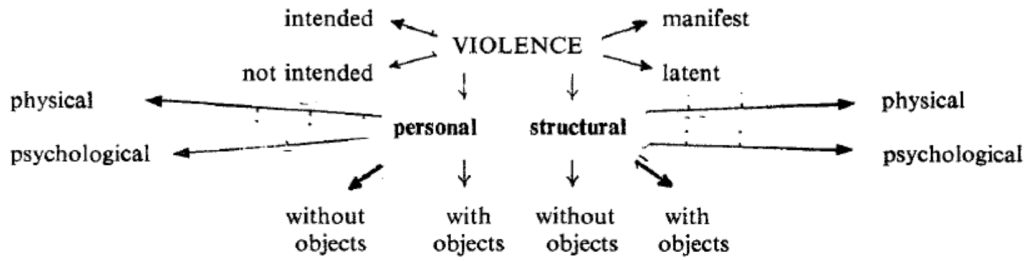

Figure 1: A typology of Violence. Adapted from Galtung (33).

Another common definition of violence is given from the legal perspective. In this sense, violence can be described as 'the actual or threatened, knowing or intentional application of statutory impermissible physical force by one person directly against one or more other persons outside the contexts both of formal institutional or organizational structures and of civil or otherwise collective disorders and movements for the purpose of securing some end against the will or without the consent of the other person or persons' (Weiner, 1989: 37–38 cited by 14: p.27).

Definitions of violence tend to be related to the use of force and aggressive behaviour directed to one person, forbidden and punishable by law (13,34). This definition is considered a matter of 'law and order' and not approachable by health professionals (3). Several authors recognised that violence could be defined according to two different approaches. The first definition comprises a narrow concept of violence: the intentional act of excessive or destructive force (the Minimalist Conception of Violence), the second, defines violence as a violation of rights, supporting a broader conception of violence (the Comprehensive Conception of Violence) (35).

Violence is considered multifaceted once there are different forms of violence, which are conducted in different contexts and can be studied by diverse actors' perspective: (i.e. perpetrator, the victim, third party, neutral observer) (Haan, 2008). The same author affirms that violence is socially constructed because who and what is considered violence varies according to specific determinants such as socio-cultural, historical conditions and legal frameworks.

Definitions of violence should be comprehensive in order to recognize the multiple forms that violence may take, the different contexts in which violence may occur, and the interaction between forms and contexts (36). Even though different perspectives and definitions of violence can be found in the literature, conceptualisation of violence within public health is growing place through an environmental and behaviour-related perspective (3). Considering that, we have communicable diseases and violence epidemics that we assist nowadays, we have, in another side, non-communicable diseases, which results from past and cumulative risk factors that can be preventable and modifiable (37). The authors argued that violence performs in similar ways with non-communicable diseases (37). In this sense, due to the rising burden of violence, some authors propose a change in scope of public health, recognizing the influence of social justice, economics, and globalization as possible roots to premature death and ill-health, where violence could fit (37). The WHO in its first World Report on Violence and Health (3) highlighted the need to address violence from a broad public health perspective and in line with non-communicable diseases – 'The focus is

broadening, with increasing emphasis on prevention and addressing the root causes of violence.' (p.1). To note, that public health' approach to violence should be considered a complementary science to criminology, justice, human rights protection (…) if we intend to tackle down the burden induced by violence in our society (3).

Considering the definition given by the WHO (3) violence can be defined as 'The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either result in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation.' (p.4). This concept is a matter of judgment, affected by cultural beliefs, social norms and values. The concept of violence can be categorized into self-directed violence (suicide or self-abuse), interpersonal violence (family/partner or community) and collective violence (social, political or economic), according to the person who commits the violent act, then these three categories are subdivided according to the nature of violence – physical, sexual, psychological or deprivation/neglect (3) (see Figure 2).

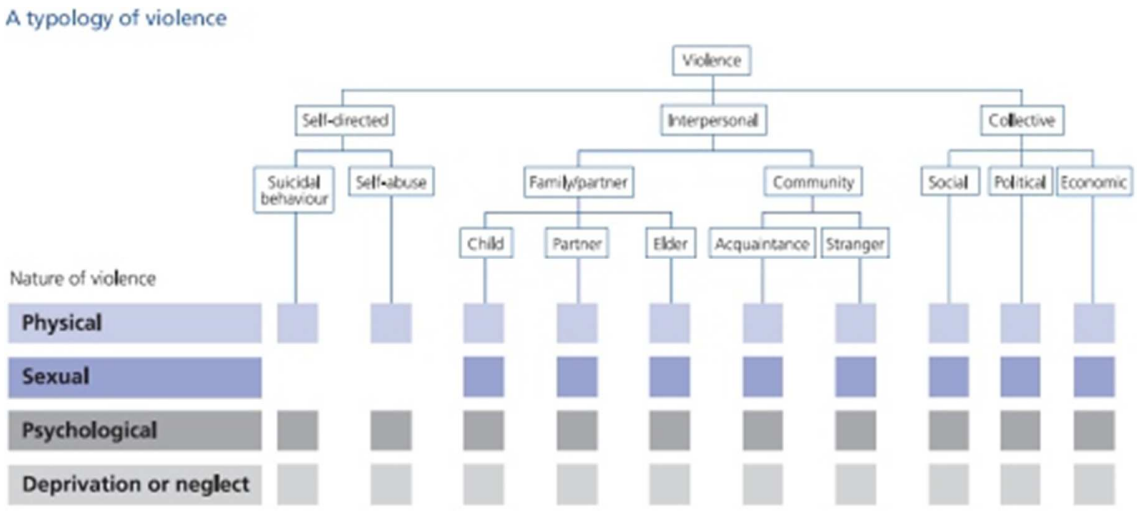

Figure 2: Typology of Violence, adapted from WHO (3).

2.2 Defining Sexual and Gender-Based Violence

SGBV is considered a major public health issue and a threat to human rights (3,4,38). UNHCR (4) stated that 'This kind of violence perpetuates the stereotyping of gender roles that denies human dignity of the individual and stymies human development.' (p.7). The importance of understanding, preventing and responding to SGBV is more than another topic concerning public health, it is a matter of violation of innumerous human rights of international concern:

- 'The right to life, liberty and security of the person;
- The right to the highest attainable standard of physical and mental health;
- The right to freedom from torture or cruel, inhuman, or degrading treatment or punishment;
- The right to freedom of movement, opinion, expression, and association;
- The right to enter into marriage with free and full consent and the entitlement to equal rights to marriage, during marriage and at its dissolution;
- The right to education, social security and personal development;
- The right to cultural, political and public participation, equal access to public services, work and equal pay for equal work.' (4: p.8).

Internationally, different terms are used to address SGBV. In the following paragraphs, we will address the definitions of violence against women and girls, sexual violence (SV), gender-based violence and finally, SGBV. Even though categorisation of violence is essential, research should take into consideration that they are not exclusive, but they relate to each other (39).

Violence against women is defined as any act of gender-based violence that can result in physical, sexual or psychological/emotional harm or suffering directed to a girl/woman. (40). Moreover, in the Declaration on the Elimination of Violence against Women (40), violence is considered a 'manifestation of historically unequal power relations between men and women, which have led to the domination over and discrimination against women by men

and to the prevention of the full advancement of women.' (p.1). This type of violence, based on gender discrimination encourages other forms of violence against women and girls and perpetuates the acceptance and invisibility of this type of violence (38). In this sense, victims/survivors are afraid and discouraged from speaking out, as aggressors are not held accountable for their acts (38).

According to Basile et al (41), SV comprises 'a sexual act that is committed or attempted by another person without the freely given consent of the victim or against someone who is unable to consent or refuse.' (p.11). It includes more than rape or sexual assault, it includes acts of physical and psychological abuse, trafficking and other forms of abuse and sexual exploitation (4,5). Moreover, the WHO described the following SV acts: rape, sexual harassment, sexual abuse of children, forced prostitution and sex trafficking, child marriage, and violent acts against the sexual integrity of women, including female genital mutilation and obligatory inspections for virginity (3).

The Beijing Declaration (5) stated that GBV regards any act of 'battering and other domestic violence, sexual abuse, sexual slavery and exploitation, international trafficking in women and children, forced prostitution and sexual harassment, as well as violence against women resulting from cultural prejudice, racism and racial discrimination, xenophobia, pornography, ethnic cleansing, armed conflict, foreign occupation, religious and anti-religious extremism and terrorism' (p.137). Any of these acts are a threat to human live and human dignity, therefore must be condemned and eliminated (5). GBV is defined as a violent behaviour direct to one person or a group of persons based on their gender and based on unequal power relations. It includes 'acts that inflict physical, mental or sexual harm or suffering, threat of such acts, coercion and other deprivations of liberty' (4: p.10).

The recent guidelines on GBV prevention, proposed by Inter-Agency Standing Committee defined GBV as any harmful act that is perpetrated against a person's will, and that is based on gender differences. These acts can occur in private or public context and go beyond physical harm to sexual, mental harm or suffering, threats, coercion, and other deprivations of liberty (38). The term GBV is also used to address and highlight violence against men and

boys, used with a gender-based purpose. This type of violence reinforces gender inequitable norms of males and females (e.g. SV committed in armed conflict aimed at emasculating or feminising the enemy) (38).

Nevertheless, GBV also refers to violence perpetrated against lesbian, gay, bisexual, transgender and intersex (LGBTI) persons (38). This violence intents to punish those persons as if they were defying gender norms (42). To note that LGBTI is considered a vulnerable group to SGBV (42).

In the context of (forced) migration, the UNHCR defined SGBV as any act of violence 'directly against a person on the basis of gender or sex. It includes acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion and other deprivations of liberty' (4: p.11). Five types of violence can be described when we speak of violence towards (forced) migrants: physical, psychological, sexual, socio-economic violence and harmful cultural practices (4). According to the definition and types of SGBV defined by UNHCR (4), different acts of violence have been described:

- Physical Violence: beating, kicking, burning, maiming or killing, with or without weapons; trafficking, forced labour or services, slavery, servitude or removal of organs;
- Psychological Violence: abuse/humiliation or confinement;
- Sexual Violence: rape and marital rape; child sexual abuse, defilement and incest; forced sodomy/anal rape; attempted rape; sexual abuse; sexual exploitation; forced prostitution; sexual harassment; sexual violence as a weapon of war and torture;
- Socio-economic Violence: discrimination and/or denial of opportunities, services; social exclusion/ostracism based on sexual orientation; obstructive legislative practice;

- Harmful Cultural Practices: female genital mutilation; early marriage; forced marriage; honour killing and maiming; infanticide and or neglect; denial of education for girls and women.

Focusing on sexual violence it became pertinent to distinguish between sexual harassment, sexual abuse or rape, which depend on the level of physical contact.

Sexual harassment stands for unwelcome acts, usually repeated and unreciprocated sexual advance, unsolicited sexual attention, demand for sexual favours, sexual innuendo, display of pornographic material as being forced to watch pornographic material or being forced to undress in a sexual context (4). It includes acts without physical contact.

Sexual abuse is the 'actual or threatened physical intrusion of a sexual nature, including inappropriate touching, by force or under unequal or coercive conditions.' (4: p.16). Sexual abuse includes acts with physical contact but no penetration.

Rape stands for 'The invasion of any part of the body of the victim or of the perpetrator with a sexual organ, or of the anal or genital opening of the victim with any object or any other part of the body by force, threat of force, coercion, taking advantage of a coercive environment, or against a person incapable of giving genuine consent.'(4: p.16). It includes all acts with penetration with a body part or an object.

Aligned with this definition, the UNHCR described six possible profiles of perpetrators of SGBV: intimate partners; family members, close relatives and friends; influential community members; security forces and soldiers, including peacekeepers; humanitarian aid workers; institutions. The different and multi profiles of aggressors should be taken into consideration while addressing and defining preventive measures of SGBV (4).

The definition presented by UNHCR is internationally used to address research on violence among refugees, AS and vulnerable migrants (4), once it comprises a broad definition of SGBV, as well as, five different types of violence – physical, psychological, sexual, socio-economic and harmful cultural practices.

The current literature proposes different definitions of SGBV. In this sense, it becomes pertinent to understand what the SGBV conceptualisation of vulnerable population, such as refugees, AS and undocumented migrants is compared to the SGBV conceptualisation of professionals working with these populations? Is their conceptualisation aligned with UNHCR SGBV definition?

3. Sexual and Gender-based Violence and Migration

3.1 The state of Violence and Sexual and Gender-based Violence in the European Union

Violence such as physical, sexual and psychological abuse occurs every day in every country, inducing consequences that goes beyond the initial abuse to permanent consequences – injuries, mental health and reproductive health problems, sexually transmitted diseases (43). Global and national accurate data on the magnitude of violence is scarce and probably underestimated (3,44). Yet, in Europe, a country-wise distribution of SGBV, in refugees, AS and undocumented migrants, is still inexistent (4,45).

3.1.1 Violence

Data from WHO (2002) stated that more than 1.6 million of people lost their lives due to violence in 2000: almost half these deaths were suicide, nearly a third homicides and a fifth were war-related. Worldwide, each year, it is estimated that 1.3 million people die due to violence, accounting for 2.5% of mortality (8). Regarding the nature of violence, the global prevalence of physical and/or sexual intimate partner violence among all ever-partnered women was 30.0%, and 25% for European region (46). The recent report of WHO on violence prevention demonstrated that: ¼ of all adults reported physical abuse as children; 1 in 5 women reported sexual abuse as a child; 1 in 3 women has been a victim of physical or sexual violence by an intimate partner (8).

Stöckl et al. (2013) estimated that women had six times more probability of risk of homicide by an intimate partner than men, while IPV was responsible for 13.5% of homicides of both women and men. The same authors found a prevalence of 38.6% of female homicide committed by an intimate partner (6.3% for men) (47). Furthermore, one in three women is expected to experience psychological abusive behaviour, being the (ex)partner the

perpetrator (48). The same study found that during childhood, one in three women has been a victim of physical or sexual violence (48).

3.1.2 Sexual and Gender-Based Violence

Addressing data on SV, among the overall population, 35.6% of women reported being exposed to SV during their lifetime (46); about 20% of women and 5-10% of men reported having been sexually abused during childhood (44). Recent data revealed that 1 in 20 women had been raped and 55% undergo sexual harassment (48). Rape is frequently used as a war weapon; statistics estimates that in the conflict in Bosnia and Herzegovina 10 000 to 60 000 women were raped by soldiers (3). Regarding genital mutilation, approximately 500 000 women and girls in the EU have been exposed to this type of violence (49). Data regarding sexual aggression among young adults, in Europe, reported high incidence rates. In this study, the highest one-year prevalence rate of female victimisation or since the age of consent was found in the Netherlands, Germany, Sweden, Spain, Finland and Greece, in opposition with Belgium, Portugal, Malta and Hungary. Even though this study assesses the available evidence of SGBV and compares studies with a different methodology, sample composition and sexual aggression definition, it gives a clear picture of the dimension of SGBV problematic in Europe (50).

3.1.3 Sexual and Gender-based Violence and Migration

Migration can lead to high social costs and inequities, negatively affecting development and increasing vulnerability, contributing to the violation of migrant rights (14). In the context of (forced) migration, migrants, refugees and AS are described in the literature as a vulnerable population to violence with unique physical, mental, economic, and social characteristics (1,2). Recent reports and research from EU countries acknowledge the high vulnerability of migrants to violence. A study conducted in Belgium and the Netherlands concerning refugees, AS and undocumented migrants, found a high prevalence of direct or indirect

violence: 87/223 respondents were personally victimised, and 79 respondents knew at least of one close person who was victimised upon arrival to Europe. To highlight that the respondents described 389 acts of SGBV, regardless the origin, gender, age and status group interviewed (51). In Hungary-Servia border, UNHCR and the NGO Médecins sans Frontières (MSF) have documented several cases of individual violence, being committed by perpetrators in uniforms (52). The study conducted in MSF clinics in Servia included 992 migrants/refugees, which of those 270 (27%) had experienced violent events during their journey. From those violent acts reported, more than half (n=141,52%) were perpetrated by State authorities (53). Data from a recent study conducted in Portugal stated that approximately 15% of immigrants living in Lisbon district were victims of violence in the past year (54).

Considering the nature of violence being SV and/or SGBV, findings of a systematic review and meta-analysis suggested that approximately one in five refugees or displaced women in complex humanitarian settings experienced SV (55). Authors also mention the importance of considering that SV is often under-reported, due to social stigma, shame and fear of reprisal. Another study referent to African migrants in Germany, disclosed a prevalence of 16% of women reporting a history of SV and men reporting 6%, to focus that the authors considered the possibility of SV being underreported due to fear and stigma (56). A study conducted in UK clinic observed a 44.2% prevalence of reported SV in a convenience sample of 43 AS (48.8% female) compared to no reports by a sample of 43 British patients (age- and gender-matched sample) (57). In the same study, results disaggregated by gender reported 76.2% prevalence of SV among female AS and 13.6% among male AS, suggesting that women AS are more exposed to SV when compared to men (57). A recent study stated that sub-Saharan migrants in Morocco as well as during their migration journey, were vulnerable to violence, with 90% of the respondents having reported at least one type of violence, 45 % of which regarded sexual violence (58).

Research has shown that the restricted legal status is a central determinant of violence among refugees, AS and undocumented migrants (32). Their legal status impedes their active

participation and inclusion in society, puts them at risk of exploitation and abuse, and obstructs their access to health care (2,32,59). Yet, the migration process *as such*, forced or voluntary is another potential predictor of violence. In a study conducted among Somali refugee's women living in Sweden, the majority of respondents have related their fleeing with war-related violence, and the subsequent vulnerability of direct forms of violence and violation of their sexual and reproductive health and rights (60). The authors enhanced the risk of pre-migration victimisation with potential consequences on health, namely sexual and reproductive health. Concluding with the need of overlooking for violence consequences in post-migration health care centres (60).

Women and girls during the migration journey are considered to have special requirements (61). During displacement, they tend to lack access to basic healthcare services, including sexual and reproductive health (61). Moreover, SGBV is known to be a persistent threat to women and girls on route to Europe (61). Nevertheless, recent studies demonstrated that SGBV vulnerability of men and boys is also real, however with lower reporting (45). Many others determinants can be associated with violence such as individual and interpersonal determinants, socio-demographic, socio-economic factors (46,51).

In sum, we emphasize that violence, and more specifically SGBV, induces a high burden of mortality and morbidity in refugees, AS and undocumented migrants, and the tendency is this burden to rise over the coming years. Acknowledging the migration process and legal status as majors' health determinants for victimisation, and the constant increasing trend of migration – forced and volunteer, we reinforce the demand for more research on the subject. Migration is considered a predictor of SGBV, and migrants are *as such* more vulnerable to SGBV. This subject will be studied in-depth in the heading addressing the social determinants of SGBV among migrants. First we will address the main European policies on SGBV in vulnerable migrants.

3.2 Contextualisation of European policies addressing Sexual and Gender-Based Violence in vulnerable migrants

Considering the high incidence of SGBV reported among and towards refugees, AS and undocumented migrants (2,4,51,53,62), it became pertinent to understand how the current European frameworks address prevention and response to SGBV. The following paragraphs present the more relevant European directives, regulations or conventions addressing SGBV in vulnerable migrants.

In 2008, the Treaty of Lisbon acknowledged and harmonised in the EU criminal law the trafficking of human beings and sexual exploitation of women (27,30,32). Moreover, the Stockholm Program emphasised that all forms of discrimination are unacceptable and that action should be taken to prevent violence against vulnerable groups. Also, it recognised women as being especially vulnerable to gender-based violence and FGM' victims as a vulnerable group in need of greater (legal) protection, in the Member States where they were not nationals or residents (31,32).

In 2009, the European Parliament Resolution on the elimination of violence against women (63) stated the specific vulnerabilities to all forms of violence of 'women belonging to minorities, female immigrants, female refugees, women living in poverty in rural or isolated communities, women in prison or other institutions, girls, homosexual women, women with disabilities, and older women' (p.5). This Resolution called all Member States for urgent action on national laws, policies and preventive measures to prevent and eliminate all forms of violence against women and vulnerable groups (63). In 2010, another Resolution on the social integration of women belonging to ethnic minority groups was set, calling to urgent measures to prevent GBV and protect women regardless their legal status, race, age, sexual orientation, ethnic origin or religion (64). The same year, LGBT migrants started to be considered in recommendations regarding migration and/or SV, as vulnerable persons for discrimination all across Europe (32,65).

The Convention of Istanbul, held in 2011, is a mark to a legal framework at a pan-European level to protect women against all forms of violence, and prevent, prosecute and eliminate

violence against women and domestic violence (66). The Convention is ratified by 28 European countries, including the EU itself. Members are called to ensure provisions of adequate medical, psychological, legal and forensic care to all victims of SV. The Council of Europe (66) stated that 'Parties shall take the necessary legislative or other measures to provide for the setting up of appropriate, easily accessible rape crisis or sexual violence referral centres for victims in sufficient numbers to provide for medical and forensic examination, trauma support and counselling for victims.' (p.8). Since the signature and ratification of the Convention, MS have achieved progress towards prevention of violence against women, but gaps are also a reality. The main key findings of an evaluation study conducted by Christofi et al (67), are listed below:

a) 'Member States have made considerable progress in addressing violence against women by adopting legal measures. Their approaches vary, however, and not all forms of violence covered by the Istanbul Convention are criminalised by national legislation.

b) Most Member States have adopted policy measures to tackle violence against women via strategies/national action plans. Few, however, have evaluation reports to help to identify achievements and/or obstacles.

c) Availability and access to reliable, effective and free victim support services are essential for victims of violence against women. In general, Member States offer a wide range of support services for victims, including shelters and helplines. However, only four countries exceed the minimum number of shelters for adequate accommodation and support of women victim of violence, and few Member States have specialised support services for victims of this kind of violence.

d) Member States collect a wide variety of data on violence against women through surveys and administrative data. However, important gaps exist, including: lack of compilation of data at national level from all relevant sectors, especially from health

> institutions; lack of recording of victim information as statistical data by judicial authorities; lack of publication of detailed data on violence against women, using coherent definitions and categories across sectors; lack of databases allowing for combinations of denominators for different units of measurement.' (p.18).

The Directive (2011/95/EU) on standards for the qualification of third-country nationals or stateless persons as beneficiaries of international protection, for a uniform status for refugees or for persons eligible for subsidiary protection, and for the content of the protection granted, referred the need for taking into consideration the vulnerability of victims of rape and other forms of SV, while assessing asylum claims (68).

From 2011 on, different EU Directives have been issued on the status of refugees, AS and undocumented migrants and SGBV. The Directive (2011/95/EU) on standards for the qualification of third-country nationals or stateless persons as beneficiaries of international protection, for a uniform status for refugees or for persons eligible for subsidiary protection, and for the content of the protection granted, referred the need for taking into consideration the vulnerability of victims of rape and other forms of SV, while assessing asylum claims (68). Further, in 2012, the Directive 2012/29/EU establishing minimum standards on the rights, support, and protection of victims of crime, and replacing Council Framework Decision 2001/220/JHA, recognised sexual assault and harassment as forms of SGBV, rather than only rape, trafficking and FGM (69).

In 2013, a recast of the Council Directive 2003/9/EC laying down minimum standards for the reception of asylum-seekers (29) of 27 January 2003 had been made, with specific and clarifying changes. The in vigour Council Directive laying down standards for the reception of applicants for international protection (2013/33/EU) calls all Member States to take adequate preventive measures in reception facilities to tackle down SV, including sexual assault and harassment. Member States should ensure adequate medical and psychological treatment to persons who have been victims of torture, rape or other severe acts of violence (70). Specifically, to professionals working with victims of torture, rape or other acts of violence, the Directive emphasised the need for adequate and continuous training (70).

The Directive 2013/32/EU on common procedures for granting and withdrawing international protection recognised the increased vulnerability due to gender identity and/or sexual orientation. Further, it stated that special procedures should be in place for all victims of SV, throughout the asylum procedure (71). The same year, the European Parliament resolution on the situation of unaccompanied minors in the EU (2012/2263) recognised minors, especially girls, as particularly vulnerable to trafficking for sexual exploitation and the further need of providing adequate medical and psychological care to the victims.

In sum, the EU policies framework still addresses SV towards migrants as something that is only happening during the migration journey, the country of origin and/or due to cultural issues (32). Notwithstanding the current EU policies frameworks lack on clear scope addressing SV towards migrants, contributing to mitigate the real dimension of the problem (32), and it lacks on consistent application and evaluation of the CEAS (12).

3.3 Social Determinants of Sexual and Gender-based Violence

Social determinants of health are conditions in which people are born, grow, live, work and age, including health system (72). Such determinants – age, gender, sexual orientation, prior victimisation, exposure to violence and other trauma (…) – can determine the health-ill process of a person and/or community. Furthermore, personal behaviour towards health and illness are highly influenced by ethnicity and cultural habits (22). According to Dunn and Dijck (73) social and economic characteristics of individuals and populations are the most important antecedents of human health, rather than medical care inputs and health attitudes. In this sense, social determinants of health can be a combination of factors that affect the health of a person, family or community. To a large extent, factors such as living conditions, environment, genetics, income and education level, and relationships and family have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less impact (74).

The socio-ecological model

SGBV is a complex phenomenon (8), thus linked with different factors: biological, social, cultural, economic and political (3). To understand the complexity of violence and/or SGBV we need to understand its roots, diversity and interaction of the problematic. In this sense, the ecological model, firstly described by Bronfenbrenner in 1979, proposes four interactive levels that influence behaviour and can increase the risk of committing or being a victim of violence (3,4) (see Figure 3). The ecological model is proposed by WHO and UNHCR to understand the roots of violence, prevent violence and respond to SGBV. The individual-level includes biological and personal history facts that influence the knowledge, access to, and control of resources and attitudes that will determine whether a person will become a victim or perpetrator of violence. The second level represents the relationships in the immediate context where violence can occur and its influence on becoming a victim or perpetrator, such as family, friends, intimate partners (…). Community represents the third level related to the dynamics between and among people, where social relationships happen, considering that the characteristics of these settings can increase the risk for violence. The four-level – society – looks at the factors, cultural and social norms, legal and political frameworks that help to trigger violence.

In the following paragraphs we will address social determinants of SGBV separately. Notwithstanding, social determinants should be considered dynamic and interactive at all four levels.

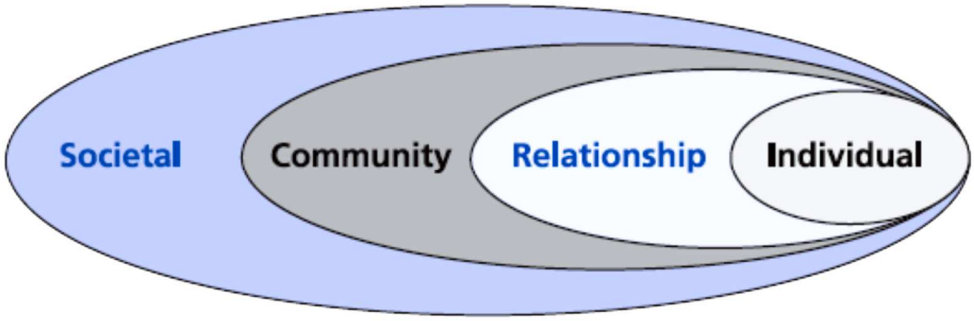

Figure 3: Ecological Model for understanding violence, adapted from World Health Organization (3).

Individual level

At the individual level, the Beijing Declaration (5) considers gender a factor of vulnerability to violence: 'Adolescent girls are both biologically and psychosocially more vulnerable than boys to sexual abuse, violence and prostitution, and to the consequences of unprotected and premature sexual relations.' (p.57). Since 1994, at the International Conference on Population and Development (76), that women's vulnerability has been assumed from an individual to societal perspective; worldwide, women are exposed to different threats in their lives, health and well-being, due to the lack of power, gender inequities/power relations, lower education and overload or work (76). Girls and women are at major risk of being victims of sexual and gender-based violence (77) with the male being the primary perpetrators (38). More recently, a study with data from 44 countries affirmed that gender inequality at the country level is exposing women to violence (78). Indeed, research demonstrated that SGBV vulnerability, especially of women and girls, can increase due to inadequate living conditions, overcrowding at reception facilities, lack of gender-sensitive in asylum procedures and at reception facilities (6,79,80).

Even though SV is more frequently reported by women and girls, being this violence perpetrated by men and boys, rape of men by men, and men forced into sex is also a reality (3). In general, only 30% of victims of violence denounce the most serious incidents to

authorities (48). If we consider interpersonal violence, men bear the burden of homicide, with 82% of all homicide victims being men (8).

Children and adolescent are more vulnerable to violence. According to the WHO (2002), children and refugees are more susceptible to collective violence during conflict setting. Sexual abuse during childhood can be associated with major social and mental health problems, conflictive parental practices and with intergenerational transmission of violence (81). Furthermore, a person that has been abused during childhood is more likely to engage in aggressive and antisocial behaviors, in a later stage of her/his life (3,8,81–83). Or, in another hand, a person with inadequate parenting is more likely to suffer child maltreatment, youth violence and/or intimate partner and sexual violence against women (8). Finally, evidence exists that child maltreatment is related to future risk of sexual aggression (84).

Alcohol and substance abuse have been associated with sexually aggressive behaviour (51,85–87). A systematic review examining the relationship between alcohol consumption and men's sexual aggression perpetration concluded that men who drink heavily or compulsive drink, and drink before dates are more prone to commit sexual aggression compared with men who drink in small quantities (85).

Interpersonal level

At the interpersonal level, an important determinant of SGBV is related with interpersonal relationships, namely exposure to parental IPV in childhood (84). Witnessing physical abuse between parents/guardians during childhood is considered a determinant for later sexual aggression. The study conducted by Sutton & Simons (88) found that exposure to physical and emotional violent behaviour between parents accounted for sexual assault perpetration by men and victimisation among women. Even though, SGBV can occur in public context, the close family context, peers, closed community, and society are the main setting where victimisation takes place (4).

Perpetrators of SGBV are more likely to be known by the victims (46). Specific groups of population, as migrants and impoverished people, tend to be more vulnerable to SGBV and are equally victimised by strangers, persons in authority and/or people assigned to their protection (51).

Community and organisational level

Country income level is also considered a determinant of vulnerability for violence, specifically for violent death. A change in socio-economic status, due to migration process can contribute to violence (89). People with lower socioeconomic status and people in low and middle-income countries are more than twice at risk of violent death than those living in high-income countries (3). Also, an adjustment in social support and network, linked with economic constraints leads to stress, conflict and violence (89). Specifically to women, economic empowerment is a potential determinant to increase or decrease the risk of being abused (90). In a study comparing native women and immigrant exposed to IPV, findings suggest that having paid work is considered a protective factor of IPV for native women, but not for immigrant women (91). Moreover, another study affirms that women who have access to better paid-jobs, increases the risks of being victims of IPV, due to a scenario where husbands power and authority decreases (89).

Widespread gender discrimination and inequalities often contribute to women and girls vulnerability to different forms of GBV (38). Moreover, traditional root or societies with rigid gender roles and hostile masculinity are consistently related to sexual assault perpetration risk among men (84). A study conducted with an online community sample of young men concluded that hostile masculinity, impersonal sexual behaviour and attitudes, and substance use variables were important predictors of sexual assault perpetration (92). In this sense, ‘growing up in a violent or broken home, substance abuse, social isolation, rigid gender roles, poverty and income inequality, as well as personal characteristics such as poor behavioural control and low self-esteem’ should be considered as social determinants of violence (3: p.19). Moreover, a perceived approval of sexual perpetration among male peers

and social networks is also referred as a determinant for SV (84). Evidence has shown that perceiving that peers and social network approves forced sex and/or sexual assault is a risk factor to sexual aggression among young college men (93).

Societal level

An important and potential predictor of violence is the migration process. During the period of migration itself – border-crossing – violence is being highly reported (89). Furthermore, pre-exposure to violence, trauma and war, is considered a predictor of future violent behaviour (89). Regarding women, the migration process is considered a determinant to IPV, due to possible changes in power dynamics in their intimate relationship (94,95). In this sense, predictors are related with economic difficulties, low educational levels, being older and being separated or divorced (91,96). In the context of post-migration, Guruge (95) identified different social and economic obstacles which contribute to intimate partner violence, such as social isolation, poor access to employment and fair wages for women (and their husbands), linguistic barriers, difficulty accessing safe housing, social and geographical adjustments, welfare surveillance, and systemic racism embedded within health and social services'(p.45). Moreover, Guruge et al (89) considers that '(a) experiences of violence in the pre-migration context and during border crossing; (b) gender inequity in the marital institution; (c) changes in social networks and supports; and (d) changes in socioeconomic status and privilege' (p.103) are predictors of violence, specifically, intimate male partner violence.

The migration status *as such*, such as refugee, AS or undocumented, is also considered a determinant of violence. Vulnerable communities – migrants, refugees, asylum seekers and undocumented migrants, can have life events that induce susceptibility to their health (22). Since the 1951 Convention relating to the Status of Refugees and its 1967 Protocol, that 148 countries recognised that refugees are among the most vulnerable persons in the world, suffering a violation of different human rights (7). Violence is not neutral, and research shows that people with lower socioeconomic status, such as migrants, refugees, IDP's and

undocumented migrants are at major risk of violence (3,4). Related to the migration status, the process of acculturation is also considered a determinant of violence. According to Casey & Masters (84) acculturation is defined as the 'process in which two or more cultures interact, and members of each culture must contend with the degree to which they retain their own cultural practices and/or adopt aspects of other cultural beliefs and practices' (p.19). During this process, findings suggest that migrants can have a higher or lower vulnerability to violence (84,91,97). Thus, acculturation can be considered a risk or protective factor for SV (84).

A review addressing risk and protective factors adolescent dating violence perpetration, including SV (87) concluded that empathy, social support, and school connectedness or academic achievement works as a protective factor violence perpetration.

Nevertheless, other social determinants can be associated with violence. The WHO report on violence prevention (8) identified 'weak governance, poor rule of law; cultural, social and gender norms; unemployment; income and gender inequality; rapid social change; and limited educational opportunities' (p.33) as factors that can be related with violent behaviours (8).

Several determinants can be associated with SGBV in vulnerable migrants, such as individual and interpersonal determinants, socio-demographic and socio-economic factors (46,51). Figure 4 represents an adaptation of the ecological model to sexual violence in refugees, AS and undocumented migrants (2).

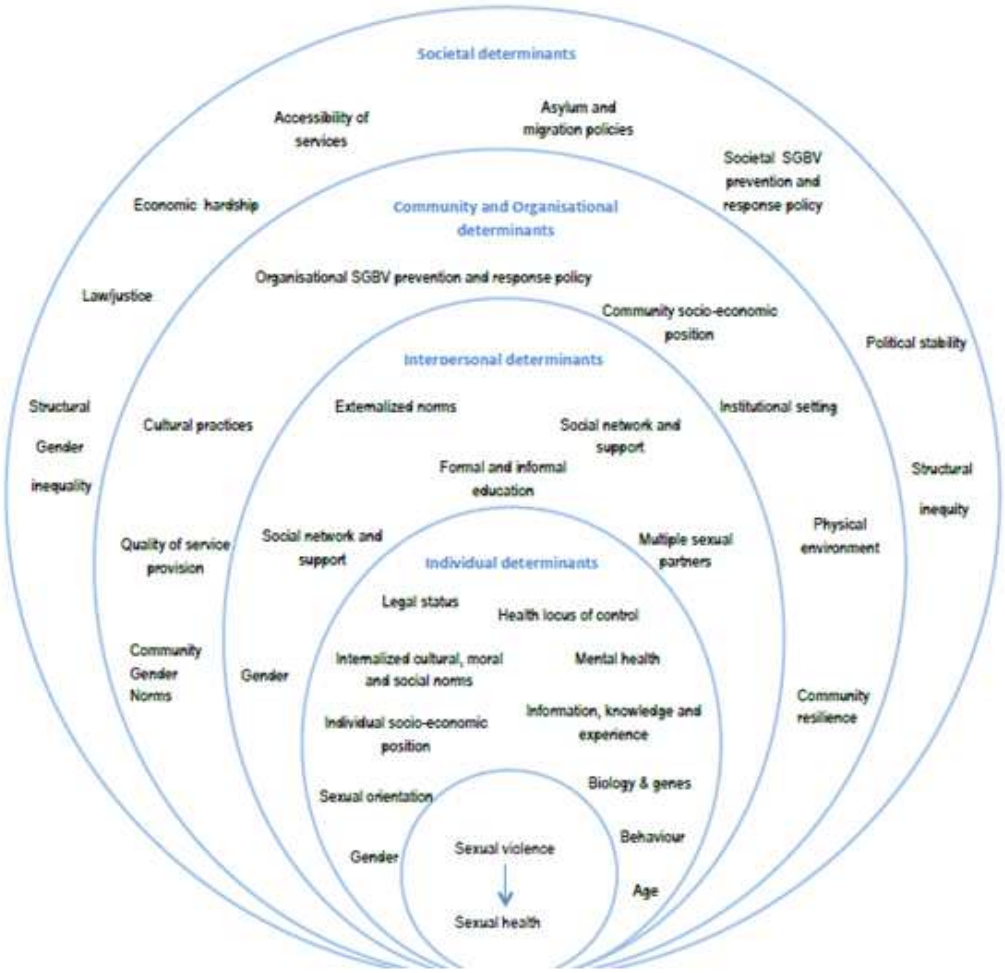

Figure 4: The ecological model adapted to sexual violence in refugees, AS and undocumented migrants (2).

Violence is multifaceted, there are different types of violence, which are perpetuated in different contexts, at any time, can be direct to one person, a group or can be used as a weapon of war, and can be studied by diverse actor's perspectives (i.e. perpetrator, victim, third party, neutral observer). Once violence is socially constructed, who and what is considered a violent act varies according to specific determinants such as socio-cultural and historical conditions (8,13). In sum, to understand violence and violence prevention, there is a need for identifying and addressing its dynamics and interrelated social determinants (8,84).

3.4 Consequences of Sexual and Gender-based Violence

The importance of violence in public health science has grown through costly consequences in health (3,98). The consequences of violence in the health status of a population can be understood by the impact in human losses, injuries and less obvious consequences such as psychological harm, deprivation and maldevelopment that will influence the well-being of individuals, families and communities (3,8). More recently, in 2030 Agenda for Sustainable Development (99) it has been accepted that 'violence destroys health in both the narrow sense of causing death and disability—but also more broadly in holding back creativity, economic growth, and generation of well-being.' (p.1). Yet, authors suggested that violence has a direct impact on health, and induces additional burden to healthcare systems, not only due to initial trauma but due to further health consequences (100) and potentially violent behavior (after exposure to violence) (3,11).

Despite the acknowledgement of consequences of SGBV, there are no international guidelines regarding classification. Different classifications can be found in the literature, regarding the timing of consequences (short-term consequences or long-term consequences), the nature of consequences (physical, emotional or psychological, reproductive and sexual or socio-economic), or specific vulnerable groups (children, girls and women, MSM, LGBTI, sex workers, refugees, AS, non-documented person, …). A description of existent data will follow, grouped according to the nature of the consequences: physical, psychological and social.

Physical consequences

Regarding physical consequences of violence data from WHO (2002) stated that more than 1.6 million of people lose their life due to violence in 2000. These deaths included suicides, homicides, war-related deaths, maternal or infant mortality and IST related mortality (3,4). The WHO (2002) estimated that 191 million of people – more than half were civilian – lost their life due to conflict-related violence. Specifically for intimate partner violence (IPV),

data obtained for 66 countries reported an overall 13.5% of homicides (47). Regarding specific injuries resulted from physical violence by an intimate partner, the prevalence ranged from 19% to 55% in ever-abused women (101). Other physical health consequences inducing non-fatal outcomes include abdominal and thoracic injuries, brain injuries, burns/scalds, ecchymosis, lacerations, fractures and disability (4,8). Apart from direct physical consequences of violence, indirect consequences of violence such as heart disease, stroke, cancer, diabetes, kidney and liver problems and HIV/AIDS, are the result of behaviours that victims might adopt (smoking, alcohol and drug abuse, high-risk sexual behaviour) after being exposed to victimisation, and inducing a high burden in victims life (8).

Negative and direct health impacts of SGBV are major and can induce reproductive and sexual health consequences, including sexually transmitted infections and HIV infection (102); Abused women have an increase in 60% of health problems comparing with non-abused women, and reported more gynecological, chronic stress-related and central nervous system problems (103). The WHO Multi-country Study on Women's Health and Domestic Violence stated that among ever-pregnant women, 25% to 20% of the women who were physically abused were kicked and punched in the abdomen (101). Moreover, reproductive health consequences of victimisation can include unwanted pregnancy, miscarriage, pregnancy complications, unsafe abortion, STIs, including HPV and HIV/AIDS, menstrual disorders, complex pain syndromes, chronic pelvic pain, recurrent vaginal infections, decreased sexual desire, gynecological disorders and sexual disorders (4,8,103).

Psychological consequences

The burden of violence goes beyond physical injuries to psychological consequences. It includes depression, anxiety, post-traumatic stress disorder, hyperactivity, substance use and dependence, eating and sleep disorders, high-risk sexual behaviours, suicidal thoughts and behaviour (3,8,95,101,104). In a meta-analysis study conducted by Golding (105), results included a strong association between IPV and mental disorders: 'prevalence of mental health problems among battered women was 47.6% in 18 studies of depression, 17.9% in 13 studies

of suicidality, 63.8% in 11 studies of posttraumatic stress disorder (PTSD), 18.5% in 10 studies of alcohol abuse, and 8.9% in four studies of drug abuse' (p.99). Another potential consequence is the fact that victims are usually insecure and at risk of further violence, due to fear, threats and lack of protection (4). Among children, psychiatric morbidity might be linked with several familial, personal and environmental circumstances, ranging from culture conflict, job insecurity, regrets about leaving home, family disruption to uncertain future opportunities (21).

Social and economic consequences

Social consequences induced by sexual victimisation, comprises a high level of social rejection, stigma, self-hate and/or depression, possibly related with the fact that society tends to blame the victim (4). Long-term effects at social level include the degradation of marital relationships and family instability (23). General effects as poor health status, poor quality of life, and high use of health services are frequent long-term consequences experienced by SGBV victims (106). At the economic level, a loss of a role in the society can be a consequence of victimisation, feminisation of poverty and increased gender inequalities (4). At the legal level, the inappropriate or lacking legal support for victims can lead to low reporting of cases, as well as repeated aggressions due to no consequences for the perpetrator (4).

The importance of identifying and understanding the consequences of SGBV is related to the need of defining effective programs to address this problematic (4). In the following sub-heading we will describe the existent preventive measures addressing SGBV.

3.5 Preventable Measures of Sexual and Gender-Based Violence

Violence and more specifically SGBV is a preventable global phenomenon (8,9,107,108). Considering that violence is a learned behaviour and stating that it is nowadays a worldwide

and major public health problem, it could be altered by preventive strategies and interventions (8). The importance of preventing and mitigating SGBV is directly related to the development of equitable and sustainable societies and economies by improving the quality of life (99,108).

A comprehensive approach to SV based on the ecological model is considered a powerful framework to understand and prevent SV (3,84,109,110). This approach preconizes that to prevent SV, interventions and strategies should address the social determinants at four levels: individual, interpersonal, communities, and social context (8,9,109,110). A study conducted in Belgium and the Netherlands concluded that preventive measures of SGBV addressing refugees, AS and undocumented migrants should take into account the dynamics of the four levels socio-ecological model (51). Furthermore, the public health approach to violence should also be used to define and implement preventive measures (37).

Taking into account the ecological model and the public health approach to violence, several guidelines, recommendations and technical packages are available addressing SGBV prevention. In the following points, we will give an outline of the main global prevention strategies that have already been developed.

The vision of WHO

The WHO report on violence prevention (8) presents the worldwide efforts that have been made on violence prevention after the report and recommendations released in 2002 – World report on Violence and Health (3). WHO and partners (8) have identified seven main strategies aiming to reduce all forms of violence:

1. ‘developing safe, stable and nurturing relationships between children and their parents and caregivers;
2. developing life skills in children and adolescents;
3. reducing the availability and harmful use of alcohol;
4. reducing access to guns and knives;

5. promoting gender equality to prevent violence against women;
6. changing cultural and social norms that support violence;
7. victim identification, care and support programmes.' (p.27).

Even though the report focuses on interpersonal violence, it also addresses efforts been made on SV prevention. The conclusions are related to huge investments made in secondary and tertiary prevention, stating that primary prevention is primordial but still weak (8). In addition, prevention of violence through changes at socio-cultural level are being put forward. Preventive measures that promote gender-equitable norms, empower women, reinforcement of laws, social and educational policies should be a worldwide priority (8). Finally, the report presents specific recommendations at national, regional and international levels, which contribute to the prevention of violence.

UNHCR - Guidelines for SGBV Prevention and Response against Refugees, Returnees and Internally Displaced Persons

The UNHCR provides guidelines for SGBV prevention and response against vulnerable population, such as refugees, returnees and internally displaced persons (4). These guidelines define that, while addressing preventable measures for SGBV, the first steps should focus on the identification of factors that contribute to, and influence SGBV dimension (4). According to the UNHCR (4), these factors include:

- 'Demographic composition of the population (it is useful to have a statistical breakdown by age and gender);
- Social and cultural norms in the refugee community;
- Structure of family and community support systems before and after displacement;
- Knowledge, attitudes, behaviour of persons in leadership and decision-making positions;
- Services and facilities, including the physical environment, site layout, access to services;

- Legal framework, judicial practice and tradition, both formal and informal' (p.34).

Furthermore, UNHCR stated that preventive measures of SGBV should be rooted in specific objectives, as follow: the transformation of socio-cultural norms, to empower women/girls, to rebuild family and community structures and support organisms, to design effective services, to work with formal and traditional legal systems and to monitor and documents cases of SGBV (4). More specifically, the organisation (4) has defined several strategies to achieve each of the previously mentioned objectives:

- Transforming socio-cultural norms: develop information, education, communication (IEC) campaigns; strengthen community networks; ensure gender-balance in the leadership structure and decision-making; empower women; get men involved; engage children and youth.

- Re-building family and community support systems: develop social and recreational programmes; encourage the resumption of religious and spiritual activities.

- Creating conditions to improve accountability systems: raise awareness; ensure compliance with standards of accountability and codes of conduct.

- Designing effective services and facilities: register all refugees; inform refugees about their rights, entitlements and benefits; include the community when planning, designing and implementing activities; create gender-balanced distribution systems; implement reproductive health programmes; implement security and safety programmes; be sensitive to the host population; mainstream gender issues into all stages of programme planning and implementation.

- Influencing the formal and informal legal framework: work with traditional legal systems traditional; work with national justice systems; strengthen national laws and policies that protect human rights; develop appropriate sanctions for perpetrators.

- Finally, monitoring and documenting incidents of SGBV (4).

After defining objectives and the related strategies to SGBV prevention, the UNHCR sets several guiding strategies to respond to SGBV after it occurs. In this sense, to respond to the needs of victims/survivors of SGBV, it is primordial to understand and recognise possible consequences of SGBV, such as health, psycho-social, safety and security, and legal/justice consequences (4). The response package must include: developing community education and awareness activities; training actors in how to respond to victims/survivors needs; establishing referral, reporting, monitoring and evaluation mechanisms; empowering refugee communities to respond; developing a response to the health/medical needs of victims/survivors; planning to meet the psycho-social needs of victims/survivors; ensuring a security and safety response; establishing a legal/justice response; identifying the roles of other potential actors; developing a plan to work with perpetrators (4).

The Convention of Istanbul

In 2011, the Convention of Istanbul on preventing and combating violence against women and domestic violence (66) (Article 16 on preventive intervention and treatment programmes) stated that all countries ratifying the Convention should take all necessary legislative measures to: 'set up or support programmes aimed at teaching perpetrators of domestic violence to adopt non-violent behaviour in interpersonal relationships with a view to preventing further violence and changing violent behavioural patterns' (p.6). Also, all parties should implement the necessary legislative or other measures to support treatment programmes aiming to prevent perpetrators, in particular sex offenders, from re-aggressions (66). Finally, while implementing these measures, MS should ensure that safety, support and human rights of victims is the primary concern of programs and interventions, and that these programs are implemented in close collaboration with specialist services adequate to the victims' needs (66). Moreover, the Convention of Istanbul (Article 50) stated that the law enforcement should ensure the prompt and appropriate services to the protection of victims. Yet, law enforcement agencies should guarantee the prevention and protection against all forms of violence through the adoption of operational preventive measures (66).

Guidelines for Integrating Gender-Based Violence Interventions in Humanitarian Action

More recently, the Inter-Agency Standing Committee (IASC) proposed guidelines to integrate GBV interventions into humanitarian action (38). The purpose of these guidelines is to coordinate, plan, implement, monitor and evaluate essential interventions for the prevention and reduction of GBV. The guidelines (38) referred that the preventive actions should focus on three main goals: '(1) To reduce risk of GBV by implementing GBV prevention and mitigation strategies across all areas of humanitarian response from pre-emergency through to recovery stages; (2) To promote resilience by strengthening national and community-based systems that prevent and mitigate GBV, and by enabling survivors and those at risk of GBV to access care and support; and (3) To aid recovery of communities and societies by supporting local and national capacity to create lasting solutions to the problem of GBV.'(p.1). Even though these guidelines are focused on humanitarian action, they are also intended to hosting countries receiving displaced people seeking protection.

While addressing GBV four interrelated and dynamic approach should be considered: a human rights-based approach seeking to attend to rights and needs of vulnerable population; A survivor-centered approach, meaning that the survivor's rights and needs are prioritized when designing and developing GBV-related programmes; A community-based approach which insists that vulnerable populations should be leaders and partners in developing and implementing preventive strategies. Finally, systems approach analysing GBV-related problems across an entire organisation, sector and/or humanitarian system to design a combination of solutions most relevant to the specific context. (38).

The stop SV technical package

Moreover, specifically addressing sexual violence among the general population, the National Center for Injury Prevention and Control, from the CDC has developed a technical package – Stop SV - to prevent SV (9). Stating that violence is predictable and preventable (8), a set of strategies and approaches to achieve and sustain reductions in specifics risk

factors or outcomes towards SV were defined (9). The stop SV technical package, specific strategies and associated approaches to prevent SV can be perceived in table 1.

Table 1: STOP SV – Technical package, specific strategies and associated approaches to prevent sexual violence, adapted from Basile et al (9).

Strategy	Approach
Promote social norms **that protect against violence**	Bystander approaches Mobilizing men and boys as allies
Teach **Skills to Prevent sexual violence**	Social-emotional learning Teaching healthy, safe dating and intimate relationship skills to adolescents Promoting healthy sexuality Empowerment-based training
Provide Opportunities **to Empower and support girls and women**	Strengthening economic supports for women and families Strengthening leadership and opportunities for girls
Create Protective **Environments**	Improving safety and monitoring in schools Establishing and consistently applying workplace policies Addressing community-level risks through environmental approaches
Support Victims/Survivors **to lessen harms**	Victim-centered services Treatment for victims of SV Treatment for at-risk children and families to prevent problem behaviour including sex offending

Even though Stop SV address SV toward the general population, and do not defines specific strategies to a vulnerable population, such as refugees, AS and/or migrants, it represents a useful tool, with concrete strategies and programmes, evidence-based, to tackle-down the mainstream problem of SV. (9).

A recent assessment conducted in Greece and the former Yugoslav Republic of Macedonia addressing protection risks faced by women and girls concluded that programs related to prevention of SGBV were still lacking or ineffective. The findings of the assessment represented a call for action to define and implement responses, innovative solutions and services across borders, to address the threats faced by women and girls. Furthermore, the evidence on responding and supporting programs for victims/survivors were scared (6).

SGBV is rooted in gender and power inequities, and prevention should be based on promoting gender equity (38). Even though we presented several guidelines addressing preventive measures to mitigate SGBV among general and vulnerable population, and acknowledging that SGBV has been declared a major public health problem and a violation of human rights (3) there is a lack of systematic and evidence-based preventive interventions to tackle down the real dimension of the problem (38,111,112). Although, there is a lack of evidence regarding effective preventive measures (2,107,111). A systematic review of primary prevention strategies for sexual violence perpetration among the overall population insists on the current gap of rigorous research, and the link with the lack of evidence-based effective interventions (111). Further, the review concluded that only three programs have proved to have a positive impact on SGBV prevention (111). The first program is *Safe Dates* which focus on sessions addressing attitudes, social norms, and healthy relationship skills, students play role and posters (113). The second program – *Shifting Boundaries*, focus on classroom sessions and building-level intervention addressing policy and safety in schools. The systematic evaluation done indicated a reduction in self-reported perpetration and victimisation of sexual harassment and sexual violence (111). Finally, a controlled quasi-experimental evaluation of the US program *Violence Against Women Act of 1994* (VAWA) concluded a reduction on rapes reported to the police, and aggravated assault (111). To note

that these programs were local and population specific and were not replicated to other vulnerable groups.

Even though SGBV prevention is possible, solutions for the magnitude of the problem won't be easy to reach (108). There is a need for moving forward the acknowledgement of the problem in societies, to design and implement plans of actions, addressing the specificities of each country. Moreover, the need for allocating budget will enhance political commitment (108).

Considering the magnitude of SGBV problematic among and towards refugees, AS and undocumented migrants in the European context, and the lack of evidence-based effective preventive measures, we are committed to contributing to the development of evidence-based SGBV prevention public health interventions and policies.

CHAPTER 2. OBJECTIVES

2. OBJECTIVES

The aim of this thesis is to contribute to expand the knowledge on SGBV conceptualisation, reported cases and causes of SGBV, preventive measures and predictive factors of SGBV in residents (refugees, AS and undocumented migrants) and professionals (services and health care providers), living and working in European asylum reception facilities (EARF).

To achieve the mentioned aim of this thesis, specific objectives were defined:

1. To understand SGBV conceptualisation, in a vulnerable population of refugees, AS and undocumented migrants on the one hand, and in the professionals working with these communities in EARF, on the other. To identify socio-demographic characteristics of both groups that can be associated with SGBV conceptualisation.

2. To explore reported cases of SGBV, causes and preventable measures described by residents – refugees, AS and undocumented migrants – and professionals, living and working in EARF from European hosting countries. Furthermore, we intend to analyse potentially preventable measures of SGBV described by both groups.

3. To explore whether a pattern/trend of SGBV victimisation in European asylum context can be identified in order to determine future outcomes. Yet, to identify socio-demographic characteristics that might predict SGBV victimisation in residents and professionals.

In general, this research intends to contribute to the definition of evidence-based SGBV preventive measures in the EU, taking into account identified factors that can induce SGBV vulnerability in residents and professionals, living and working in EARF.

CHAPTER 3. METHODS

3. METHODS

In order to answer our specific objectives, we used data from the European project – Senperforto. In this chapter, we present a description of the Senperforto project and conceptual framework, followed by our research design, and a description of the methodology used, including participants, sampling, data collection and data analysis methods.

3.1 Senperforto Project

The international research project Senperforto - Frame of Reference in SGBV Prevention Against and Among Young Refugees, Asylum Seekers and Unaccompanied Minors in the European Reception & Asylum Sector - was a European project developed in eight countries - Belgium, Greece, Hungary, Ireland, Malta, the Netherlands, Portugal, Spain, and funded by EC Daphne Fund. Senperforto stands for no more violence, without violence, in Esperanto.

The overall objective of Senperforto was to contribute to the health protection and promotion of young refugees, AS and undocumented migrants by preventing SGBV in European asylum reception facilities. Moreover, Senperforto aimed to investigate what knowledge, attitude, practice (KAP), and needs of professionals and their clients in the European reception and asylum sector were to develop a need-, rights- and evidence-based, participatory and gender-balanced European Frame of reference. The conceptual framework was the socio-ecological model on health and violence, including desirable prevention and a Community Based Participatory Research (CBPR). CBPR is considered the adapted research method if we want to improve health through action and social change (114).

Senperforto project included three phases. First, a desk study was developed to generate an overview of existent good practices in this field. Second, a KAP study on SGBV and prevention were conducted among residents living, and professionals working, in asylum reception facilities in the eight European countries already mentioned. Third, the

development of a Frame of Reference in prevention of SGBV (115) – Code of conduct, a Standard Operating Procedure, and a training manual: Make it Work (116). The Standard Operating Procedures consisted on a set of practical instruments to help reception facilities in 'developing comprehensive procedures for prevention of SGBV within the centre, for assisting victims and for referring perpetrators' (2: p.49). The Code of Conduct stands for a practical guide for staff members and residents. 'It defines the outlines and content of their commitment in attitudes and behaviour to preventing, combating and responding to every form of SGBV.' (2: p.49). The Sensitization Kit is a culturally competent sensitisation instrument especially addressing AS and EARF professionals, but that could be adapted for any public. The training manual - Make it Work! is a 'practical hands-on manual with an engaging and non-judgmental approach to sensitive issues such as sexual and reproductive health and SGBV.' (2: p.49). Senperforto was implemented from December 2008 to December 2010.

For the implementation of Senperforto, stakeholders from the eight European countries were included in community advisory boards (CAB) from the eight participating countries. These CAB consisted of asylum seekers and refugees, asylum reception professionals, policymakers, intermediary organisations, civil society and researchers engaged in the asylum and reception sector. The CAB were intermediaries who had a critical and distinctive impact on the process and results, and participated in every decisive phase of the project.

The study protocol applied the WHO and UNHCR ethical and safety guidelines in researching violence, complied with the local ethical requirements and received ethical approval from the Ghent University Hospital Ethical Committee [B67020096667].

3.2 Conceptual Framework

The conceptual framework considered as a baseline to the subject under review comprises the socio-ecological model on health and violence, which considers that life-events in higher-order should influence the human development through their impact on events in lower-order

social ecosystems (117). The socio-ecological model recognizes the complexity of SGBV problematic (3,4,75) and the multifactorial causes that accounts for victimisation and/or perpetration (4,8,84,118). It incorporates four-level factors –individual, relationship, community and society – to understand, mitigate and prevent violence (8,9,118). The interplay of individual, relational, community and society-related factors, determines the vulnerability of refugees, AS and migrants to victimisation and/or perpetration of SGBV (2,8,51).

In 1996 the 49th World Health Assembly recognised violence as a leading public health problem. In this sense, a public health approach to understanding and preventing violence has been defined upon four fundamental steps: (a) to define the problem, (b) to identify the factors that increase the risk for violence, (c) to develop and to test prevention strategies, and (d) to disseminate and implement broadly (8).

Moreover, and taking into consideration the different terms in the literature used to address SGBV and the different definitions of SGBV, for the purpose of this research thesis, we adopt the definition of SGBV given by UNHCR, which considers that SGBV is '(…) violence that is directed against a person on the basis of gender or sex. It includes acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion and other deprivations of liberty….'(4: p.11). This definition comprises five types of SGBV, according to the consequences it might induce, being physical, psychological, sexual, socio-economic and harmful cultural practices (4).

3.3 Research design

The growing phenomenon of migration and the vulnerability to victimisation and/or perpetration of refugees, AS and undocumented migrants require an urgent call for action (62). Yet, these populations are integrated into asylum reception facilities with specific characteristics that might induce protective or risk factors to victimisation. Also, within these

facilities professionals of different categories – social workers, security, psychologist, nurses (…), represents a vulnerable group for victimisation and/or perpetration (45).

The problematic rises within European asylum reception facilities with residents and professionals, living and working together. First results of Senperforto Project demonstrate that both groups are at risk of SGBV (45). In this sense, and considering the aim and the specific objectives of this research we have conducted three studies, using Senperforto project database.

The first study is a cross-sectional study on SGBV conceptualisation of residents and professionals. The second study is a cross-sectional study, exploring reported cases of SGBV, causes and preventive described by residents and professionals. The third study explores predictive models to SGBV victimisation, including factors at four levels – individual, relational, community and societal.

Figure 5 presents a flowchart linking the three research studies and specific objectives.

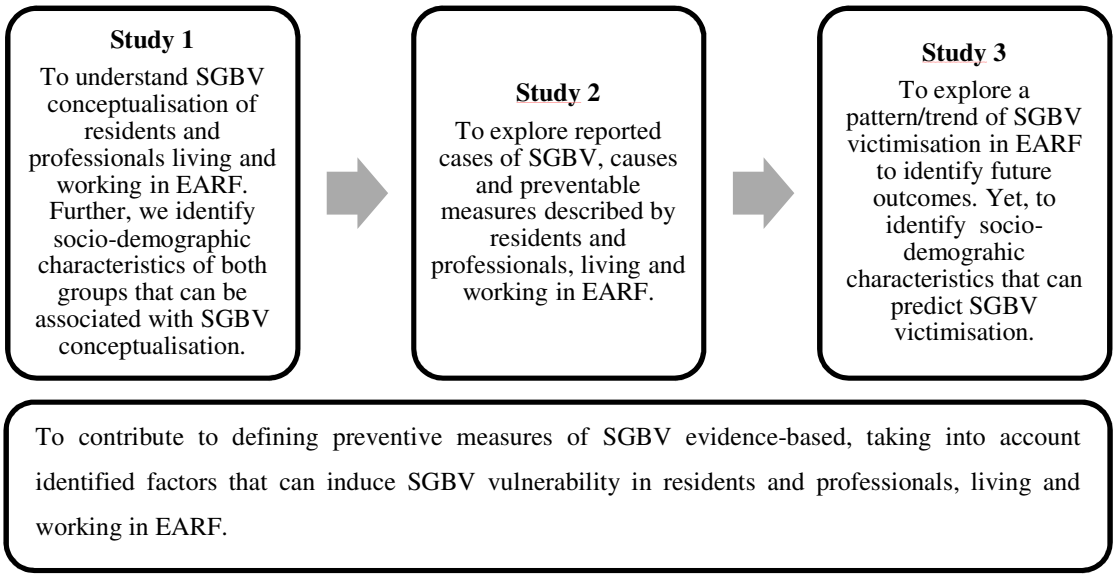

Figure 5: Research flow and specific objectives.

To note that based on the definition given by UNHCR (4) to SGBV, our research adopts a public health approach (8) and the four interactive levels of the socio-ecological model (75) to explore the subject under analysis of this thesis.

3.4 Participants and Sampling

For Senperforto Project the residents and professionals, living and working in asylum reception facilities were considered the research's main participants. Residents refer to refugees, AS, and undocumented migrants from all ages, including unaccompanied minors. Professionals refer to services and health care providers working in the facilities.

The Senperforto project proposal stated 90 participants per country of research, with a 60 residents/30 professionals' division. The inclusion criteria for the Senperforto project will be described in the following paragraphs, taking into consideration the selection of the community researchers, the reception facilities and each group of participants (residents and professionals).

Community Researchers (CR) were residents and professionals (one to three professionals and four to seven residents per country) who demonstrated good social and communication skills, who were recruited and trained – and succeeded well in a standardised 24-hour training course. CR were responsible for the implementation of the KAP questionnaire, that will be further described.

Regarding the selection of facilities (open or closed (detention) facilities, reception or return centres, private accommodation, urban/rural, unaccompanied minors facilities, AS centres and refugee centres) all official reception facilities were listed; and facilities were selected in order to have at least one category of facility represented among the respondents. If more than one centre was available for a certain type of facility, centres were chosen randomly. Also, a geographical distribution over the country of research was conducted and taken into account to the feasibilty of the study. Considering that the situation of the asylum reception sector in each partner country differs, the sampling strategy was adapted to the local situation.

In this sense, in Spain and the Netherlands convenient sampling was applied due to political constraints. In all the other countries random sampling was used (45).

For the resident's group (60 respondents per country), inclusion criteria implied being a member of the four most important nationalities of asylum-seeking and undocumented migrants, per each country of research. They had to be staying at, or just having left an asylum reception facility in the country of research. Each CR addressed one nationality. In this sense, the four CRs addressing these matched four nationalities interviewed 5 undocumented migrants, 5 minors and 5 adults. It means that the total sample contained 4 (number of nationalities) times 5 participants, remaining with 20 undocumented migrants, 20 minors and 20 adults. The 20 undocumented migrants, 20 minors and 20 adults were chosen from a limited number of selected facilities as mentioned earlier. Meaning that from the list of people belonging to a certain nationality, the number of respondents needed to be sampled were randomly selected, within the chosen facility. The balance between female and male was taken into account. Also, only one member per family was interviewed. Each CR received a list of names of residents (minors and adults) of one specific nationality group within a specific facility. The CR started with the first name on the list and proceed to the next one until the number of participants needed is reached. If a selected respondent refused to participate or was not available, the next name belonging to the same gender as the non-respondent on the list was addressed.

For the group of professionals, they had to work or just had stopped working at asylum reception facilities. A list of all professionals of each selected facility was provided. The total number needed of professionals per country (30 respondents) was divided over the selected facilities. Then, a list was provided to the CR and they were randomly selected. Also, gender balance was taken into account.

The sampling strategy described intended to avoid participants' selection bias, as for instance healthy volunteer bias (certain people are eager to participate in studies than others) and to avoid the description of the same experiences of violence within one family.

It has to be noted that Spain was included in our sample for the first study, despite having been excluded in our second and third studies. This is due to the fact that the part of the interview with closed questions was assessed as valid, in opposition to a latter part on sexual violence experiences with open questions where the notes and transcriptions of the community researchers were too scarce and inconsistent to be included. Further, due to an outbreak in an asylum centre in Ceuta, some interviews had to be interrupted in the second part as well.

In total 600 participants were integrated into the project: 398 residents and 202 professionals.

For our first study, the total of 600 questionnaires were considered. The majority of residents were male (64.6%), aged from 19 to 29 years old (41.4%) and single (66.8%). Residents were originally from 53 different countries of origin, with most of them originating from Somalia (20.9%), Afghanistan (11.1%), Nigeria (8.5%), Guinea Conakry (6.3%) and Iraq (4.5%). For the group of professionals, the majority were women (56.2%), aged from 30 to 39 years old (42.3%) and married (56.8%). Professionals were originally from Belgium (13.9%), Portugal, (13.9%), Greece (12.9%), Malta (12.9%), Ireland (7.9%) and Hungary (7.9%).

For our second and third studies, as Spain was excluded, 562 respondents were considered: 375 (66.7%) residents and 187 (33.3%) professionals. Residents mostly had asylum seeker status (60.3%), while professionals had national citizenship (87.2%). The majority of residents lived in an open reception centre (74.0%), more specifically in a room (45.3%) or house/apartment (41.6%), with a common area (89.3%) and a place to sleep (97.9%) of 2-4m^2 (43.0%). Residents shared this place with 1 to 2 adults (40.5%), with whom they had no relation (52.8%); the majority shared the space with their own children (65.1%).

3.5 Data Collection

A KAP survey was implemented from October 2009 to August 2010. The KAP questionnaire included three dimensions of research: (1) a part that dealt with knowledge of the respondent on types of SGBV, on occurrence of violence and existence of prevention measures; (2) a

second part on attitude regarding SGBV and its prevention within EARF; (3) and a third part on their evaluation of effectiveness of existing SGBV prevention and response measures and suggestions of improvements. Data regarding socio-demographic characteristics was also collected.

The questionnaire was translated and back-translated into the languages of the main groups of AS, in the 8 participating countries at that time, as well as the official language of that countries, being: Arabic, Dari, Dutch, English, French, Greek, Hungarian, Portuguese, Romanes, Somali, Spanish, Russian, Maltese, Amharic and Tigrigna. A pilot test was done with members of the CAB. The CR and the CAB were included in the elaboration of the KAP survey.

After having obtained the permissions to sampled facilities, the inclusion criteria were applied, and then the CR randomly sampled the respondents on their list of residents and professionals. The interviews were one-to-one with the CR at a private place in or near the asylum reception facility. Prior to the interview respondents had previously agreed with the community researcher on the language of the interview. CRs could not interview peers within the same facility of their actual work or stay.

Respondents were informed about the study and participation modes, guaranteed that their participation would not affect their asylum case and that analysis would be anonymous. Informed consent was obtained in writing.

The interviews included both quantitative and qualitative data. For the quantitative data, it was introduced directly in SPSS database. The qualitative data were analysed with the Framework Analysis Technique, a process conducted by three researchers who eventually consented on a set of categories that were then included in the SPSS database (45).

The KAP questionnaire and the subsequent database were the baselines for the development of this thesis.

3.6 Data Analysis

To answer our specific objective number one - *to understand SGBV conceptualisation, in a vulnerable population of refugees, AS and undocumented migrants on the one hand, and in the professionals working with these communities in EARF, on the other. To identify socio-demographic characteristics of both groups that can be associated with SGBV conceptualisation*, a principal component analysis was conducted.

A principal component analysis (PCA) is a multivariate statistical technique. This statistical technique is one of the most popular multivariate analysis and used by the majority of scientific disciplines (119).

PCA analyses data representing observations described by dependent, but inter-correlated variables. The goal of this statistical technique is to extract the most important information from the original data and to convert this information into a set of new variables, called principal components (PCs) (119). According to Abdi & Wiliams (119), the main objectives of PCA are to: '(1) extract the most important information from the data table; (2) compress the size of the data set by keeping only this important information; (3) simplify the description of the data set; and (4) analyze the structure of the observations and the variables.' (p.434). For that, PCA computes new variables (PC) which are obtained through linear combinations of the original variables. The first PC has the largest possible variance (i.e. this component will 'explain' or 'extract' the largest part of the inertia of the data) (119). The second PC is orthogonal to the first PC and has the largest possible inertia. The other components are computed likewise (119). Each of the new variables (PC) have a numeric value - factor scores – which are interpreted as the projections of the observations onto the PCs (119). Another important expression of each PC is the output loading, which represents the correlation between a PC and a variable, and estimates the information they share.

To decide the number of PC to be retained, there are different criteria and no consensual decision is taken yet (119). The criteria applied in our analysis regard the number of PC that explains more than 80% of the total variance of the original data. Further, having decided on the number of PC to retain, and to facilitate the interpretation of PCA, the analysis often

involves a rotation of the PCs. For our data, we have applied a Varimax rotation, being one of the most usual rotation. Varimax rotation has been developed by Kaiser (120) and the author refers that each component has a small number of large loadings, and a large number of zero (or small) loadings. Yet, each original variable tends to be associated with one (or a small number) of the PC, and each PC represents a small number of variables (119).

To assess the specific objective, we used a factor analysis approach using PCA for a factor extraction and Varimax rotation with the main goal of extracting the most relevant information from our data, reducing the volume of the data, simplifying the number of observations and finally to analyse the data. We conducted a multivariate analysis of 82 variables regarding SGBV knowledge. These 82 variables consisted of 82 questions addressing SGBV knowledge (table 2), and considered the fact that an act of violence was conducted to a girl/woman or boy/man. We took into account the principles of PCA referring that PCs are independent into consideration, and labelling resulted from the interpretation of the data.

Table 2: Variables used to conduct the principal component analysis.

Unwelcome and unwanted sexual comments or invitations to girls/women (*saying you look sexy, suggest to do something sexual,…)*
And if this happens to boys/men?
Made to watch somebody undress as a girl/woman?
And if this happens to boys/men?
Made to watch photos of naked persons as a girl/woman?
And if this happens to boys/men?
Made to watch porn as a girl/woman?
And if this happens to boys/men?
Having to undress in front of other people watching as a girl/woman?
And if this happens to boys/men?
Threatening girls/women of sexual acts (saying that you will be raped, or he/she *will do sexual things to you if you don't do something for him/her,…)*
And if this happens to boys/men?

As a girl/woman to be isolated, confined and/or deprived of liberty of movement *(not allowed to leave the house, not allowed to speak your mother tongue, not allowed to have contact with others, locking up…)*
And if this happens to boys/men?
Unwelcome remarks and comments from nonsexual nature to girls/women *(curse, swear, call names, blame, accuse unfairly...)*
And if this happens to boys/men?
Threatening of girls/women with unwelcome not sexual acts *(make you feel scared, enter in our private space, destroy objects...)*
And if this happens to boys/men?
Teasing, showing no respect, racist or discriminating comments to a girl/woman?
And if this happens to boys/men?
Someone denying a girl/woman to be together with their partner in private?
And if this happens to boys/men?
Someone denying a girl/woman to be together with her parents or children in private?
And if this happens to boys/men?
Someone denying a girl/woman to fulfil her role as a mother (*no money for food, clothes, housing,…)*
And if this happens to boys/men?
Physical assault with no permanent consequences *(e.g. hitting, kicking, pulling your hair, drag you,…)*
And if this happens to boys/men?
Physical assault with permanent consequences *(e.g. burning, stabbing, maiming, mutilating, killing,…)*
And if this happens to boys/men?
Unwelcome touching of breasts, genitals and other private body parts of girls/women.
And if this happens to boys/men?
Unwelcome kissing and caressing of girls/women?
And if this happens to boys/men?
Unwelcome attempted penetration by an organ or an object in any body opening of girls/women.
And if this happens to boys/men?
Unwelcome penetration of the mouth by an organ or by an organ or by an object of girls/women
And if this happens to boys/men?
Unwelcome penetration of the vagina and/or anus by an organ or by an object of girls/women.
And if this happens to boys/men?
Unwanted sex within a relationship and/or marriage to a girl/woman?
And if this happens to boys/men?

Forced prostitution of girls/women?
And if this happens to boys/men?
Sex with a girl/woman in exchange for survival, food for the children, shelter, money, papers, other favours.
And if this happens to boys/men?
Sexual slavery/trafficking of girls/women?
And if this happens to boys/men?
Rape of girls/women as a weapon of war?
And if this happens to boys/men?
Circumcision of girl/woman?
And if this happens to boys/men?
Child marriage of a girl/woman?
And if this happens to boys/men?
Arranged marriage against the will of the girl/woman?
And if this happens to boys/men?
Neglecting female children, denial from education to female children?
And if this happens to boys/men?
Injuring a girl/woman in the name of family honour?
And if this happens to boys/men?
Killing a girl/woman in the name of family honour?
And if this happens to boys/men?
Trafficking of people for their organs?
And if this happens to boys/men?
Trafficking for labour?
And if this happens to boys/men?
Being treated differently by other people because of being a girl/woman?
And if this happens to boys/men?
Being treated differently by other people because of the sexual orientation of a girl/woman.
And if this happens to boys/men?
Being treated differently by other people because of the ethnic background of a girl/woman
And if this happens to boys/men?
Being treated differently by other people because of the residence status of a girl/woman.
And if this happens to boys/men?
Denial of access to education, health assistance or remunerated employment because of

being a girl/woman.
And if this happens to boys/men?
Denial of access to education, health assistance or remunerated employment because of being a girl/woman.
And if this happens to boys/men?
Denial of access to education, health assistance or remunerated employment because of being a girl/woman.
And if this happens to boys/men?
Denial of access to education, health assistance or remunerated employment because of being a girl/woman.
And if this happens to boys/men?

To answer to the second specific objective: *to explore reported cases of SGBV, causes and preventable measures described by residents and professionals, living and working in EARF from European hosting countries. Furthermore, we intend to analyse potentially preventable measures of SGBV described by both groups;* Descriptive analysis was conducted using SPSS. Association tests as the Chi-square and Fisher's exact test were conducted to understand if significant association existed.

Finally, to answer our third specific objective: *to explore whether a pattern/trend of SGBV victimisation in European asylum context can be identified in order to determine future outcomes. Yet, to identify socio-demographic characteristics that might predict SGBV victimisation in residents and professionals;* we have used machine learning techniques, which we will describe in the following paragraphs.

Machine Learning (ML) are predictive modelling, intending to turn data into information, and information into knowledge, by extracting information from the raw data from databases (121). ML aims to predict and forecast a system or a process, based on data patterns extracted by statistical methods, or algorithms. Therefore, ML modelling is based on supervised learning algorithms relying upon the experimental nature of learning processes which can be simplified as comparisons between inputs and outputs, or between actions and its consequences in a supervisory learning context (122,123). Data-driven modelling requires a

representative database which accommodates concise examples of output responses to various inputs variations (124). Shmueli (122) summarises the steps for data-driven modelling as follows:

1. Define Goal;
2. Collect data;
3. Prepare data & Exploratory data analysis;
4. Choose variables;
5. Choose methods;
6. Evaluate, Validate & Select models;
7. Use models.

According to Smueli (122) 'Statistical modeling is a powerful tool for developing and testing theories by way of causal explanation, prediction, and description' (p. 289). Accordingly, we have applied the previously mentioned steps to answer our third specific objective.

Our goal was define as predicting the variable/output "were you a victim?". This question was related to the description of an SGBV experience, within 12 months before the questionnaire.

The data collection was made through questionnaires to residents and professionals of European reception and asylum facilities (detailed information is included in the point 3.5 of this Chapter). Regarding our data, we decided to exclude the Spanish interviews for the open questions part regarding violence experiences, attitudes and prevention and response measures, as we doubted whether validity could be guaranteed (45). This brought the total of analysed interviews down to 562 interviews: 375 residents and 187 professionals. Further, we have identified in total 30 independent variables, related with socio-demographic characteristics. In predictive modeling for the selection of variable there is no need to go deeper into the exact role of each variable in terms of an underlying causal structure, instead the selection of the variables should be based on data quality (122). The list of variables considered at first for our predictive models is presented in table 3.

Table 3: List of variables considered as inputs for predictive models.

Description
Resident or professional
What is your sex?
What is your age in years?
What is your actual marital status?
Are you currently living with a partner?
Are you living with a partner in the same reception facility?
Do you have any children?
If you have children, are they living with you?
What is your actual status according to immigration law?
In what type of reception/asylum facility are you living?
Can you specify which kind of accommodation you are living in?
If other accommodation, please specify:
Is there a common area in this accommodation?
Do you have a place to sleep in this accommodation?
If you have a place to sleep, what is the size of this space?
With how many adults (equal or older than 18) do you share this space?
What is their relationship to you (adults with whom you share the place)?
What is their sex (adults with whom you share the place)?
With how many children (younger than 18) do you share this space?
What is their relationship to you (children with whom you share the place)?
What is their sex (children with whom you share the place)?
What kind of sanitary facilities do you have in this accommodation?
With how many persons do you have to share these sanitary facilities?
What is their sex (persons with whom you share the sanitary facilities)?
What is their approximate age (persons with whom you share the sanitary facilities)?
Since when are you working here (year)?
What is your current occupation in this facility?
When did you leave the facility?
What was the reason for your departure?

For our modelling, we have excluded the variables that were only answered by one of the groups (e.g. main daily activity in your country of origin – residents; or e.g. type of reception/asylum facility are you working – professionals). The data was prepared by handling the no responses/missing values as acceptable response choices. E.g. for a yes/no question the third option ‘no response’ is handled as the third option.

The next step consisted of analysing variable by variable (from the list presented in Table 3) and its importance to potentially predict SGBV victimisation. Finally, and taking into consideration the existent literature and experts' opinion we have excluded the following variables: country where residents were born, country of research, time of arrival to Europe or the host country, and religion. In our modelling, we have followed two approaches for feature selection, combining experts' knowledge with feature selection algorithms. These two approach method to feature selection is believed to deliver more robust models (125).

Several ML techniques are available in the literature. The selection of which machine learning algorithms – regression, decision trees, random forests, support vector machines, (…) - are more suitable for simulating how the human brain works, or how we predict behaviour have been the subject of several researchers, and it still remains a struggling advance (126,127). Regarding the selection of models to predict SGBV victimisation, we opted for the following three: Random Forests, the Support Vector Machines (SVM) and Logistic Regression. A description of each modelling technique can be found in annex I. To analyse the fitting of our models we will use the area under the curve (AUC) of the receiver operating characteristic (ROC) curve.

In our third study, we applied machine learning algorithms. We analysed different potential predictive variables related to socio-demographic characteristics of both groups - residents and professionals that might have a predictive importance to SGBV victimisation. Predictive modelling can suggest improvements to existing explanatory models, by capturing underlying complex patterns and relationships between variables (122).

CHAPTER 4. RESULTS

4.1 Study 1 – Conceptualising sexual and gender-based violence in European asylum reception facilities: results from a principal component analysis

Introduction

Sexual and Gender-based Violence (SGBV) is a major public health problem and a violation of human rights (3,4). Considering the global challenge of (forced) migration (23), UNHCR (4) defines SGBV as '(…) violence that is directed against a person on the basis of gender or sex. It includes acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion and other deprivations of liberty (….)' (p.11). SGBV hampers gender-stereotyped acts of violence, based on unequal power relations and denying human dignity, rights, and development (4,38), which can be categorised into physical, psychological, sexual, socio-economic violence and harmful cultural practices (4). SGBV conceptualisation is a matter of judgement, affected by cultural beliefs, social norms, and values (44). Moreover, violence has been defined as a socially constructed concept once who and what is considered violent behaviour changes according to specific determinants such as socio-cultural and historical conditions (13).

Research has demonstrated that female, male and transgender refugees, asylum seekers (AS) and migrants are vulnerable to SGBV with unique physical, mental, economic, and social characteristics (1,2,23). Findings of a systematic review and meta-analysis suggest that approximately one in five refugee or displaced women in complex humanitarian settings, experience sexual violence (55). In a study of SGBV among male and female refugees, AS and undocumented migrants in European asylum reception centres (EARF) multiple types of SGBV were reported, categorised as physical (42.18%), emotional (40.54%), socio-economic violence (11.2%) and sexual (5.98%) (45). A study conducted in Belgium and the Netherlands found a high prevalence of direct or indirect SGBV exposure among refugees, AS and undocumented migrants: 87/223 respondents had been personally victimised, and 79 respondents knew at least one close person who was victimised since their arrival in Europe. Respondents described 332 acts of SGBV, regardless the origin, gender, age, and status group of the interviewed. The majority of perpetrators were male (74.0%), and 69.3% of victims were female (male victims were 28.6%) (51). Furthermore, asylum-related professionals were found to be the assailants in one-fifth of the reported cases (51). In Germany, a community of African migrants

described high rates of sexual violence, 16% in women and 6% in men (56). A study conducted in *Médecins sans Frontières* clinics in Serbia found that out of 992 migrants/refugees attending the clinics, 270 (27%) had experienced violent events during their migration journey (53).

According to the socio-ecological model, violence is a result of the interaction of factors at four interactive levels - individual, interpersonal, community/organisational, and societal/public policy level (3,4,75). At the individual level, research has shown that women and girls, especially the impoverished are more prone to victimisation (43,51). Recent evidence exists referring that boys and men are also exposed to sexual violence (9). In the context of EARF, both sexes have a parallel tendency to be victims and perpetrators (45). Furthermore, age (86), attained education and cultural beliefs appear to be relevant determinants when addressing SGBV (2). At an interpersonal level, children exposed to a violent context are more susceptible to becoming victims and perpetrators (81). Moreover, a systematic review highlights that immigrant adolescents are exposed to high rates of violence (128). From a community and societal perspective, a recent study has shown that an important determinant of sexual violence among refugees, AS and undocumented migrants, is their restricted legal status (32). It impedes their active participation and inclusion in society, puts them at risk of exploitation and abuse, and obstructs their access to health care (2,32,45). Further, the migration process is itself considered a determinant of violence. The lack of state and community support and protection, weak infrastructures, displacement, lack of essential resources, disruption of community services, changes in cultural and gender norms, and disrupted relationships (38) are factors that can contribute to intensifying SGBV.

Engaging with affected communities is essential to understand the cultural context of SGBV and to promote effective prevention (99). Causes of SGBV are associated with knowledge, attitudes, beliefs, social and structural norms that influence gender discrimination and unequal gender power (3,38). In the specific context of migration, it becomes relevant to understand legal power relations triggered by society constructed knowledge, beliefs and norms that undermine refugees, AS and undocumented migrants, threatening their human rights and putting them at higher risk of SGBV (58). Primary prevention of SGBV should focus on measures ensuring basic conditions for sustainable

and effective change (129). A broad conceptualisation of SGBV from an individual, relational, community, and societal perspective is needed to promote a comprehensive prevention approach to violence (107).

Objective

First, our study aims to understand SGBV conceptualisation, in a vulnerable population of refugees, AS and undocumented migrants on the one hand, and in the professionals working with these migrants in EARF on the other. Second, we identify socio-demographic characteristics of both groups and explore possible associations with SGBV conceptualisation.

Methods

Study Design

A cross-sectional study was conducted using data from the Senperforto Project developed in eight European countries (Belgium, Greece, Hungary, Ireland, Malta, The Netherlands, Portugal and Spain). The main objective of Senperforto was to explore what knowledge, attitude, practice (KAP), and needs of professionals and residents in the EARF were, in order to develop a gender-balanced European Frame of Reference for both beneficiaries (115). Professionals were defined as service or health care providers working in EARF, for or with the residents, being refugees, AS and/or undocumented migrants.

Sampling and Data collection

The Senperforto Project sample included 600 residents and professionals living and working in EARF. A in-depth description of the inclusion criteria for the residents (n=398) and professionals (n=202) is included in Chapter 3 – Methods of this thesis.

The level of strict implementation differed for Spain and the Netherlands, where a convenient sampling was applied due to political constraints. In all the other countries random sampling was used (45). As it was already mentioned in Chapter 3, Spain was included in our sample, despite having been excluded in a previous study (45) and in study 2 and 3 of this thesis. This is due to the fact that the part of the interview with closed questions was assessed as valid, in opposition to a latter part on sexual violence experiences with open questions where the notes and transcriptions of the CRs were too scarce and inconsistent to be included.

The data were obtained through semi-structured interviews, conducted by trained CRs. The questionnaire firstly included a section on socio-demographic data for both groups, and was followed by three dimensions of research: (1) a part that dealt with knowledge of the respondents on SGBV, on occurrence of violence and existence of prevention measures; (2) a second part on attitudes regarding SGBV and its prevention within EARF; (3) and a third part on their evaluation of effectiveness of existing SGBV prevention and response measures and suggestions of improvements. Our study focuses on the first part of the questionnaire, which consisted of 82 closed questions coded on a Likert scale (I fully agree, I agree, Neutral, I do not agree, I fully disagree). The questions described the different acts of SGBV as put forward in the UNHCR guidelines on SGBV prevention and response of 2003 (4) and inquired about a gender conceptualisation: did they perceive the described behaviour as a violent act when it was done to girls and women and subsequently if this happened to boys and men? Finally, the questionnaire was translated and back-translated into the languages of the main groups of AS in the 8 participating countries at that time, as well as the official language of that countries, being: Arabic, Dari, Dutch, English, French, Greek, Hungarian, Portuguese, Romanes, Somali, Spanish, Russian, Maltese, Amharic and Tigrigna. A pilot test was done with members of the CAB. Before the interview respondents had previously agreed with the CRs on the language of the interview.

Data analysis

The questionnaires from the Senperforto project included quantitative and a few qualitative parts. Quantitative data were introduced directly in IBM® SPSS software database. For qualitative data, a framework analysis technique was first applied, upon which further categorisation and introduction were done with IBM® SPSS software with regard to types of violence occurrence. However, for this study at hand, only the quantitative data have been used.

More specifically, we considered the data on socio-demographic characteristics and the data on knowledge of the respondents on SGBV. We used a factor analysis approach using Principal Component Analysis (PCA) (119) for a factor extraction with Varimax rotation, to reduce the volume of the data. We conducted a multivariate analysis of 82 variables regarding SGBV knowledge. We considered the principles of PCA, referring

that principal components (PC) are independent, and labelling resulted from the interpretation of the data (39). These PC's were analysed and named dimensions of SGBV, according to the questions with higher loading result from PCA output. The next step consisted of the recodification of the PC's – dimensions of SGBV – into nominal variables, each of them with three categories (negative, neutral and positive) according to the crosscut values for lower and upper barrier outliers. The lower fence outliers matched with the group of people that fully agreed with the dimension of violence in analysis while the upper fence outliers matched with the ones that fully disagreed.

Subsequently, we selected specific socio-demographic characteristics for residents and professionals. Commonly analysed socio-demographic characteristics included: country of research (from here called host country), sex, age, marital status, status according to immigration law and type of facility living/working (detention centre, open reception centre, local reception initiative, return centre). Specifically for residents, we included the variables: having children, year of arrival in Europe and hosting country, kind of accommodation (house, apartment, container, room, homeless…), attained education, daily activity in the country of origin and hosting country. For professionals, we included: number of languages speaking and number of languages needed at work (here interpreted as language skills), to be working in a reception facility by the time of questionnaires and the current occupation. The statistical test applied was the Chi-square test, to understand if a significant statistical association exist at the 5% significance level. Fisher's exact test was specifically used for tables with expected cell frequencies less than 5.

Results

Profile of respondents

The majority of residents were male (64.6%), aged from 19 to 29 years old (41.4%) and single (66.8%). Residents were originally from 53 different countries of origin, with most of them originating from Somalia (20.9%), Afghanistan (11.1%), Nigeria (8.5%), Guinea Conakry (6.3%) and Iraq (4.5%). For the group of professionals, the majority were women (56.2%), aged from 30 to 39 years old (42.3%) and married (56.8%). Professionals were originally from Belgium (13.9%), Portugal, (13.9%), Greece (12.9%),

Malta (12.9%), Ireland (7.9%) and Hungary (7.9%). Table 4 presents an overview of socio-demographic characteristics for residents and professionals.

Table 4: Socio-demographic characteristics of Residents and Professionals, in EARF.

Residents	N 398	%	**Professionals**	N 202	%
Host country (of research)			**Country of research**		
Belgium	61	15.3	Belgium	32	15.8
Greece	36	9.0	Greece	30	14.9
Hungary	68	17.1	Hungary	21	10.4
Ireland	63	15.8	Ireland	32	15.8
Malta	61	15.3	Malta	30	14.9
The Netherlands	33	8.3	The Netherlands	5	2.5
Portugal	53	13.3	Portugal	37	18.3
Spain	23	5.8	Spain	15	7.4
Marital Status			**Marital Status**		
Single	266	66.8	Single	65	32.7
Engaged	6	1.5	Engaged	4	2.0
Married/Legally cohabiting	99	24.9	Married/Legally cohabiting	113	56.8
Prior relation. not anymore	27	6.8	Prior relation. not anymore	17	8.5
Missing	0	-	Missing	3	-
Legal Status			**Legal Status**		
Asylum Seeker	246	62.3	National Citizen	109	87.2
Temporary Residence Status	83	21.0	Temporary Residence Status	5	4.0
Recognised Refugee	38	9.6	Recognised Refugee	8	6.4
Refused Asylum Seeker	16	4.1	Immigrant worker	3	2.4
Undocumented	9	2.3	Missing	77	-
Other	3	0.8	**Type of facility working**		
Missing	3	-	Detention centre	14	8.6
Type of facility living			Open reception centre	124	76.5
Detention centre	10	2,6	Return centre	1	0.6
Open reception centre	356	89,4	Other	23	14.2
Return centre	5	1,3	Missing	40	-
Other	18	4,6	**Current occupation**		
Missing	9		Social worker	81	50.0
Year of arrival in Europe			Director	32	19.8
< 2000	8	2.0	Security, police, army	17	10.5
2000 - 2004	36	9.1	Administration logistics	17	10.5
2005 - 2008	193	48.6	Health workers	12	7.4
2009-2010	160	40.3	Other	3	1.9
Missing	1	-	Missing	40	-
Year of arrival to host country			**Year they started working**		

< 2000	3	0.8	< 2000	21	13.1
2000 - 2004	29	7.3	2000-2004	31	19.4
2005 - 2008	186	47.0	2005-2008	77	48.1
2009-2010	178	44.9	2009-2010	31	19.4
Missing	2	-	Missing	42	-

SGBV conceptualisation

Residents

When analysing the results of the multivariate analysis of PC's we found 14 new variables, which represent 83.56% of the total variance of the data. These new variables were analysed according to the questions with higher PCA output loading, labelled as dimensions of SGBV according to UNHCR definition (4) and represent residents SGBV conceptualisation.

Residents SGBV conceptualisation can be defined into 14 dimensions, being: abuse, rape and trafficking; denial of opportunities and services; humiliation; verbal sexual harassment; honor killing and maiming; confinement; social exclusion/ostracism based on sexual orientation; denial of access to exercise civil, social, economic rights; marital rape; denial of education of girls and women; early marriage; sexual innuendo; discrimination; genital mutilation. The questions that corresponded to each dimension are described in table 5.

Table 5: Principal component analysis for Residents: representative questions and output loading (Varimax variation).

RESIDENTS	
Dimensions of SGBV	**PCA Loading output**
SEXUAL VIOLENCE	
PC12 – Sexual innuendo	
Unwelcome and unwanted sexual comments or invitations to girls/women.	0.862
And if this happens to boys/men?	0.876
PC4 – Visual sexual Harassment	
Made to watch photos of naked persons as a girl/woman?	0.820
And if this happens to boys/men?	0.817
Made to watch porn as a girl/woman?	0.802
And if this happens to boys/men?	0.767

PC9 – Marital Rape	
Unwanted sex within a relationship and/or marriage to a girl/woman?	0.754
And if this happens to boys/men?	0.793
PC1 – Abuse, rape and trafficking	
Unwelcome penetration of the vagina and/or anus by an organ or by an object of girl/woman.	0.831
And if this happens to boys/men?	0.831
Forced prostitution of girls/women?	0.817
And if this happens to boys/men?	0.819
Sexual slavery/trafficking of girls/women?	0.749
And if this happens to boys/men?	0.802
Rape of girls/women as a weapon of war?	0.791
And if this happens to boys/men?	0.789
PSYCHOLOGICAL VIOLENCE	
PC3 – Humiliation	
Unwelcome remarks and comments from nonsexual nature to girls/women.	0.767
And if this happens to boys/men?	0.787
Teasing, showing no respect, racist or discriminating comments to a girl/woman?	0.716
And if this happens to boys/men?	0.728
PC6 – Confinement	
Someone denying a girl/woman to be together with their partner in private?	0.751
And if this happens to boys/men?	0.700
HARMFUL CULTURAL PRACTICES	
PC10 – Denial of education of girls and women	
Neglecting female children, denial from education to female children?	0.623
And if this happens to boys/men?	0.653
PC14 – Genital mutilation	
Circumcision of girl/woman?	0.450
PC11 – Early marriage	
Child marriage of a girl/woman?	0.803
And if this happens to boys/men?	0.817
PC5 - Honor killing and Maiming	
Killing a girl/woman in the name of family honour?	0.751
And if this happens to boys/men?	0.745
SOCIO-ECONOMIC VIOLENCE	
PC13 – Discrimination	
Being treated differently by other people because of being a girl/woman?	0.569
And if this happens to boys/men?	0.603

PC2 - Denial of opportunities and services	
Denial of access to education, health assistance or remunerated employment because of the residence status of a girl/woman.	0.792
And if this happens to boys/men?	0.790
Denial of access to education, health assistance or remunerated employment because of being a girl/woman.	0.774
And if this happens to boys/men?	0.763
PC8 – Denial of access to exercise civil, social, economic rights	
As a girl/woman to be isolated, confined and/or deprived of liberty of movement	0.644
And if this happens to boys/men?	0.637
PC7 – Social exclusion/ostracism based on sexual orientation	
Being treated differently by other people because of the sexual orientation of girl/woman.	0.853
And if this happens to boys/men? 0.855	

Professionals

The multivariate analysis of PC's for the group of professionals resulted in 17 new variables representing 86.92% of the total variance of collected data. These new variables were analysed and labelled dimensions of SGBV (4), and describe professionals SGBV conceptualisation. In this sense, for professionals the concept of SGBV includes the following dimensions: abuse, rape and trafficking; denial of opportunities and services; visual sexual harassment; social exclusion/ostracism; physical assault with permanent consequences; relational violence; early marriage; physical assault without permanent consequences; verbal violence; sexual exploitation; honor killing and maiming; threat and humiliation; confinement – individual level; Denudement; sexual innuendo; parental relational violence; genital mutilation. The representative questions of each dimension of SGBV are described in Table 6.

Table 6: Principal component analysis for Professionals: representative questions and output loading (Varimax variation).

PROFESSIONALS	
Dimensions of SGBV	**PCA Loading output**
SEXUAL VIOLENCE	
PC15 – Sexual innuendo	

Unwelcome and unwanted sexual comments or invitations to girls/women.	0.619
And if this happens to boys/men?	0.600
PC3 – Visual sexual harassment	
Made to watch somebody undress as a girl/woman?	0.858
And if this happens to boys/men?	0.879
Made to watch photos of naked persons as a girl/woman?	0.887
And if this happens to boys/men?	0.817
PC14 – Denudement	
Having to undress in front of other people watching as a girl/woman?	0.698
And if this happens to boys/men?	0.799
PC1 –Abuse, Rape and Trafficking	
Unwelcome penetration of the vagina and/or anus by an organ or by an object of girls/women?	0.930
And if this happens to boys/men?	0.930
Trafficking of people for their organs?	0.833
And if this happens to boys/men?	0.833
PC10 – Sexual exploitation	
Sex with a girl/woman in exchange for survival, food for the children, shelter, money, papers, other favours.	0.916
And if this happens to boys/men?	0.916
PHYSICAL VIOLENCE	
PC8 – Physical assault without permanent consequences	
Physical assault with no permanent consequences (e.g. hitting, kicking, pulling)	0.773
And if this happens to boys/men?	0.790
PC5 – Physical assault with permanent consequences	
Physical assault with permanent consequences (e.g. burning, stabbing, maiming)	0.877
And if this happens to boys/men?	0.877
Killing a girl/woman in the name of family honour?	0.798
And if this happens to boys/men?	0.843
PSYCHOLOGICAL VIOLENCE	
PC 12 – Threat and humiliation	
Threatening of girls/women with unwelcome not sexual acts (make you feel scared.…)	0.548
And if this happens to boys/men?	0.549
Teasing, showing no respect, racist or discriminating comments to a girl/woman?	0.546
And if this happens to boys/men?	0.546
PC9 – Verbal violence	
Unwelcome remarks and comments from nonsexual nature to girls/women.	0.759
And if this happens to boys/men?	0.759
PC13 – Confinement, individual level	

As a girl/woman to be isolated, confined and/or deprived of liberty of movement	0.720
And if this happens to boys/men?	0.642
PC6 – Relational violence	
Someone denying a girl/woman to be together with his or her partner in private?	0.863
And if this happens to boys/men?	0.862
Someone denying a girl/woman to be together with her parents or children in private.	0.812
And if this happens to boys/men?	0.812
PC16 – Parental relational violence	
Someone denying a girl/woman to fulfil her role as a mother (no money for food)	0.669
And if this happens to boys/men?	0.669
HARMFUL CULTURAL PRACTICES	
PC17 – Genital mutilation	
Circumcision of girl/woman?	0.417
And if this happens to boys/men?	0.632
PC7 – Early marriage	
Child marriage of a girl/woman?	0.882
And if this happens to boys/men?	0.862
PC 11 – Honor killing and maiming	
Injuring a girl/woman in the name of family honour?	0.853
And if this happens to boys/men?	0.853
SOCIO-ECONOMIC VIOLENCE	
PC2 – Denial of opportunities and services	
Denial of access to education, health assistance or remunerated employment because of the ethnic background of a girl/woman	0.874
And if this happens to boys/men?	0.874
Denial of access to education, health assistance or remunerated employment because of the residence status of a girl/woman.	0.846
And if this happens to boys/men?	0.846
PC4 – Social exclusion/ostracism	
Being treated differently by other people because of the sexual orientation of a girl/woman?	0.794
And if this happens to boys/men?	0.806
Being treated differently by other people because of the ethnic background of a girl/woman?	0.780
And if this happens to boys/men?	0.780

SGBV conceptualisation and socio-demographic characteristics

The association between each dimension of SGBV conceptualisation and residents' socio-demographic characteristics and professionals' characteristics are presented in

Table 7 and 8, respectively. Our results show that what is considered a specific behaviour or a sexual act as violence is different according to specific socio-demographic characteristics. We will now describe the significant findings, first for residents and subsequently for professionals, grouped into the five types of SGBV preconized by UNHCR (4).

Residents

Sexual violence: Residents sexual innuendo' conceptualisation was associated with the host country (p=0.010), the kind of accommodation (p=0.026), the level of education of residents (p=0.016) or daily activity in the host country (p=0.037). This finding means that residents living in Belgium and Ireland, in a container, studio or room, with an education (primary, secondary or higher), or the ones that do not have a job in the host country tend to disagree with sexual innuendo being a type of violence. Marital rape was associated with the age of residents (p=0.001), and the kind of accommodation where they were living in (p=0.001). Youth and adults' residents (0-39 years old) living in containers, room or studio tend to disagree that marital rape is a form of violence. Abuse, rape and trafficking were associated with host country (p=0.001). Residents that tend to disagree were hosted in Portugal and Spain.

Psychological violence: The concept of confinement was significantly associated with age (p= 0.032), meaning that the residents aged until 18 years old tended to disagree with confinement as a form of violence.

Harmful cultural practices: Denial of education for girls as violence was associated with marital status, meaning that single residents tended to fully agree with this as a form of violence (p=0.033). The conceptualisation of genital mutilation as a form of violence was associated with attained education (p=0.033). Honor killing and maiming conceptualisation were associated with the country of research (p=0.001), sex (male or female) (p=0.004) and age (p=0.042) of residents. Residents hosted in Belgium and Greece, male and aged from 19 to 39 years old tend to disagree with this conceptualisation as a form of violence.

Socio-economic violence: Social exclusion based on sexual orientation concept was associated with the time of arrival to Europe or host country (p=0.018 and 0.007), and daily activity in the country of origin (p=0.046). Residents that arrived recently at the host country or Europe (less than 5 years) and used to have a job in the country of origin tended to fully disagree that social exclusion based on sexual orientation is a form of violence.

Table 7: Residents – SGBV conceptualisation and socio-demographic characteristics (p-values: Chi-square test and Fisher Exact test).

Socio-demographic characteristics of Residents	**Dimensions of SGBV Concept**													
	Sexual				**Psychological**		**Harmful Cultural Practices**				**Socio-economic**			
	PC 12	PC 4	PC 9	PC 1	PC 3	PC 6	PC 10	PC 14	PC 11	PC 5	PC 13	PC 2	PC 8	PC 7
Host country	**0.010**	0.167	0.127	**0.001**	0.266	0.183	0.155	0.571	0.482	**0.001**	0.678	0.842	0.078	0.086
Sex	0.268	0.650	0.580	0.056	0.829	1.000	0.886	0.897	0.070	**0.004**	0.374	1.000	0.852	0.305
Age	0.185	0.625	**0.001**	0.212	0.806	**0.032**	0.059	0.545	0.470	**0.042**	0.616	1.000	0.105	0.174
Marital status	0.842	0.273	0.754	0.281	0.362	0.204	**0.033**	0.363	0.189	0.580	0.253	0.565	0.911	0.716
Having Children	0.104	1.000	0.243	0.288	0.289	0.125	0.502	0.530	0.295	0.874	0.498	1.000	1.000	0.801
Status immigration Law	0.195	0.087	1.000	0.321	0.626	0.798	1.000	0.124	0.328	1.000	0.161	1.000	0.458	0.064
Year of arrival Europe	0.708	1.000	0.544	0.281	1.000	0.773	0.679	0.484	0.603	0.679	0.079	1.000	0.340	**0.018**
Year of arrival to host country	0.458	1.000	0.513	0.075	1.000	0.737	0.618	0.420	0.543	1.000	0.295	1.000	0.280	**0.007**
Type of reception facility living	0.394	0.646	0.792	0.062	1.000	0.332	1.000	1.000	1.000	0.471	0.436	1.000	1.000	1.000
Kind of accommodation	**0.026**	0.439	**0.001**	0.388	0.934	0.056	0.951	0.520	1.000	0.123	0.728	0.645	0.207	0.603
Attained education	**0.016**	0.668	0.647	0.415	0.899	0.560	0.447	**0.033**	0.558	0.180	0.074	0.611	0.940	0.390
Daily activity country of origin	0.587	0.215	1.000	0.232	0.065	1.000	0.453	0.902	0.308	0.412	0.288	1.000	0.659	**0.046**
Daily activity host country	**0.037**	1.000	0.233	0.412	0.502	0.650	0.834	0.467	0.176	0.278	0.758	0.308	0.070	0.744

Significant p-value $p<0.05$ bolded.

PC 12: Sexual innuendo; PC 4: Visual sexual harassment; PC 9: Marital rape; PC 1: Abuse, rape and trafficking; PC 3: Humiliation; PC 6: Confinement; PC 10: Denial of education of girls and women; PC 14: Genital mutilation; PC 11: Early marriage; PC 5: Honor killing and maiming; PC 13: Discrimination; PC 2: Denial of opportunities and services; PC 8: Denial of access to exercise civil, social and economic rights; PC 7: Social exclusion/ostracism based on sexual orientation.

Professionals

Sexual violence: For professionals, sexual innuendo conceptualisation was associated with language skills (p=0.012). Professionals with good language skills (at least 2 EU languages) tended to fully disagree. Visual sexual harassment conceptualisation was associated with language skills (p=0.038) and status immigration law (p=0.037). The tendency to disagree was found in professionals without the national citizenship or with basic language skills (1 EU language). Denudement conceptualisation was associated with the hosting country and language skills (p=0.030, p=0.000, respectively). Professionals from Portugal or with basic language skills (1 EU language) were more likely to fully disagree. Abuse, rape and trafficking conceptualisation was different according to the age of professionals (p=0.021). Older professionals (> than 40 years old) tended to fully disagree. Further, sexual exploitation conceptualisation as a form of violence was associated with hosting country, marital status and language skills (p=0.002, p=0.014 and p=0.031). The tendency to fully disagree was found in professionals from Malta, the Netherlands and Portugal, married or with good language skills (1 EU and 1 non-EU language).

Physical violence: The concept of physical assault without permanent consequences as a form of violence was significantly associated with hosting country (p=0.015). Professionals working in Hungary tended to fully disagree.

Psychological violence: Verbal violence was associated with marital status (p=0.042), with single professionals disagreeing more than the average of respondents. Confinement (individual level) as a form of violence was associated with host country (p=0.004), the status of immigration (p=0.001), language skills (p=0.040) and the fact of being working (p=0.005). Professionals that tended to fully disagree were from Belgium and the Netherlands, or without the national citizenship, with good language skills (2 EU languages) or with a current job at the time of the questionnaire.

Harmful cultural practices: Genital mutilation conceptualisation was associated with professionals' sex (p=0.043), meaning that male rather than female professionals tended to fully disagree with it as an act of violence. Early marriage conceptualisation as a form of violence was different according to the hosting country, type of reception facility,

language skills or the fact of being working (p= 0.001, p=0.027, p=0.047 and p=0.031). Professionals working in Belgium, in open reception facilities or with good language skills tended to fully disagree.

Socio-economic violence: Denial of opportunities and services as a form of SGBV were associated with sex (p=0.049), and female professionals were more likely to fully disagree that it represented a kind of violence.

Table 8: Professionals – SGBV conceptualisation and socio-demographic characteristics (p-values: Qui-square Test and Fisher Test).

Socio-demographic characteristics	**Dimensions of SGBV Concept**																
	Sexual violence					**Physical Violence**		**Psychological violence**					**Harmf Cultural Practices**			**Socio-economic**	
	PC 15	PC 3	PC 14	PC 1	PC 10	PC 8	PC 5	PC 12	PC 9	PC 13	PC 6	PC 16	PC 17	PC 7	PC 11	PC 2	PC 4
Host country	0.363	0.142	**0.030**	0.516	**0.002**	**0.015**	0.687	0.388	0.180	**0.004**	0.391	0.556	0.594	**0.001**	0.725	0.081	0.473
Sex	0.451	0.072	0.736	0.078	0.360	0.256	0.503	0.509	0.333	0.932	1.000	0.502	**0.043**	0.884	0.345	**0.049**	0.498
Age	0.618	1.000	0.106	**0.021**	0.647	0.443	0.937	0.126	0.068	0.801	1.000	0.488	0.618	0.871	1.000	0.441	0.483
Marital status	0.753	0.133	0.734	0.451	**0.014**	0.469	0.512	0.381	**0.042**	0.053	0.533	0.773	0.609	0.189	0.489	0.616	0.500
Status immigration Law	0.146	**0.037**	0.680	0.125	0.784	0.440	1.000	0.234	0.450	**0.001**	1.000	0.433	0.851	0.607	0.783	0.639	0.301
Type of reception Centre working	0.851	0.551	0.397	0.497	0.073	0.487	0.829	0.189	0.833	0.282	0.630	0.763	0.734	**0.027**	0.373	0.229	0.300
Number of languages speaking	0.624	0.617	0.381	0.969	0.782	0.267	0.541	0.651	0.587	0.660	0.185	0.233	0.197	0.308	0.997	0.440	1.000
Number of languages needed at work	**0.012**	**0.038**	**0.000**	0.131	**0.031**	0.377	0.470	0.434	0.387	**0.040**	0.078	0.970	0.706	0.**047**	0.454	0.615	0.519
Actually working in a Reception centre	0.192	1.000	0.125	0.425	0.817	0.649	0.762	0.064	1.000	**0.005**	1.000	0.674	0.192	**0.031**	0.443	0.568	0.685
Current ocupation	0.720	0.593	0.063	0.696	0.213	0.193	0.747	0.235	0.079	0.460	0.833	0.469	0.836	0.353	0.528	0.930	0.819

Significant p-value $p<0.05$ bolded.

PC 15: Sexual innuendo; PC 3: Visual sexual harassment; PC 14: Denudement; PC 1: abuse, rape and trafficking; PC 10: Sexual exploitation; PC 8: Physical assault without permanent consequences; PC 5: Physical assault with permanent consequences; ; PC 12: Threat and humiliation; PC 9: Verbal violence; PC 13: Confinement, individual level; PC 6: Relational violence; PC 16: Parental relational violence; PC 17: Genital mutilation; PC 7: Early marriage; PC 11: Honor killing and maiming; PC 2: Denial of opportunities and services; PC 4: Social exclusion and ostracism.

Discussion

Understanding SGBV conceptualisation and how socio-demographic characteristics influence it is a complex process (130). Our study explores SGBV conceptualisation according to residents and professionals from EARF, covering a wide cultural diversity in itself as well as a myriad of the country of origins of the refugees, AS and undocumented migrants. A multivariate analysis of PCs shows differences in SGBV conceptualisation for residents and professionals. A broader concept of SGBV was found in professionals group when comparing to residents. The main difference relates to professionals referring physical violence also as part of SGBV conceptualisation, what is aligned with UNHCR SGBV definition (4). Considering the differences in SGBV conceptualisation among residents and professionals, their perception of a specific act of SGBV being violence is also different. In this sense, we speculate that a different SGBV conceptualisation among these groups can be seen as a risk factor to victimisation and/or perpetration. Our result is in line with recent research supporting the existence of tensions between different SGBV definitions and its subjectivity of being a refugee, AS or migrant and professionals working with them (62).

Another significant finding is the fact that the conceptualisation of committing an SGBV act is described as being equally violent if it is afflicted upon a woman or a man. Previous research reports gender as a determinant with direct influence in the forms and consequences of violence (39). Inequities in gender power relations and traditional beliefs of men's power and control towards women can trigger women's vulnerability to violence (107). However, from a conceptualisation perspective, our results reinforce that gender-based violence is considered universal with no differences arising from the fact of SGBV being committed towards women or men (45,131,132). This fact is in line with recent research on the incidence of SGBV, reporting that both women/girls and men/boys are at risk of being victims and/or perpetrators (9,45). Moreover, significant statistic associations between the gender of respondents and specific SGBV conceptualisation were found. Our findings suggest that male residents tend to disagree that honour killing and maiming are SGBV acts when compared to the mean average of respondents. While for professionals, sex was associated with genital mutilation, with male professionals disagreeing with it as a concept of violence;

female professionals tend to disagree with the concept of denial of opportunities and services as violence.

For professionals, our results suggest that professionals aged above 40 years old tend to disagree with abuse, rape and trafficking as an act of SGBV. We highlight the fact that professionals working in EARF do not consider this behaviour like a violent act, while it is legally considered a crime. Moreover, professionals without the national citizenship tend to disagree with the concept of visual sexual harassment and confinement as acts of violence. Again, we found that professionals working with vulnerable populations tended to disagree that violent acts condemned by law were violence. We speculate that professionals are at risk of being perpetrators, and reinforce the recent results on the high incidence of state authorities' violence towards migrants and refugees (53). Another relevant finding for both groups is that differences were found according to the host country. This fact suggests the need for a common European SGBV prevention policy, based on an adequate and widespread SGBV conceptualisation to decrease the risk of SGBV. Our research confirms that SGBV conceptualisation is associated with socio-demographic characteristics. In this sense, our study enhances the Socio-Ecological Model as an explanatory model of SGBV (3,75,118), and the need of moving forward an individual conceptualisation of SGBV, to a broad conceptualisation, considering the influences of interpersonal, community and societal factors (133).

From a public health perspective, the conceptualisation of a health problem is considered the baseline of primary prevention (44). Addressing violence has evolved to a public health approach, making prevention a reality through the identification and adjustment of life and environmental conditions (133). In this sense, we highlight the importance of our results acknowledging differences in SGBV conceptualisation for residents and professionals in EARF, and the association with socio-demographic factors. Prevention and response to sexual victimisation can occur in three phases: (a) prevention of victimisation, (b) early identification of persons in violent situation and intervention; (c) care for victims of violence (4). Acknowledging the increasing trend of violence towards vulnerable people (11,53,79), we emphasise the urgency of increased primary prevention, preventing violence before it

occurs (9,129). Stating that, different studies have concluded that violence is a learnt behaviour, and evidence is growing to affirm that prevention works (9,44,109,134).

Moreover, we highlight the importance of SGBV prevention strategies being based on similar and widespread SGBV conceptualisation. What is, or what is not considered an SGBV act should be identical for residents and professionals, and if not as demonstrated by our results, it should be the starting point for preventive measures. We believe that engaging with residents and professionals in the field is essential to promote comprehensive SGBV conceptualisation, to improve violence prevention and build capacity (45,135,136).

Public health institutions and professionals play an essential role in prevention and intervention on SGBV (136,137). Professionals working with residents of EARF are in a privileged position to prevent and mitigate SGBV (9), being the first contact with potential victims and perpetrators. Our results suggest that compared to residents, professionals from EARF have a broader knowledge on SGBV However, previous evidence has shown that healthcare workers reported the lack of knowledge on SGBV and needs on regular training (129), for integrated and widespread preventive and response measures (45). A recent study on migrants and refugees travelling through Balkan countries to Northern Europe stated that half of the perpetrators of the reported violence were State authorities (53). Furthermore, in EARF context, professionals have been identified as potential perpetrators of SGBV, especially socio-economic violence (45). They are in an unequal and hierarchy superior legal position, which tends to promote power differences with residents. Even though professionals tend to have a broader SGBV definition, works need to be done to move forward an acceptable conceptualisation perspective to an acceptable behaviour towards SGBV prevention. An international and consensual SGBV definition should be applied to the context of EARF, and from that, specific training on it, as on the different types of SGBV should be conducted. Our results urge the need for promoting a shared SGBV concept among all professionals from different EU countries to promote SGBV-free EARF. Further research is needed to understand specific SGBV conceptualisation of professionals' perpetrators working with vulnerable populations.

Overall, this study contributes to expanding the evidence on SGBV conceptualisation. Improvements can be made in existent public health policies to reduce SGBV burden among vulnerable populations, by reducing discrepancies in SGBV conceptualisation among vulnerable populations. Information, education and communication should be improved to promote a common SGBV conceptualisation. We support previous research recognising the need for primary prevention addressing SGBV as pivotal strategies to avoid SGBV before it occurs and preventing re-victimisation (3,111,129). Efforts should be made to ensure that vulnerable population and workforce knows what is, or what is not an SGBV act if we want to mitigate the problem. Furthermore, we intend to contribute to reducing the gap in adequate prevention and response practices to SGBV occurrence (9,138). However, limitations of the study should be considered. The Senperforto project applied the multi-type of sampling methods, as random and representative sampling was not possible in all countries. Even though our results cannot be generalised, we believe it can be transferable to similar populations in comparable contexts in the sense that a broad SGBV conceptualisation is presented in our research – understanding refugees, AS and undocumented migrants' perspective and also professional's perspective. Further, other limitations of the Senperforto project have already been identified in a previous study (45).

Ultimately, we consider that while addressing the problem of violence towards vulnerable populations, specific prevention and response practices should be a priority. Worldwide, we assist to an increase of acts of violence, the number of countries with active armed conflicts is increasing, and movements of people fleeing violence are a frequent subject on media (11). It seems unlikely that the current violence epidemic that we assist to will diminish and the subsequent population flows (79). The vulnerability of forced migrants to accumulate exposure to traumatic events as violence is high. This exposure can be both direct and indirect and both in the sense of victimisation and/or (participation in) perpetration. The understanding of their perception of violence is of crucial importance if we want to achieve appropriated public health policies that reduce both prevalence and burden of violence. We suggest that further research should continue to focus on primary prevention and SGBV conceptualisation. Also, it would be valuable to compare conceptualisation between migrants

and hosting population once public health policies should be adapted to the cultural and structural context and aligned with Socio-Ecological Model addressing preventive measures of SGBV (44). Another pertinent research topic regards the potential association between SGBV conceptualisation and case disclosure.

Conclusion

Our results suggest the existence of discrepancies in what is considered a sexually violent act, among residents and professionals. Significant statistical associations were found between SGBV conceptualisation and specific socio-demographic characteristics. We highlight that older professionals tend to disagree that abuse, rape and trafficking are a form of violence, raising the question on their capacity to respond adequately to SGBV occurrence within EARF, and enhancing the need for sensitisation, training, and a strict code of conduct.

An extensive understanding of SGBV conceptualisation is required to address preventive SGBV measures comprehensively and holistically. We believe that a socio-ecological approach addressing prevention across all levels, together with a public health approach to violence is primordial. A call for action urges the implementation of SGBV prevention programs in EARF context, aligned with SGBV conceptualisation of the target population. More information, education and communication are needed to achieve a broad SGBV conceptualisation among the vulnerable population and public health workers, through European countries. Further, we challenge policymakers and prevention programs implementers to commit to a constant monitoring and systematic evaluation of SGBV programs, to achieve effective, efficient and sustainable preventive interventions.

4.2 Study 2 – Assessing reported cases of sexual and gender-based violence, causes and preventive strategies, in European asylum reception facilities

Introduction

Sexual and Gender-based Violence (SGBV) is a widespread public health issue and a violation of human rights (10,11) rooted in gender and power inequities (38). Moreover, SGBV induces a wide range of health sequelae that range from physical consequences to emotional, psychological, sexual and/or reproductive health impacts (4,23,50). Yet, as a result of victimisation, social stigma, fear or discrimination may impede their familial and community well-being and active participation in society (4,23,62).

Migrants, refugees and asylum-seekers (AS) are considered a vulnerable group for sexual and reproductive diseases, including SGBV (23,45,51,58,60,139). In the context of (forced) migration, SGBV is defined as any act of violence, inducing physical, psychological or sexual suffering, threats, coercion or deprivation of freedom on the basis of a person' sex or gender (4). SGBV comprises five dimensions of violence – physical, psychological, sexual, socio-economic and harmful cultural practices (4). The Socio-Ecological model is used to comprehend the complexity of SGBV problematic (3,4,75), the implication being that there is no single cause for victimisation and/or perpetration. Therefore, SGBV is considered an outcome of multiple factors that can be grouped into four interacting levels – individual, relationship, community and society (8,9).

The incidence of SGBV towards refugees, AS and undocumented migrants is high (6,38,45,54,62,80,99). A systematic review on violence and health concerns among AS, in high-income host countries, found a 35.7% prevalence of sexual harassment in detention centres perpetrated by detention officers; a sexual violence prevalence of 44.2% reported by AS in the context of medical consultation; and four studies reporting sexual torture methods among torture victims (138). A study conducted in Belgium and the Netherlands on the nature of SGBV that refugees, AS and undocumented migrants had experienced since arrival in Europe reported a high incidence of multi-types of violence (332 experiences reported) including sexual harassment, gang or multiple rapes and sexual exploitation (51).

Considering the European context of asylum reception facilities, the risk of SGBV is constant and the incidence high (6,45,80). Indeed, research shows that SGBV vulnerability, especially of women and girls, can increase due to inadequate living conditions, overcrowding at reception facilities, lack of gender-sensitive in asylum procedures and at reception facilities (6,79,80). In Europe, a country-wise distribution of SGBV incidence, in refugees, AS and undocumented migrants, is still inexistent (4,45). However, data exists on sexual aggression among young adults, in Europe. In this study, the highest one-year prevalence rate of female victimisation or since the age of consent was found in the Netherlands, Germany, Sweden, Spain, Finland and Greece, in opposition with Belgium, Portugal, Malta and Hungary. Even though this study assesses the available evidence of SGBV and compares studies with a different methodology, sample composition and sexual aggression definition, it gives a clear picture of the dimension of SGBV problematic in Europe (50).

Although evidence exists that SGBV can be prevented (9,107,134) effective interventions are still not clearly identified (140). A systematic review of evaluations of primary prevention strategies for sexual violence has concluded that only three programs have proved to have a positive impact on prevention (111). Indeed, it is clear that prevention of SGBV should be rooted in a public health approach (37,109,110,134). Already in 2003, the European Council Directive 2003/9/CE stated that victims of rape and sexual violence should receive specific treatment, and reception facilities should be prepared to address them (29,32). The recast of 2013 (European Council Directive 2013/33/EU) laying down standards for the reception of applicants for international protection stated that reception and asylum facilities should implement appropriate measures to prevent gender-based violence including sexual assault and harassment (70). Recently, the Center for Disease Control has launched a technical package on preventive strategies addressed to communities and states to reduce the incidence and consequences of sexual violence (9). Even though achievements have been made, a lack of research addressing the specific context of asylum reception facilities exists (2,45).

Objectives

Acknowledging that SGBV is a preventable public health problem, we aim to explore reported cases of SGBV described by residents – refugees, AS and undocumented migrants – and professionals, living and working in European Asylum Reception Facilities (EARF), causes and preventable measures. The reported cases take into account the violence that was witnessed and/or experienced, violence that was committed among residents and violence committed by professionals towards residents or vice versa. Furthermore, we intended to analyse potentially preventable measures of SGBV described by the same population. In this sense, we are committed to contributing to the development of evidence-based SGBV prevention measures, adopting a public health approach.

Methods

Conceptual model

Our conceptual framework was founded on a public health approach to violence (8) and the Socio-ecological Model (75) to address SGBV. From a public health perspective, primary prevention is considered the most effective way to prevent violence having a population-level effect (110). In this sense, to understand and prevent violence four fundamental steps should be taken into account: (1) defining the problem, (2) identifying the factors that increase the risk for violence, (3) developing and testing prevention strategies, and (4) disseminating and implementing broadly (8). The Socio-ecological model uses a multi-factorial system to understand SGBV causes, consequences and subsequent preventable measures (3,4). Indeed, this model recognises that events in higher social ecosystems might influence human development thus their impact on events in lower social ecosystems (117). It incorporates four-level factors –individual, relationship, community and society – to understand, mitigate and prevent violence (8,9,118). In this sense, we consider that primary prevention measures should focus on the contributing factors for violence at four dynamic levels – individual, relational, community and society. Through the analysis of reported cases of SGBV, we will apply a four-level perspective in order to enhance primary prevention strategies for SGBV, in this specific context – EARF.

Senperforto project

A cross-sectional study was developed using data from the KAP questionnaire of the Senperforto Project.

Population, Sampling and Data collection

As previously mentioned, our study sample (n=600) comprises residents (refugees, AS and undocumented migrants) and professionals (service and health care providers) from EARF in eight European countries: Belgium, Ireland, Malta, Greece, Hungary, Portugal, Netherlands and Spain. A full description of the sampling strategy can be read in Chapter 3.

Data were collected through semi-structured interviews based on a KAP questionnaire and implemented by trained community researchers (CR). The data on country of research, living conditions of residents within EARF and awareness of respondents regarding the existence of preventable measures was collected through closed questions. For the data on SGBV reported cases, causes and preventable measures we used open questions.

Data analysis

At first data cleaning, we excluded all the Spanish interviews for the open questions part regarding violence experiences, attitudes and prevention and response measures. The notes and transcriptions of the CR were scarce and inconsistent, and we doubted whether the validity of the data could be guaranteed (45). This brought the total of analysed interviews down to 562 interviews: 375 with residents and 187 with professionals. For descriptions of violence exposure, causes and preventable measures, we first applied a framework analysis technique to categorise types of violence, perpetrators, victims and relations. Data was entered into IBM® SPSS software. For this process three researchers were involved, they previously have agreed on a set of categories that were then included in the database. Quantitative data from closed questions were entered directly into IBM® SPSS software database. Data analysis comprises statistical tests – *Chi-square Test* and *Fisher's exact test* –, to analyse if a significant statistical association exists at the 5% significance level. Fisher's exact test was specifically used for tables with expected cell frequencies less than 5.

Results

Respondents included 562 persons: 375 (66.7%) residents and 187 (33.3%) professionals. The majority of respondents were male (56.9%), aged from 19 to 39 years (67.3%). Residents mostly had asylum seeker status (60.3%), while professionals had national citizenship (87.2%). The majority of residents lived in an open reception centre (74.0%), more specifically in a room (45.3%) or house/apartment (41.6%), with a common area (89.3%) and a place to sleep (97.9%) of 2-4m^2 (43.0%). Residents shared this place with 1 to 2 adults (40.5%), with whom they had no relation (52.8%) while the majority shared the space with their own children (65.1%). Further details of residents' living conditions in EARF are presented in table 9.

Table 9: Living conditions of Residents at European asylum reception facilities.

	Residents		
Living conditions at EARF	Female N(%)	Male N(%)	Total N(%)
Type of accommodation			
Room	62 (45.3)	84 (35.4)	146 (39.0)
House or apartment	57 (41.6)	85 (35.9)	142 (38.0)
Shelter	5 (3.6)	31 (13.1)	36 (9.6)
Studio or container	11 (8.1)	20 (8.4)	31 (8.3)
Tent or homeless	0 (0.0)	10 (4.2)	10 (2.6)
Other	2 (1.5)	7 (3.0)	9 (2.4)
Missing	-	-	1
Place to sleep – size m^2			
2-4	58 (43.0)	84 (36.5)	142 (38.9)
6-8	43 (31.9)	56 (24.3)	99 (27.1)
10-12	24 (17.8)	40 (17.4)	64 (17.5)
14-20	6 (4.4)	44 (19.1)	50 (13.7)
more 22	4 (3.0)	6 (2.6)	10 (2.7)
Missing	-	-	-
With how many adults do you share this space?			
0	12 (14.3)	2 (1.2)	14 (5.5)

1 to 2	34 (40.5)	61 (35.9)	95 (37.4)
3 to 5	24 (28.6)	50 (29.4)	74 (29.1)
> 6	14 (16.7)	57 (33.5)	71 (27.9)
Missing	-	-	121
What is their relationship to you?			
Not related	38 (52.8)	78 (48.4)	116 (49.8)
(Co-)resident(s)	19 (26.4)	43 (26.7)	62 (26.6)
Partner. Family or Friend(s)	15 (20.8)	40 (24.8)	55 (23.6)
Missing	-	-	142
With how many children do you share this space?			
0	19 (24.1)	63 (50.4)	82 (40.2)
1 to 2	44 (55.7)	41 (32.8)	85 (41.7)
3 to 5	12 (15.2)	10 (8.0)	22 10.8)
> 6	4 (5.1)	11 (8.8)	15 (7.3)
Missing	-	-	171
What is their relationship to you?			
Own Children	41 (65.1)	9 (15.5)	50 (41.3)
No-Relationship	17 (27.0)	38 (65.5)	55 (45.5)
Family or friends	2 (3.2)	7 (12.1)	9 (7.5)
(Co-)residents	3 (4.8)	4 (6.9)	7 (5.8)
Missing	-	-	254

Reported cases of SGBV

Respondents were asked to describe cases of SGBV that they recalled in the year prior to the interview (table 10). In total 698 cases were described: residents reported 328 cases and professionals reported 370. Regarding the distribution of reported cases per country, residents from Belgium (67 cases) and Ireland (67 cases) described the highest number of cases. For professionals, respondents from Malta have reported the highest number of SGBV cases (99 cases) (table 11).

Considering the description of acts of violence per SGBV reported case (table 12) was as follow: for **residents**, 50.1% reported one single case of SGBV, 25.6% reported two cases, 9.6% reported three cases and only 2.1% of residents reported a fourth case of SGBV. Residents' SGBV reporting included 207 (40.6%) acts of physical violence, 192 (37.6%) acts of psychological violence, 84 (16.5%) acts of socio-economic violence and 27 (5.3%) acts of sexual violence. For **professionals**, we found that more than half of respondents reported a first and second case of SGBV when asked, 74.9% and 62.0%, respectively (see Table 10). Professionals' SGBV reporting included 259 (43.2%) acts of physical violence, 260 (43.3%) acts of psychological violence, 43 (7.2%) acts of socio-economic violence and 38 (6.3%) acts of sexual violence. Neither of the two groups described acts of harmful cultural practices. In sum, from the 698 cases described, 1110 acts of multi-types of violence were included.

Table 10: SGBV Cases reported by residents and professionals and gender.

	Case Report N (%)			NO Case Report N (%)			Case Report N (%)			NO Case Report N (%)		
	Residents						**Professionals**					
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
First CASE[a]	71 (37,8)	117 (62,2)	188 (50.1)	66 (35,3)	121 (64,7)	187 (49.9)	73 (52,5)	66 (47,5)	140 (74.9)+	32 (68,1)	15 (31,9)	47 (25.1)
Second CASE*	36 (37,5)	60 (62,5)	96 (25.6)	98 (35,8)	176 (64,2)	274 (73.1)	66 (56,9)	50 (43,1)	116 (62.4)	39 (55,7)	31 (44,3)	70 (37,6))
Third CASE**	14 (38,9)	22 (61,1)	36 (9.6)	123 (36,3)	216 63,7)	339 (90.4)	49 (58,3)	35 (41,7)	84 (44.9)	56 (55,4)	45 (44,6)	101 (54,6)
Fourth CASE[a]	4 (50,0)	4 (50,0)	8 (2.1)	133 (36,2)	243 (63,8)	367 (97.9)	19 (63,3)	11 (36,7)	30 (16.0)	86 (55,1)	70 (44,9)	156 (83,9))
Total cases reported		328						370				

[a] No missing values, for both groups.

*For the description of the second case, five missing answers for residents.

** For the description of the second case, one missing answer for professionals.

+ One professional did not describe gender.

Table 11: Number of reported cases of SGBV by residents and professionals, per country.

	Residents		**Professionals**		**Total**	
Country	N	Reported cases	N	Reported cases	N	Total cases
Belgium	61	67	32	76	93	143
Greece	36	27	30	60	66	87
Hungary	68	35	21	66	89	101
Ireland	63	67	32	55	95	122
Malta	61	61	30	99	91	160
The Netherlands	33	61	5	10	38	71
Portugal	53	10	37	4	90	14
TOTAL	375	328	187	370	562	698

Table 12: Number of acts of violence reported by residents and professionals.

Total Acts Violence	**Residents**			**Professionals**			**Total Acts**
	Female	Male	Acts N=510 (%)	Female	Male	Acts N=600 (%)	N= 1110 (%)
Physical Violence		**207 (40.6)**			**259 (43.2)**		**466 (42.0)**
Singular non life-threathening	53 (25.6)	73 (35.3)	126 (24.7)	72 (27.8)	58 (22.5)	131* (21.8)	257 (23.2)
Multiple non life-threathening	11 (5.3)	18 (8.7)	29 (5.7)	24 (9.3)	16 (6.2)	40 (6.7)	69 (6.2)
Singular life-threathening	13 (6.3)	23 (11.1)	36 (7.1)	34 (13.1)	25 (9.7)	59 (9.8)	95 (8.6)
Multiple life-threathening	2 (1.0)	11 (5.3)	13 (2.5)	18 (6.9)	10 (3.9)	28 (4.7)	41 (3.7)
Killing	1 (0.5)	2 (1.0)	3 (0.6)	1 (0.4)	0 (0.0)	1 (0.2)	4 (0.4)
Psychological Violence		**192 (37.6)**			**260 (43.3)**		**452 (40.7)**
Verbal violence	34 (17.7)	43 (22.4)	77 (15.1)	46 (17.7)	43 (16.5)	89 (14.8)	166 (15.0)
Humiliation	23 (12.0)	52 (27.1)	75 (14.7)	23 (8.8)	22 (8.5)	45 (7.5)	120 (10.8)
Threatening	9 (4.7)	20 (10.4)	29 (5.7)	46 (17.7)	39 (15.0)	85 (14.2)	114 (10.3)
Confinement	1 (0.5)	3 (1.6)	4 (0.8)	3 (1.2)	3 (1.2)	6 (1.0)	10 (0.9)
Relational violence	6 (3.1)	1 (0.5)	7 (1.4)	25 (9.6)	9 (3.5)	35* (5.8)	42 (3.8)
Sexual Violence		**27 (5.3)**			**38 (6.3)**		**65 (5.9)**
Sexual harrasment	6 (22.2)	6 (22.2)	12 (2.4)	11 (28.9)	10 (26.3)	21 (3.5)	33 (3.0)
Sexual abuse	3 (11.1)	3 (11.1)	6 (1.2)	4 (10.5)	2 (5.3)	6 (1.0)	12 (1.1)

Attempt to rape	1 (3.7)	0 (0.0)	1 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.1)
Rape	0 (0.0)	3 (11.1)	3 (0.6)	2 (5.3)	1 (2.6)	4* (0.7)	7 (0.6)
Sexual exploitation	2 (7.4)	3 (11.1)	5 (1.0)	5 (13.2)	2 (5.3)	7 (1.2)	12 (1.1)
Harmfull Cultural Practices	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Socio-economic Violence		**84 (16.5)**			**43 (7.2)**		**127 (11.4)**
Discrimination	9 (10.7)	21 (25.0)	30 (5.9)	7 (16.3)	7 (16.3)	14 (2.3)	44 (4.0)
Refusal of assistance	18 (21.4)	27 (32.1)	45 (8.6)	9 (20.9)	16 (37.2)	25 (4.2)	68 (6.1)
Social exclusion	4 (4.8)	3 (3.6)	7 (1.4)	0 (0.0)	2 (4.7)	2 (0.3)	9 (0.8)
Refusal of legal protection	0 (0.0)	2 (2.4)	2 (0.4)	1 (2.3)	1 (2.3)	2 (0.3)	6 (0.5)

*One missing value.

Causes of reported SGBV cases

To understand the causes that trigger SGBV in EARF, respondents were asked about their assumption of the main causes of reported violence. From our total sample, only 161 (42.9%) residents and 133 professionals (71.1%) answered the question (n total=294). Table 13 presents the presumed causes of SGBV as framed by the respondents. **Residents** reported as main causes: frustration and stress (23.6%), different cultural, ethnic backgrounds and practices (19.3%), asylum procedures (13.7%), communication problems (9.9%) and bad accommodation (8.7%). Further, male residents were more likely to report that "staff competence" was a cause for violence (*p-value* 0.012). Causes of violence mostly mentioned by **professionals** were frustration and stress (37.6%), different cultural and ethnic backgrounds and practices (20.3%), communication problems (11.3%). For this group, no significant statistical associations in gender were found (*p-value* 0.501, Fisher test).

Table 13: Causes of reported cases of SGBV.

Causes of reported SGBV	Residents			Professionals			TOTAL		
	Female N (%)	Male N (%)	*p*	Female N (%)	Male N (%)	*p*	Resid N (%)	Profs N (%)	*p*
Coping (frustration & stress management)	14 (8.7)	24 (14.9)	0.709	30 (22.6)	20 (15.0)	0.369	38 (23.6)	50 (37.6)	**0.008**
Different cultural/ethnic backgrounds & practices	15 (9.3)	16 (9.9)	0.310	14 (10.5)	13 (9.8)	0.831	31 (19.3)	27 (20.3)	0.884
Communication problem	8 (5.0)	8 (5.0)	0.426	8 (6.0)	7 (5.3)	1.000	16 (9.9)	15 (11.3)	0.849
Asylum procedure related	5 (3.1)	17 (10.6)	0.102	1 (0.8)	4 (3.0)	0.179	22 (13.7)	5 (3.8)	**0.004**
Bad accommodation	8 (5.0)	6 (3.7)	0.252	5 (3.8)	1 (0.8)	0.218	14 (8.7)	6 (4.5)	0.170
Multifactorial	1 (0.6)	8 (5.0)	0.088	4 (3.0)	5 (3.8)	0.732	9 (5.6)	9 (6.8)	0.808
Competence staff	0 (0.0)	9 (5.6)	**0.012**	7 (5.3)	5 (3.8)	0.774	9 (5.6)	12 (9.0)	0.363
Alcohol Abuse	1 (0.6)	1 (0.6)	1.000	2 (1.5)	5 (3.8)	0.246	2 (1.2)	7 (5.3)	0.084
Food	3 (1.9)	4 (2.5)	1.000	0 (0.0)	0 (0.0)	-	7 (4.3)	0 (0.0)	**0.017**
I don't know	7 (4.3)	3 (1.9)	0.053	0 (0.0)	0 (0.0)	-	10 (6.2)	0 (0.0)	**0.002**
Others	2 (1.2)	1 (0.6)	0.563	1 (0.8)	1 (0.8)	1.000	3 (1.9)	2 (1.5)	1.000
Missing	-	-	-	-	-	-	214	54	-
TOTAL	64 (39.8)	97 (60.2)	**0.013**	72 (54.1)	61 (45.9)	0.501	375 (66.7)	187 (33.3)	**0.000**

Bolded significant p-value <0.05.

Preventable Measures of SGBV

According to respondents, 73.6% of reported cases of SGBV could be prevented (26.4% answered it could not be prevented; 225 persons did not answer the question). From the respondents that believed that this violence could be prevented the majority were residents (66.9%, *p-value* 0.000). Table 14 describes potentially preventable measures suggested for these cases of SGBV. Statistical tests conducted to explore possible associations regarding preventable measures described by the groups of residents and professionals indicated no differences (*p-value* 0.226, Fisher test). Regarding statistical associations by gender, for both groups no differences were found *(p-value* 0.940, *p-value* 0.944, respectively).

Table 14: Potentially preventable measures to reported cases of SGBV, by residents and professionals.

	Residents			Professionals			Total		
	Female	Male		Female	Male		Resid	Profs	
	N (%)	N (%)	*p*	N (%)	N (%)	*p*	N (%)	N (%)	*p*
Improved SGBV /Intervention measures	16 (28.6)	29 (33.3)	1.000	13 (26.0)	8 (22.9)	0.803	45 (31.5)	21 (24.7)	0.293
Improved accomodation & living conditions	12 (21.4)	19 (21.8)	1.000	8 (16.0)	5 (14.3)	1.000	31 (21.7)	13 (15.3)	0.232
Improved competence staff/ communication with residents	8 (14.3)	15 (17.2)	0.653	12 (24.0)	12 (34.3)	0.335	23 (16.1)	24 (28.2)	**0.042**
Coping (frustration & stress management)	6 (10.7)	9 (10.3)	1.000	6 (12.0)	4 (11.4)	1.000	15 (10.5)	10 (11.8)	0.829
Improved asylum procedure	7 (12.5)	5 (5.7)	0.217	3 (6.0)	1 (2.9)	0.640	12 (8.4)	4 (4.7)	0.606
Intercultural respect & tolerance	4 (7.1)	5 (5.7)	0.737	3 (6.0)	3 (8.6)	0.687	9 (6.3)	6 (7.1)	1.000
Improved communication between residents	2 (3.6)	3 (3.4)	1.000	1 (2.0)	1 (2.9)	1.000	5 (3.5)	2 (2.4)	0.714
Other	1 (1.8)	1 (1.1)	1.000	4 (8.0)	1 (2.9)	0.644	2 (1.4)	5 (5.9)	0.106
I don't know	0 (0.0)	1 (1.1)	1.000	0 (0.0)	0 (0.0)	-	1 (0.7)	0 (0.0)	1.000
Missing values	-	-	--	-	-	-	232	102	-
TOTAL answers	56 (39.2)	87 (60.8)	0.940	50 (58.8)	35 (41.2)	0.944	375 (66.7)	187 (33.3)	0.226

Bolded significant p-value <0.05.

In addition, our respondents were asked about the existence of preventable measures in the asylum reception facility where they lived or worked, and also in their hosting country. Regarding existing **preventable measures at asylum reception facilities**, the majority of residents (58.3%) were not aware of existing preventive measures. For professionals, 65.0% were aware of existing preventive measures in the asylum facility. Considering existing **preventable measures at country-level**, the majority of residents were not aware of existing preventable measures (72.4%). While 68.8% of professionals were aware of preventable measures in their country (table 15). Furthermore, residents who reported the existence of preventable measures also reported that the measures were effective (68.9%). The same result

was found for professionals (76.3%). In the context of EARF, we found significant statistic associations between being a resident or professional and having the knowledge on existent preventive measures in the hosting country and in the reception facilities (*p-values*: 0.000, and 0.000, respectively).

Table 15: Existence of preventable measures at country level and reception asylum facility.

		Residents					**Professionals**					**Total**				
		Female		Male			Female		Male			Resid N 375 (66.7)		Profs N 187 (33.3)		
		N	%	N	%	*p*	N	%	N	%	*p*	N	%	N	%	*p*
Existing preventive measures in the hosting country?	**Yes**	41	31.3	59	25.5		61	58.7	55	68.8		100	27.6	117	63.2	
	No	90	68.7	172	74.5		43	41.3	25	31.3		262	72.4	68	36.8	
	Total	131	36.2	231	63.8	0.271	104	56.5	80	43.5	0.169	362	66.2	185	33.8	**0.000**
	Missing	-	-	-	-		-	-	-	-		13	-	2	-	
Any preventive measures in the reception/asylum facility?	**Yes**	54	43.2	91	40.8		66	62.9	53	68.8		145	41.7	119	65.0	
	No	71	56.8	132	59.2		39	37.1	24	31.2		203	58.3	63	35.0	
	Total	125	35.9	223	64.1	0.734	105	57.7	77	42.3	0.434	348	65.5	183	34.5	**0.000**
	Missing	-	-	-	-		-	-	-	-		27		5		

Bolded significant p-value >0.005.

Respondents were asked about possible preventive strategies that could work in a preventive way at EARF. Table 16 presents the main answers for both groups (Rate answers: residents 44.5%, professionals 54%). Statistical differences between what residents and professionals described as possible preventable measures were found (*p-value* 0.001). No significant associations were found in gender for residents and professionals.

Table 16: Possible preventable measures to SGBV described by respondents.

	Residents			Professionals			Total		
	Female N 57 (%)	Male N 110(%)	*p*	Female n 54(%)	Male N 47 (%)	*p*	Resid	Profs	*p*
More SGBV sensitization & awareness	9 (15.8)	17 (15.5)	1.000	15 (27.8)	13 (27.7)	1.000	26 (15.6)	28 (27.7)	**0.019**
Improve accommodation & living conditions	14 (24.6)	10 (9.1)	**0.010**	9 (16.7)	9 (19.1)	0.798	24 (14.4)	18 (17.8)	0.490
Improve communication between staff and residents	9 (15.8)	19 (17.3)	0.832	8 (14.8)	4 (8.5)	0.373	28 (16.8)	12 (11.9)	0.295
Improve prevention measures	4 (7.0)	14 (12.7)	0.304	8 (14.8)	8 (17.0)	0.791	18 (10.8)	16 (15.8)	0.258
More adequate interventions & sanctions after SGBV	6 (10.5)	6 (5.5)	0.343	4 (7.4)	5 (10.6)	0.730	12 (7.2)	9 (8.9)	0.643
More security & surveillance	2 (3.5)	8 (7.3)	0.497	4 (7.4)	3 (6.4)	1.000	10 (6.0)	7 (6.9)	0.799
Cohesion and empowerment of residents	0 (0.0)	9 (8.2)	**0.029**	1 (1.9)	2 (4.3)	0.596	9 (5.4)	3 (3.0)	0.544
Nothing	1 (1.8)	6 (5.5)	0.424	4 (7.4)	3 (6.4)	1.000	7 (4.2)	7 (6.9)	0.398
Not specified	0 (0.0)	5 (4.5)	0.167	0 (0.0)	0 (0.0)	-	5 (3.0)	0 (0.0)	0.160
I don't know	12 (21.1)	16 (14.5)	0.382	1 (1.9)	0 (0.0)	1.000	28 (16.8)	1 (1.0)	**0.000**
Missing							208	86	
Total	57 (34.1)	110 (65.9)	0.024	54 (53.5)	47 (46.5)	0.979	375 (66.7)	187 (33.3)	**0.001**

Bolded significant p-value <0.05.

Discussion

Reported cases of SGBV

Our research explored reported cases of SGBV in the year prior to the interview, its assumed causes and preventable measures described by residents and professionals in the context of EARF. The results suggest a high incidence of SGBV reported by residents and professionals. Countries reporting the highest incidence of SGBV cases were Malta, Belgium, Ireland and Hungary. Greece, The Netherlands and Portugal reported fewer cases. A high incidence of combined types of SGBV was described, which is consistent with previous research on refugees, AS and undocumented migrants (6,9,51,58). For both groups, physical and psychological violence were the most prevalent types of reported violence, followed by

socio-economic and sexual violence. Harmful cultural practices were not described in the reported cases. This finding is aligned with the difficult to reach, sensitive issue and social taboo that these practices represent (141). Furthermore, residents have described fewer cases than professionals, which could be related to fear of stigmatisation or expulsion of the proper community, to fear of deportation by host country officials or to barriers in communication (38,79,139).

Causes of reported SGBV cases

Stating the need for identifying and understanding SGBV causes and contributing factors to develop evidence-based preventive strategies (9,38), we highlight the main causes reported by residents and professionals. Both groups reported **coping skills, as frustration and stress management**, and **differences related to cultural background**, as main causes. In addition, they refer to **communication problems** as a possible cause for SGBV reported cases. Both groups emphasised the need for improving communication between staff and residents as a preventive measure to mitigate SGBV. Our results are aligned with previous research on migrants' health, supporting policies to enhance communication as a positive outcome of health and social care for refugees and AS (139). The need of improving communication between AS and medical systems is acknowledged as a step to overcome barriers to accessing health services, cultural issues, structural and bureaucratic problems (139).

Furthermore, residents identified the **asylum procedure** as a cause for the described violence. Evidence exists on identifying restricted legal status as increasing vulnerability of refugees to violence (45,51,79). Victimisation before and during the (forced) migration journey has been documented. The lack of laws regulating violence perpetration and the lack of support for survivors have left women more vulnerable to victimisation (60). Recent findings in asylum reception centres in Germany, state that the current time-consuming within the asylum procedure, leads to overcrowding and inadequate living conditions, which increases female residents' vulnerability to violence (80). We believe that the asylum procedure should be gender-sensitive, protecting all genders and promoting an SGBV free environment. Our results suggest that asylum procedure should be considered a determinant for SGBV vulnerability. Moreover, a gender-sensitive and equitable asylum procedure is

essential. The in-vigor Directive 2013/32/EU (71) recognises the need for a gender-sensitive asylum procedure, ensuring that staff are also aware of gender-specific vulnerabilities. Acknowledging that achievements have been made, recent evidence shows the need for moving from theory to the reality of asylum reception centres (80).

Interestingly, **alcohol abuse** was only described as a potential cause for violent behaviour in 8/562 cases. Previous research has linked alcohol abuse with sexual harassment, aggression or rape victimisation (51,86). In our results, an underestimated bias should be considered. It is still important to mitigate the odds of alcohol-related aggression, not only on this specific context but also in general.

Our results demonstrate contributing factors to SGBV at different levels – individual, relational, community and societal level, aligning with the Socio-ecological model (4,44,75) and reinforces the concept of multifactorial causes of SGBV and the inherent complexity of addressing it. Analyzing it from a dynamic and interactive perspective, frustration and stress as a cause of violent acts can be related to **bad accommodation**. Living conditions previously described by residents are poor, and sharing accommodation with adults and children, male and female, with no relationship, should be considered a stressor and trigger to SGBV victimisation and/or perpetration. Recent research identifies bad accommodation as an increasing factor of refugee women's vulnerability to SGBV (79,80). Further, current living conditions for refugees - women and girls – in Greek Islands are described as being far from standards that mitigate SGBV victimisation (6). In our results, no gender association was found, we speculate that inadequate living conditions can be a trigger to SGBV victimisation for both women and men.

Preventable measures of SGBV

In the context of EARF, professionals and residents described potentially preventable measures for reported cases of SGBV as follows: **to improve SGBV prevention and intervention measures; improve accommodation and living conditions; improve staff skills and communication with residents; improve coping strategies (frustration & stress management); improved asylum procedure; improve intercultural awareness;**

improve communication skills between residents. Furthermore, the groups described similar measures that could be implemented in the context of EARF. Our results are aligned with WHO preventive strategies to reduce multi-types of violence (8) and consistent with the WHO report findings, suggesting that even though countries are investing in violence prevention, the implementation of the programs does not reach the level of implementation necessary to combat the issue (8). In our study, specific causes and preventable measures were described. However, a high incidence of cases is still reported. Respondents reported the need for awareness and intervention on SGBV and of improving preventive measures, in this sense, we highlight the need for more training on SGBV in this specific context. Our results suggest that the majority of residents are not aware of existent preventable measures at asylum and host country level. While the opposite was found for professionals, they still reported the need for more SGBV education as the main preventive measure for SGBV. We believe that this is an urgent call for action urges regarding training. We stress the need for well-defined preventive measures that can combat the problem (8). Specific interventions should be considered, such as implementing systematic training on awareness, conceptualisation, vulnerable groups and prevention of SGBV, including workshops on coping strategies to stress and frustration; improving the asylum procedure; improving basic living conditions and promoting an environment where residents and professionals can openly and respectfully communicate. Being mindful that all these interventions should ensure the respect for cultural beliefs. Yet, there is a need to go beyond the definition of preventive measures and guarantee the implementation of interventions in the field. Moreover, a systematic evaluation of preventive measures in EARF context should take place, to ensure effectiveness.

For the group of residents, we found that **gender** was associated with the need for improving accommodation and living conditions and, the need for cohesion and empowerment of residents. The majority of female residents have described the need for improving accommodation and living conditions as a preventive measure in the context of asylum facilities. Which is consistent with a recent study emphasising SGBV vulnerability of female refugees due to inadequate living conditions (80). Yet, only male residents have described

the need for cohesion and empowerment of residents. Even though associations were found, and if we take into account the assumed causes, we can assume that both genders are vulnerable to SGBV. In this sense, we consider of most importance to identify and implement preventive measures that will reinforce gender equity and reduce power imbalance, while addressing all gender needs.

Considering the **European Council Directive 2003/9/CE** – laying down minimum standards for the reception of asylum seekers (29) prevailing by the time the Senperforto project was conducted, we believe that a gap on clear preventive strategies of SGBV in the context of EARF existed. Supporting that is the fact that both groups have described SGBV sensitisation and improvement of prevention measures as a preventable measure that could reduce SGBV victimisation. According to our study, respondents have identified potential strategies that could tackle down the problematic of SGBV. We consider of most importance to promote effective communication between staff and residents to achieve a culturally sensitive environment and reduce cultural/ethnic/religious barriers. Besides, a competent, committed and connected staff is a prerequisite to effective SGBV preventive programs (111). Accommodation and living conditions are basic factors to mitigate SGBV in this context, taking into account the high incidence of SGBV in asylum settings (45).

The **European Directive 2013/33/EU** laying down standards for the reception of applicants for international protection (recast) in force, replaced the Council Directive 2003/9/CE. A more in-depth Directive is in vigour, recommending that EU Member States should implement specific measures addressing SGBV, including sexual assault and harassment, and that adequate medical and psychological care for vulnerable groups should be guaranteed (70). Even though research (32) suggest that a narrow definition of sexual violence is applied ‘a) focusing solely on female victimisation, b) ignoring the most vulnerable among the vulnerable migrants (undocumented, LGBT, sex workers, …) and c) focusing predominantly on victimisation in the countries (sexual violence as a weapon of war, torture, trafficking) or cultures of origin (e.g. FGM).’ (p.51). We believe that the different countries researched have implemented this Directive to different levels. European countries must ensure effective implementation of minimum standards at asylum reception facilities (142). Taking into

account the living conditions of our respondents and the identification of it as potential preventive measures, we believe that specific measures should be considered a priority. Big steps have been taken in this matter, and in 2016, the European Asylum Support Office (EASO) released the **EASO guidance on reception conditions: operational standards and indicators.** (143). This guidance brings clear standards that should be present at asylum reception facilities, and corresponding indicators to evaluate the living conditions. Even though, improvements of EU Directives and EASO guidelines have been done, we believe that the recent "refugee crisis" has caused a strain in European reception facilities – increasing poor living conditions, overcrowding and lack of privacy – and a constant and high risk of SGBV victimisation and/or perpetration still exists (6,80).

Through our results, significant associations emerged for **residents** or **professionals** and the description of the specific causes for reported SGBV and potentially preventable measures. We highlight the importance of legal status, asylum-related procedures, and unequal power relations, as risk factors for SGBV victimisation and/or perpetration. Furthermore, to involve professionals and residents of EARF as active stakeholders, when defining and implementing SGBV prevention measures, is primary. Also, taking into account that a high incidence of perpetrators are staff, guards or volunteers (45,80), it is urgent to promote SGBV awareness and education, by promoting compulsory training on prevention and response policies, targeting all vulnerable groups.

Additionally, and regardless that evidence has shown that violence can be prevented (8,9,134), we still have residents and professionals (14/562) that believe that this is not possible. To ensure that communities at risk can be protected from being victims and/or perpetrators of SGBV it is essential to engage with professionals and residents while defining preventive measures.

Even though significant and relevant findings arise from our study, we highlight the importance of acknowledging **limitations** of our research. First, we cannot exclude that the community researchers conducting the interviews could have had a different conceptualisation of SGBV despite the standardised training. Secondly, we have no reported cases of harmful cultural practices, what can be related with the evidence that this type of

violence is rarely disclosed due to sensitivity and social taboos within an asylum procedure (141). Another relevant bias is related to the disclosure of violence. We believe that our results underestimate the reality of SGBV in EARF. Even though confidentiality was guaranteed during the interview, residents might have feared it could influence their asylum procedure. Yet, in some big asylum reception facilities where communities with honour rules were residing, it was reported to us later that residents discouraged others from participating in the study, mentioning potential stigma and/or community consequences (45). For professionals, they assumed not to dare to speak openly, even if they had superior consent.

Finally, we believe that further research is needed addressing the specific context of asylum reception facilities, and evaluating SGBV preventive strategies (9,45,111). There is an imperative to understand the impact of SGBV preventive strategies and what works best, according to the target population and specificity of the social context. Prior research has already sustained the need for systematic evaluation research on prevention and management of all kinds of gender-based violence (107,111,140).

Conclusion

Our research shows the complexity of addressing SGBV in EARF context, with a high reporting of multi-types of violence and a multi-causality of SGBV. Residents and professionals have identified potential causes that trigger SGBV. Both groups refer that the majority of reported cases of SGBV could be prevented with effective preventive measures adapted to EARF.

A reflection on current preventive strategies, evidence-based on causes of SGBV, is urgently required to reduce SGBV incidence. Considering the context of EARF, we believe there is a window of opportunity to implement integrated preventive strategies for such a complex and highly vulnerable population. We believe that residents and professionals should be considered active stakeholder in defining SGBV preventive measures. We highlight the importance of gender-sensitivity and equity in asylum procedures and adequate accommodation facilities to promote an SGBV free environment.

Taking into consideration the recent “refugee crisis” in Europe, we insist on the importance of improving preventable strategies and policies to mitigate SGBV. Even though, SGBV incidence data is lacking, this is due to the survivors avoiding disclosure of their experience unless visible and severe health consequences arise (6). Refugees, AS and undocumented migrants are victims of SGBV, with men and women being vulnerable (45), and the fact that this violence is committed in EARF requires an urgent call for action (80).

4.3 Study 3 – Can we predict sexual and gender-based violence in European asylum facilities? Results from a machine learning approach.

Introduction

In the context of (forced) migration, sexual and gender-based violence (SGBV) is considered a major public health problem and a violation of basic human rights (4,38). Evidence suggests that refugees, asylum seekers (AS) and undocumented migrants are a vulnerable group to multiple types and forms of violence (4,6,38,44,51,58), including a high vulnerability to SGBV (38,45,144). In a study conducted in Servia, out of 992 refugees or migrants, 27% had experienced any violent acts during their passage including sexual violence (53). Another study conducted in UK clinics observed a 44.2% prevalence of reported sexual violence in a convenience sample of 43 asylum seekers (48.8% female) compared to no reports by a sample of 43 British patients (age- and gender-matched sample) (57). In the same study, results disaggregated by gender reported 76.2% prevalence of sexual violence among female AS and 13.6% among male AS, suggesting that women AS are more exposed to sexual violence when compared to men AS (57). A systematic review and meta-analysis found that approximately one in five refugees or displaced women in complex humanitarian settings experienced sexual violence (55). Another study on African migrants in Germany shows a prevalence of 16% of women reporting a history of sexual violence and men reporting 6%, to focus that the authors consider the possibility of sexual violence being underreported due to fear and stigma (56).

While addressing SGBV towards refugees, AS and undocumented migrants literature appoints that perpetrators are often people in (state) authority, agents, soldiers or assailants with power relations with potential victims (2,53,58). In the specific context of European asylum reception facilities (EARF), professionals are both at risk of victimisation and/or perpetration (2). Evidence suggests that when professionals are victims, the committed violence tends to be emotional acts, and when they are perpetrators they tend to commit socio-economic violence, compared to asylum-seekers (45). A recent study found that out of 270 reports of violence among migrants and refugees, 52% were committed by State authorities (53).

A public health approach, based on the Socio-ecological model (75) are explanatory perspectives for both SGBV victimisation and/or perpetration (37). Contributing factors for SGBV are the result of dynamics and interactions of individual, relational, community and societal factors. The understanding of trigger factors of SGBV among vulnerable populations still lacks accuracy (2,45). However, literature identifies that the restricted legal status exposes migrants, refugees and asylum seekers to violence, including SGBV (45,91,96). The migration process, forced or voluntary is another potential risk factor for violence. In a study conducted among Somali refugee's women living in Sweden, the majority of respondents have related their fleeing with war-related violence, and the subsequent vulnerability of direct forms of violence and violation of their sexual health and rights (60). The authors enhance the risk of pre-migration victimisation to consequences on health, namely sexual and reproductive health. A study among sub-Saharan migrants in Morocco, during their migration journey, observed their high vulnerability to violence: 90% of the respondents have reported multiple acts of violence, out of those, 45% reported sexual violence (Keygnaert et al., 2014).

Acknowledging that SGBV is preventable (9,107,111), and taking into consideration the prevailing European Directive 2013/33/EU (70), protective measures have been defined to address SGBV, in the context of asylum reception facilities. This Directive declares that all Member States should ensure appropriate measures to prevent SGBV within the facilities, and reinforces the need of providing access to medical and psychological care. Even though progress has been made to protect vulnerable populations from SGBV, recent reports on the current European refugee crisis, upholds that migrants, refugees and AS are in high need of protection, and a lack of governmental and humanitarian response exists (6,53,80).

Objectives

Our study intends to explore whether a pattern/trend of SGBV victimisation in European asylum context can be identified in order to determine future outcomes. Yet, to identify socio-demographic characteristics that might predict SGBV victimisation in residents and professionals.

Methods

Conceptual framework: A socio-ecological perspective and public health approach to prevention

SGBV has been recognised as a complex public health issue (3,10) and considered a public health epidemic of the current times (37,145). A socio-ecological approach is described in the literature as a comprehensive model for SGBV (4,75). This model assumes that SGBV is the result of a dynamic interaction between four-level health determinants – individual, relational, community and society (4). The combination of these levels triggers the patterns of SGBV. In 1996, the 49th World Health Assembly recognised violence as a leading public health problem. A public health approach to understanding and preventing violence has been defined upon four fundamental steps: (1) define the problem, (2) to identify the factors that increase the risk for violence, (3) to develop and to test prevention strategies, and (4) to disseminate and implement broadly (8). A socio-ecological perspective and public health approach to prevention will be the baseline to identify patterns of risk factors to SGBV among residents and professionals from EARF.

Study Design, Sample and Data collection

Our research consists of a cross-sectional study using data from the Senperforto Project developed in eight European countries (Belgium, Greece, Hungary, Ireland, Malta, The Netherlands, Portugal and Spain). A complete description of Senperforto project, sampling and data collection is included in Chapter 3 – Methods.

Data-analysis

The data-driven modelling suggested by Shmueli (122), and already described in point 3.6 of the Methods Chapter, was taken into account for the preparation of our data, and the exploratory analysis. An in-depth description of the data analysis is presented in the Chapter 3 – Methods, with complementary information in annex I and II.

Results

A total of 562 respondents, 375 residents and 187 professionals, have reported 698 SGBV cases, from which 138 cases included personal victimisation, in the last 12 months prior to the questionnaire. A description of the number of SGBV reported by country of research is presented in table 17.

Table 17: SGBV reported cases, 12 months prior to the interviews, per country of research.

	Residents		**Professionals**		**Total**	
Countries	N	Reported cases	N	Reported cases	N	Total cases
Belgium	61	67	32	76	93	143
Greece	36	27	30	60	66	87
Hungary	68	35	21	66	89	101
Ireland	63	67	32	55	95	122
Malta	61	61	30	99	91	160
The Netherlands	33	61	5	10	38	71
Portugal	53	10	37	4	90	14
Total	375	328	187	370	562	698

Following the data-driven modelling described by Shmueli (122), and already explained in the Chapter 3 – Methods, we present in table 18 the list of selected independent variables according to the importance of Random forest algorithm (see annex II for further description on the method) to predict the dependent variable “were you a victim”. A higher value represents higher probability of predicting SGBV victimisation, while a lower value represents a lower probability.

Table 18: Best feature subset and feature importance, based on the importance of Random forest algorithm.

Description	Predictive Importance
With how many persons do you have to share these sanitary facilities?	1.000000
Can you specify which kind of accommodation you are living in?	0.367218
What is your actual status according to immigration law?	0.332777
What is your age in years?	0.321193
What is your current occupation in this facility?	0.315818
What is their approximate age?	0.298385
What is their sex?	0.265571
With how many adults (equal or older than 18) do you share this space?	0.249937
With how many children (younger than 18) do you share this space?	0.247091
If yes, are they living with you?	0.242666
What is your actual marital status?	0.242473
If yes, what is the size of this space?	0.236184
What kind of sanitary facilities do you have in this accommodation?	0.208560
In what type of reception/asylum facility are you living?	0.197513
What is their relationship to you?	0.176883
Do you have any children?	0.151167
What is their sex?	0.130415
Are you currently living with a partner?	0.102410

Figure 6 presents a graph with the same subset of variables' importance based on Random Forests algorithm. Our modelling suggest that the most important variables to predict SGBV victimisation are: the number of persons with whom residents and professionals shared sanitary facilities; the type of accommodation where participants were living (namely: room, house/apartment, shelter, studio/container, tent or homeless); and the status according to immigration law.

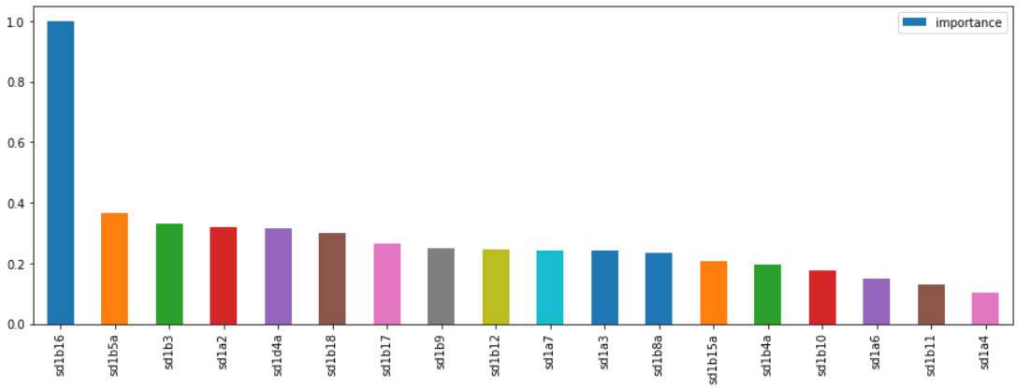

Figure 6: Best feature subset and feature importance based on Random Forests algorithm.

Figure 7 presents a graph with the fitting of our model, using Random Forest algorithm. The AUC value is 0.82+/- 0.13. This graph represents the predictive power adjustment of the variables described in Table 18. Our model has high sensitivity (true positive) and high specificity (false positive).

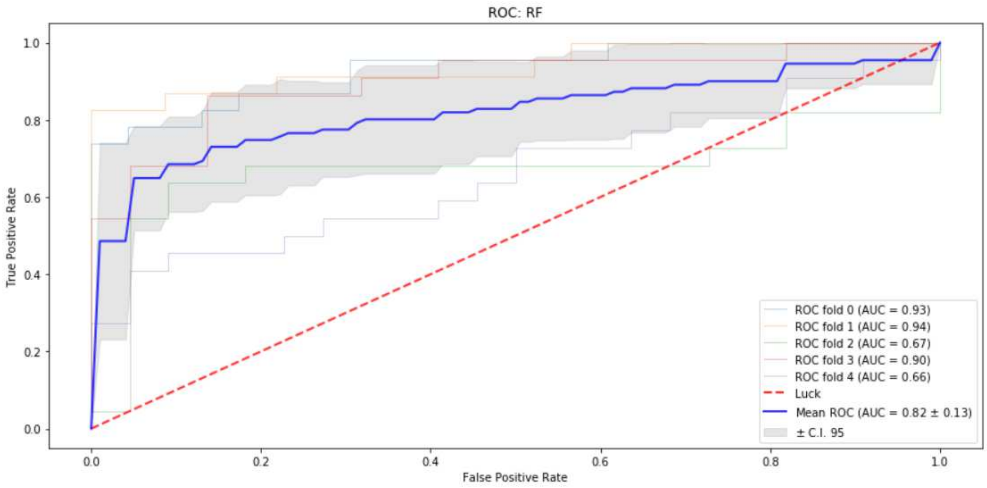

Figure 7: Random Forest performance with optimised hyper-parameters.

Discussion

Our research explores an SGBV victimisation predictive model for residents and professionals of EARF. We considered a set of socio-demographic characteristics, such as living conditions, type of reception facility and specific legal status, as possible predictive factors that can be associated with SGBV vulnerability.

In the context of EARF, our findings highlight the importance of living conditions to predict SGBV victimisation. Accordingly, the number of people with whom sanitary facilities are shared and their age, the kind of accommodation, the immigration status, the kind of occupation within the facility and the age of participants were important variables to predict if a resident or a professional were SGBV victims. Considering the fact that SGBV is preventable (4,109), the European Union has defined specific directives to protect vulnerable communities. The prevailing European Directive 2013/33/EU laying down standards for the reception of applicants for international protection (recast) stated that adequate living conditions should be ensured to have a dignified life, ensuring equal treatment amongst all applicants (70). Even though the recast of EU 2013/33/EU is considered a step forward for improving and harmonising reception condition of vulnerable communities throughout European countries (142), it lacks clear and specific orientation in what is defined as "adequate living conditions". Moreover, this Directive still lacks consistent implementation throughout the countries (80,146,147). Considering the fact that the number of refugees, AS and undocumented migrants are increasing in Europe (17), we believe more must be done. The EU encourages country members to go forward the directive and adapt it to the reality of each country. Several reports show the need for implementing measures to ensure effective protection (53,62,80,146,148,149).

The dynamics between migrants immigration status, living conditions and SV is complex (32). Moreover, we speculate that the interaction between living conditions and SGBV can induce vulnerability towards not only residents but also professionals, living and working in EARF. This result can be perceived by our modelling and the importance of the variables to predict victimisation, namely, living conditions and status according to immigration law.

Another relevant result is related to the feature of being a resident, or a professional. This feature has been identified as having low importance to the model, i.e. low predictive characteristic to became a victim. We highlight this result as an important one. In this sense, in the context of EARF, we believe that both groups are at risk of SGBV. Our finding is aligned with previous research (45) referring that in this specific context residents and professionals are both at risk of victimisation. Our research also indicates that SGBV seems to be more gender-balanced than what is stereotyped (32,45). Contributing to demonstrate that in the context of EARF, men and women are both at risk of victimisation. Moreover, both residents and professionals, male and female are at risk of SGBV victimisation in EARF.

Age is considered a determinant for SGBV victimisation. Several studies have concluded that younger people, especially girls, are more prone to victimisation of general violence and/or sexual violence (3,6,108). Our predictive model suggests that age influences the accuracy and specificity of being a victim in the context of EARF, even though other features have proven to be more important.

The lack of evidence in this area has already been referred (45). Moreover, a gap on systematic and accurate evidence on the subject exists, especially in the context of forced migration and asylum centres (45). In this sense, we highlight the relevance of our research, giving a pattern of victimisation, and intending to promote the definition of effective and evidence-based prevention strategies.

We believe that our research gives an innovative approach to SGBV prevention in EARF context. Machine learning has proven to be effective in a variety of predictive tasks (150), and to provide relevant models by identifying strong association in the data (151). Furthermore, it has advanced to an important contribution in medical sciences (151–153). We believe that future research could address not only personal victimisation but also peers. Modelling for perpetration should also be considered as an important field of research, and a baseline for the definition of preventive measures. Notwithstanding, the use of machine learning techniques in health sciences is controversial (151) and limitations should be consider. Even if a predictive accuracy is acknowledged, it is limited. Taking as example our results, we were able to identify variable that are predictive factors to SGBV victimisation,

however, we cannot conclude that if we improve living and working conditions within EARF, victimisation will decrease. As Obermeyer & Emanuel (154) mentioned “machine learning does not solve any of the fundamental problems of causal inference in observational data sets. Algorithms may be good at predicting outcomes, but predictors are not causes.” (p.2).

Regarding features selection for our modelling, it was based on experts’ knowledge, which may lead to bias due to the experts’ practical experience. However, we expect to have overcome this limitation with feature selection algorithms.

Moreover, the fact that the interviews were conducted within EARF may have influenced the disclosure of SGBV. In this sense, the number of personal victims might be underreported and thus influencing the methodology. It should be considered that we could have improved results with a bigger sample.

Finally, we were using secondary data from Senperforto project, and we decided to consider the missing values as a valid answer for our model. Therefore, these answers could have an influence on the model. For future research, and considering that we use secondary data, we believe it would be pertinent to understand possible stressors that could influence both victimisation and perpetration.

Conclusion

The findings of our study sustain that new approaches, such as machine learning, may support policymakers in defining evidence-based primary, secondary and tertiary prevention strategies of SGBV. We challenge researchers to apply ML techniques to explore patterns of SGBV victimisation and perpetration, in several contexts and different populations.

Moreover, our findings suggest the existence of a link between SGBV victimisation and living and working conditions. We speculate that improving sanitary facilities with privacy and proper number of persons/facility, an age balance with whom sanitary facilities are shared, the kind of accommodation, the immigration status, the type of occupation, and age, are important to reduce residents and professionals’ vulnerability to SGBV. Also, we highlight the fact that residents and professionals, male and female, are both vulnerable to

SGBV in this specific context, reducing the stereotypes male/professionals – perpetrators, and female/residents – victims.

Finally, we stress the necessity for clear and specific European policies and directives on living and working conditions in reception facilities, as preventive measures for SGBV. We acknowledge the existent regulations as a positive effort for reducing vulnerability to violence. However, we believe more should to be done, including the need for turning policies into practice. The implementation of European policies, regulations and directives should be carefully followed up, and sanctions should appear if the timing is not respected. We believe that is it also mandatory to ensure that all MS have the capacity and tools to implement it, and if not, the EU should focus on capacity building of MS.

CHAPTER 5. DISCUSSION AND CONCLUSIONS

5.1 DISCUSSION

The present research starts with a study regarding SGBV conceptualisation, moving to a study addressing the reality of European asylum reception facilities (EARF), identifying reported cases of SGBV, causes and preventive measures. Finally, we present a study providing a predictive model of SGBV, identifying key-characteristics that can predict violence towards both residents and professionals. We intend to answer the aim of our research, namely:

- to contribute to expand the knowledge on SGBV conceptualisation, reported cases and causes of SGBV, preventive measures and predictive factors of SGBV in residents (refugees, AS and undocumented migrants) and professionals (services and health care providers), living and working in European asylum reception facilities.

In the discussion section of our research, we explore our studies' results in line with primary, secondary and tertiary preventive measures addressing SGBV in vulnerable migrants. Throughout this chapter, we address research limitations and challenges.

SGBV conceptualisation

The scientific understanding of violence and more specifically SGBV is primordial (13) to enhance primary preventive measures. In this sense, if we want to prevent violence in the EARF, understanding the knowledge that residents and professionals have regarding SGBV conceptualisation is needed. Our results show a disparity between what is, or what is not considered a violent behaviour. Professionals have shown to have a wider knowledge then residents, considering more acts as violence. We believe this can be related to residents – refugees, AS and undocumented migrants – being described as more vulnerable to SGBV, with professionals assuming a privileged position and control towards residents (58).

Conceptualisation is a process of development and clarification of concepts; it shapes the field in which a concept is understood, measured and evaluated (36). Different SGBV conceptualisation can be found in the literature. Also, different SGBV conceptualisations

were found in residents and professionals of EARF. To consider that definitions of violence have evolve through multiple variations according to the field and the range of forms of violence encompassed (36). Given this, we believe a common SGBV conceptualisation should be considered while addressing preventive measures. The requirement for developing information, education and communication (IEC) interventions addressing SGBV has already been acknowledged by UNHCR (2003). We believe our results stand for the urgent need for IEC interventions, addressing what is, or what is not an SGBV act, in the context of EARF.

For both groups differences in SGBV conceptualisation were found based on specific socio-demographic characteristics such as the host country, sex, age and marital status. For residents, specific differences related to the time of arrival to Europe/host country and type of accommodation could be found, while for professionals these differences were linked to the legal status of professionals and their education skills.

As for gender, our results evoke no differences in SGBV conceptualisation. Moreover, the fact that a violent act is directed to a girl/woman or a boy/man is equally considered violence. However, moving from SGBV conceptualisation to specific types of SGBV differences arise. When conducting association tests between types of SGBV (PCs) and the gender of our respondents we found significant associations. A more in-depth analysis suggests male residents tend to disagree that honour killing and maiming is an SGBV act when compared with the mean average of our respondents. Moreover, male professionals disagree with genital mutilation as a form of SGBV, and female professionals tend to disagree with the denial of opportunities as a form of SGBV.

Another relevant association was found between age and a specific form of SGBV. Results from our first study, including the eight countries of research found that professionals aged above 40 tended to disagree that “abuse, rape and trafficking” is a form of SGBV. This association is particularly screaming for action, once we assist to professionals working with persons, already in a vulnerable situation, and assuming a behaviour legally punishable by law is acceptable. Considering that professionals play an important role in SGBV prevention, and the fact that they are in a privileged position to mitigate SGBV, we believe that our

results are of particular relevance. From one side we assist to professionals having a broader SGBV conceptualisation when compared with residents. However, professionals aged above 40, do not consider abuse, rape and trafficking as a form of SGBV. In this sense, we believe there is a need for a strict screening when engaging professionals to work in EARF and continuous sensitisation and training on SGBV. Our results are aligned with previous evidence reporting the requirement for healthcare workers' regular training (129), integrated and widespread preventive and response measures (45). Furthermore, professionals working with migrants and refugees have been identified as potential perpetrators of SGBV. A recent study on migrants and refugees travelling through Balkan countries to Northern Europe stated half of the perpetrators of reported violence were state authorities (53). Furthermore, in EARF context, professionals have been identified as potential perpetrators of SGBV, especially socio-economic violence (45).

Specific types of SGBV not being recognised as a violent act is of major important while addressing preventive measures in EARF. Residents and professionals must have a complete and equal knowledge regarding different types of SGBV to avoid being victims and/or aggressors. Placing SGBV in a public health perspective, we can assume SGBV conceptualisation is the baseline for primary prevention (44). Furthermore, significant association with socio-demographic characteristics have arisen from our results. We call for an urgent action from the different stakeholders to increase the knowledge on SGBV of residents and professionals, based on IEC interventions, as the baseline to prevent violence before it occurs.

Pertinent research topic regards the potential association between SGBV conceptualisation and case disclosure. Moreover, it is of utmost importance to have a clear and in-depth understanding of professionals' SGBV conceptualisation. The fact that professionals might perpetuate SGBV acts, and exercise a higher power relation towards residents, represents a call to action. We challenge researchers to go beyond the understanding of professionals' SGBV conceptualisation and to consider the influence of it with the potential perpetuation of violence. Another relevant aspect to consider in the future regards the evaluation of primary preventive measures, and specifically the focus on promoting and implementing a

widespread SGBV conceptualisation among residents and professionals. If we reach a level where professionals and residents have similar SGBV conceptualisation, will we still witness high levels of SGBV?

Even though relevant findings were described it is important to acknowledge potential limitations. The fact that we use secondary data of Senperforto project is by itself a limitation, once the sampling methods and questionnaires were previously decided and we were not included in the process. By the fact that an in-depth study of the project was conducted we believe to have reduced this limitation. Moreover, Senperforto project applied multi-types of sampling methods, as random and representative sampling was not possible in all countries. Even though our results cannot be generalised, we believe it can be transferable to similar populations in comparable contexts, in a sense that a broad SGBV conceptualisation is presented in our research – understanding refugees, AS and undocumented migrants' perspective and also professional's perspective. Specifically related with SGBV conceptualisation, we cannot exclude that community researchers conducting the interviews during the implementation of Senperforto project, could have had a different SGBV conceptualisation. This limitation was overcome by the implementation of a standardised training.

Stepping out of EARF, we believe it would be pertinent to compare SGBV conceptualisation between migrants and hosting population, once public health policies should be adapted to the cultural and structural context. Moreover, it is important to consider the challenge of having refugees, AS and undocumented migrants with different SGBV conceptualisation "integrated" in European countries, especially if they have a narrow concept. Accordingly, we believe migrants might be exposed to higher vulnerability to both victimisation and perpetration. Considering the recent migration wave to European countries, it urges to address this issue. SGBV conceptualisation needs to be addressed equally, not only for migrants and professionals, but also for hosting populations. What is, or what is not an SGBV act should not differ according to a migration status. By not doing it, we believe European countries and its representatives might be increasing migrants' vulnerability and inducing obstacles to their integration.

Reported cases and causes of SGBV

Moving from primary prevention to secondary and tertiary prevention, our research has shown that SGBV is a reality in EARF, and it urges to implement effective preventive measures, to mitigate the problem. Our respondents have described 698 cases of SGBV, with residents describing 328 and professionals describing 370 SGBV cases. Together the cases comprise 1110 acts of multi-types of violence. Regarding cases of harmful cultural practices, no cases were described, what can be related with the existent evidence affirming this type of violence is rarely disclosed due to sensitivity and social taboos within an asylum procedure (Banda & Agyapong, 2016).

Our findings indicate that within EARF, we assist to a multi-causality of SGBV, with residents and professionals being able to identify potential causes. The main assumed causes for SGBV described by residents and professionals, within the reported cases were the lack of coping skills, frustration and stress, and differences related to cultural background. Moreover, residents have identified asylum procedure as a potential cause for reported cases of SGBV. In recent findings within asylum reception centres in Germany, the current time-consuming asylum procedure leads to overcrowding and inadequate living conditions, which increases female residents' vulnerability to violence (80). Women and children have been sexually abused in reception centres in Germany, a report identifies living conditions, as overcrowding and lack of space and privacy, as increasing conditions to perpetrate violent acts (80). We believe our results highlight that asylum procedure should be considered as a risk factor for SGBV. Notwithstanding, a gender-sensitive and equitable asylum procedure is urgently needed. The in-vigor Directive 2013/32/EU (71) recognises the need for a gender-sensitive asylum procedure, ensuring staff are also aware of gender-specific vulnerabilities. Continuous training of the staff and persons in authority should be acknowledged, in order to fulfil their obligations while implementing this Directive. Professionals working in EARF have shown a broad SGBV conceptualisation aligned with UNHCR definition (4), they have reported a high number of SGBV cases happening in EARF, have been able to identify potential causes of SGBV and potentially preventable measures. However, evidence exists that professionals, state authorities and persons in power are still identified as SGBV

perpetrators towards refugees, AS and undocumented migrants (45,53,58,62,155). Given this, we reinforce that it is essential to implement a strict professionals' code of conduct, behaviour monitoring, continuous SGBV sensitisation, and precise primary preventive measures.

Analyzing our results in a dynamic and interactive perspective, frustration and stress as a cause of violent acts can be related to bad accommodation. Living conditions previously described by residents are poor, and sharing accommodation with adults and children, male and female, with no relationship, should be considered a stressor and trigger to SGBV victimisation and/or perpetration. This finding is aligned with recent research identifying bad accommodation as an increasing factor of refugee women's vulnerability to SGBV (79,80). As mentioned before, current living conditions for refugees - women and girls – in Greek Islands are still described as being far from standards that mitigate SGBV victimisation (6). Once, no gender association with living conditions was found in the results, we speculate that inadequate living conditions can be a trigger to SGBV victimisation for both women and men. For future research, and considering we use secondary data, we believe it would be pertinent to understand possible stressors that could influence both victimisation and perpetration.

A relevant bias related to general disclosure of violence should be considered. We believe our results underestimate the reality of SGBV in EARF. Even though confidentiality was guaranteed during the interview, residents might have feared it could influence their asylum procedure. In some big asylum reception facilities where communities with honour rules were residing, it was reported to us later that residents discouraged others from participating in the study, mentioning potential stigma and/or community consequences (45). For professionals, they assumed not to dare to speak openly, even if they had superior consent.

SGBV preventive measures

Our results indicate that SGBV is preventable, which is aligned with existing research documenting that violence prevention is possible (8,9,107). We believe the evidence of our

research corroborate the fact that violence is described as a socially constructed concept (13), influenced by individual, interpersonal, community and societal factors (3,4), and can be prevented (8,9,110,111). Our respondents have identified secondary and tertiary preventive measures that could be implemented in EARF. The main mentioned interventions included SGBV sensitisation and awareness, improving living conditions and improve communication between residents and professionals. To go beyond theoretical preventive policies is paramount, to the real understanding of what works towards violence prevention. In this sense, our results bring a clear set of interventions that could work to prevent SGBV in EARF. Residents and professionals can describe what could work in prevention, which is of major relevance to achieving effective, efficiency and sustainable preventive measures (136). Addressing the concept of desirable prevention, it has already been acknowledged in previous research (2,58) the importance of integrality, participation, inclusiveness, addressing root causes and maximizing agency to address SGBV prevention. Moreover, considering the ecological model (75), its dynamics level, vulnerable migrants and professionals should not be considered as isolated from each other. Thus, residents and professionals are active stakeholders in prevention. And should take active responsibility to ensure prevention measures exists in asylum reception centres.

Respondents believed SGBV reported cases could be prevented by improving living conditions and communications. Referring to the European Directive 2013/33/EU laying down standards for the reception of applicants for international protection (recast) in force, we believe more needs to be done. Even if the Member States have directives withdrawing minimum standards for living conditions of refugees, AS and undocumented migrants, living conditions are still identified as a possible measure to prevent SGBV. This fact suggests the Directives are not properly implemented by MS and/or lack clear instructions to be placed into practice.

Also, considering the IASC guidelines, layout and accommodation are deemed to be essential in SGBV prevention. It is acknowledged that inadequate housing or the denial of property are contributing factors to GBV (38). The IASC guidelines (38) recognizes that the ‘Lack of adequate housing during displacement and resettlement – whether in urban slums, squatter

settlements, collective centres, refugee settlements or with host families – may contribute to sexual assault and exploitation.' (p.167). We go further, suggesting that asylum reception facilities as the first housing for refugees, AS and undocumented migrants, should promote an SGBV free-environment with adequate living and working conditions.

The fact that residents and professionals were able to identify potential causes of SGBV is of major relevance to further design and implement evidence-based preventive strategies. Even witnessing a high number of reported cases of SGBV, our respondents believed these acts could be prevented. In this sense, secondary and tertiary preventive measures reported by both groups were related to general SGBV prevention measures. This is aligned with the fact that the majority of residents were not aware of the existing preventive measures in the reception facility where they were living.

Considering respondents' knowledge of existent preventable measures, the majority of residents are not aware of existent preventable measures in the host country or asylum facility. While the opposite was found for professionals. Once more, we assist to professionals having a broader knowledge, not only regarding SGBV conceptualisation but also regarding existing preventable measures. Since the 1951 Geneva Convention related to the status of refugees and its 1967 Protocol (4,26), it has been acknowledged the right to a "violence-free" environment and the need to protect refugees and migrants from violence. We believe residents of EARF, by having a narrow knowledge of SGBV conceptualisation and referring not being aware of existing preventive measures, are exposed to a higher risk of victimisation and/or perpetration. Our results also highlight the lack of monitoring towards preventive measures. Monitoring of interventions should be done continuously (136) by the staff working in EARF; the fact that residents are not aware of existing preventive measures should be considered a call for action towards more information and sensitisation. There is a necessity for continuous evaluation of preventive measures to achieve effective, efficient, relevant and sustainable interventions (136). International policies, evidence-based, on how to manage public health in the context of migration are crucial and long overdue (21).

Further research should address the specific context of asylum reception facilities and evaluating SGBV preventive strategies (9,45,111). To understand the impact of SGBV

preventive strategies and what works best, according to the target population and specificity of the social context is essential. Prior research has already sustained the need for systematic evaluation research on prevention and management of all kinds of gender-based violence (107,111,140).

Predictive models of SGBV victimisation

Related to the fact that SGBV is preventable (8,9,107), we have explored a pattern of SGBV victimisation for both groups. Our results highlight that being a resident or a professional is not a predictive factor to victimisation. The feature resident or professional did not improve modelling to predict SGBV victimisation. Which is aligned with previous research suggesting that within EARF both groups are vulnerable to SGBV (2,45). We believe that within EARF both groups are exposed and vulnerable to violence. This finding also highlight the need for inclusive preventive measures, not only addressing residents but also addressing professionals.

Considering socio-demographic characteristics, such as sex and marital status, it seems they do not improve our predictive models. In opposition, living and working conditions in EARF have proven to be important predictive characteristics for SGBV victimisation. Specifically, sharing sanitary facilities, the number of people, sex and age with whom they are shared, the type of accommodation (room, house/apartment, shelter, studio/container, tent or homeless), and immigration status are important characteristics to predict victimisation.

Another relevant result is related to the feature immigration status according to the law. This feature has proven to be important to predict violence. Our finding supports previous researchers, referring that refugees, AS and undocumented migrants are in a vulnerable position to SGBV victimisation (45,62,80,146). We believe MS of the EU has already acknowledged the vulnerability of migrants to violence. The recent Annual Report on Migration and Asylum (147) describes the migration and asylum situation and achievements at MS level. The same report (147) refers that ‘Policy developments at the national level affected all aspects of (Member) States’ asylum systems, from access to the asylum

procedure to reception conditions and the treatment of vulnerable asylum seekers.' (p.2). Therefore, we believe achievements are being made in European countries, even if not in a balanced implementation across countries (147). However, we are confronted with high reported cases of SGBV (53,62,80), what makes us wonder: what are we still missing? Accordingly, we believe our research contributes to answering this question. We found that SGBV conceptualisation is discrepant between groups, residents are not aware of existing preventive measures at facility and country level, and the predictive model of SGBV identifies living conditions as of most important predictors of victimisation. Therefore, even if progress has been made, we are still somehow far from achieving a "free SGBV environment" within the EARF.

Regarding the methodology used in the third study, we believe the number of personal victims might be underreported, and thus influencing the modelling results. It should be considered that modelling could be improved with a more significant sample. Notwithstanding, we believe machine learning techniques may support policymakers in defining evidence-based primary, secondary and tertiary prevention strategies of SGBV. We challenge researchers to apply these techniques to explore patterns of SGBV victimisation and perpetration, in several contexts and different populations. Even if we recognise the predictive accuracy of machine learning algorithms, limitations should be considered. The predictive variables and its importance are not causes to the problematic being studied (154).

Contributing to evidence-based SGBV preventive measures

According to King & Lulle (12) 'Migration is part of the lives of us all in Europe, whether we ourselves have moved or not. Therefore, managing migration must also include flanking policies and strategies which deal with related issues, but in an integrated way' (p.122). In this sense, we emphasize the requisite for including professionals working with refugees, AS and undocumented migrants as active stakeholders in the process of designing and implementing preventive strategies and policies. Furthermore, residents should also be acknowledged as active voices for SGBV prevention.

The negative, short and long-term health consequences in migrants of an SGBV experience has been shown in previous research (8,58,140). Our findings show a high number of SGBV cases in EARF, and low awareness of existent preventable measures reported by residents. We believe changes urge to be implemented to mitigate the negative impact of SGBV in residents and professionals' well-being. Governments, civil society, NGO's, and other relevant stakeholders have the responsibility of inducing a healthy and socially productive migration process, in order to have equity on all the population living in a country (21). Recent research as also acknowledge the need for a more coherent European migration policy, and more high-quality research evidence to improve policies related to the "ground realities" of migration pragmatically (12). Moreover, migration is not an isolated problem, and a single-focus policy is not the solution (12). In this sense, our research goes beyond the focus of stereotyped victims – residents – and stereotyped aggressors – professionals. We have both groups perspectives, with results showing that being a resident or a professional is not relevant to predict victimisation.

Since the Beijing Declaration (5) that 'Gender-based persecution has been accepted as a basis for refugee status in some countries.'(p. 216). The EU has set the in vigour Directive laying down standards for the reception of applicants for international protection (2013/33/EU) calling all MS to take adequate preventive measures in reception facilities to mitigate SV, including sexual assault and harassment. Moreover, 27 European countries have ratified the Convention of Istanbul, going beyond the adoption of the preventive measures at asylum facility level, to ensure provisions of adequate medical, psychological, legal and forensic care to all victims of SV (66). Stating that SGBV is a reality in EARF, with both residents and professionals being at risk of victimisation, we believe we are some way off the European legal framework and its orientations. We challenge international stakeholders and MS to commit to current Directives and international SGBV prevention guidelines, and to move forward it, implementing efficient and evidence-based preventive strategies. In specific respect to Directive 2013/33/EU (70), recommended to ensure the access to housing and food. Notwithstanding, we suggest that the Directive should be more precise, by ensuring one accommodation by family, with one sanitary facility by family, respecting family

privacy, culture and dynamics, avoiding shared spaces by non-related members. In regards to individuals withouth family it is important to ensure age-balanced within the facilities, meaning that the same and equitative proportion of ages exists, and respect gender-identities (by asking the preference of a person to share a space with a woman or a man).

Specifically for the Convention of Istanbul, it is worth to note the recent report providing an overview of the progress made addressing violence against women (67). However, gaps are still highlighted (67). Considering these results, and taking into account the main findings of this thesis, we conclude that European countries still have a long path to go, to achieve an SGBV-free environment within EARF. Clear directives and legal frameworks are in place at European-level. Therefore, there is a requirement for a country-level commitment, to put these policies into practices.

Intending to contribute to defining preventive measures of SGBV evidence-based, taking into account identified factors that can induce SGBV vulnerability in residents and professionals, living and working in EARF; Our results contribute significantly to the definition of preventive measures, at all three levels – primary, secondary and tertiary. Preventive measures should be based on a common and widespread SGBV conceptualisation. Moving forward to more IEC regarding SGBV, improving living and working conditions and improving communication between groups. Residents and professionals should have an active voice throughout the definition, implementation and further evaluation of SGBV preventive measures. Moreover, by having both groups as our main beneficiaries, we contribute to relevant evidence-based research, within the context of EARF.

The need for systematic surveillance and planning for improving the health of migrants has been acknowledged (21). Also, taking into account the gap on systematic research described in the literature (51,73,104), it became pertinent to develop a study on violence among migrants and refugees, more specifically addressing SGBV conceptualisation, causes, preventable measures and predictable factors. In addition, we bring a gender-sensitive approach in our research rooted by the recommendations of Beijing Declaration (5) ‘There is greater recognition of the need to integrate a gender perspective in the planning, design and implementation of humanitarian assistance and to provide adequate resources.’ (p.216).

5.2 CONCLUSIONS

The scope of this research is to contribute to expanding the knowledge on SGBV conceptualisation, addressing reported cases and predictive factors of SGBV in residents (refugees, AS and undocumented migrants) and professionals (services and health care providers), living and working in European asylum reception facilities. We emphasise the importance of addressing SGBV among and towards residents and professionals within EARF and, we highlight the vulnerability of both groups for this type of violence.

More than 20 years after the Beijing Declaration, SGBV remains a major public health problem, with severe consequences every day (156). Residents and professionals of EARF are exposed to a high incidence of SGBV. Considering that asylum facilities are conceived to protect and integrate vulnerable migrants into society, we believe efforts should be made to mitigate SGBV through evidence-based preventive measures at all three levels – primary, secondary and tertiary.

Within our results, residents and professionals have described different SGBV conceptualisation, with professionals considering more acts as SGBV then residents. We believe primary preventive strategies in EARF should focus on harmonising SGBV conceptualisation considering possible differences linked to specific socio-demographic characteristics. What is considered (or not) a violent behaviour should be taken into consideration if we want to mitigate SGBV. As a baseline for prevention, we acknowledge that SGBV conceptualisation should be addressed through IEC activities adapted to this specific context.

Even though we recognise the relevance of primary prevention, moving forward in secondary and tertiary prevention is still essential as residents and professionals, living and working in the EARF are exposed to a high incidence of multi-type of SGBV. A high number of SGBV cases were reported characterised by multi-types of violence, and multi-causes. Asylum procedure has been described as a potential cause for reported cases of SGBV by residents. Moreover, living conditions, described by the same group, are poor, and sharing accommodation with adults and children, male and female, with no relationship, should be considered a stressor and trigger to SGBV victimisation and/or perpetration. Highlighting the

results of our predictive model of victimisation, we reinforce that not only living conditions should be adequate, but also working conditions should improve. The fact that the feature being a resident or a professional did not improved our predictive model of victimisation suggest the need for considering both groups as one whole. In sum, our results call for the development of gender-sensitive and equitable asylum procedures, as well as for adequate accommodation facilities that enhance a SGBV free environment. Furthermore, integrative prevention strategies should be aligned with country-level and international regulations.

In this specific context, our findings highlight that residents and professionals, male and female are both vulnerable to SGBV, reducing the stereotypes male/professionals – perpetrators, and female/residents – victims. Yet, residents and professionals believe prevention is possible by implementing more SGBV sensitisation and awareness activities, by improving living conditions as well as improve communication between groups. We highlight the need for implementing precise preventive measures to mitigate SGBV, evidence-based and acknowledging residents and professionals as active voices for prevention. We propose regular IEC sessions on SGBV sensitisation and awareness, starting with the focus on SGBV conceptualisation - with what is or what is not an SGBV act. Debate regarding what is acceptable or transgressive behavior in the context of EARF, should be done, a consensus should be achieved, and be part of the code of conduct for both groups. It is essential to take into consideration that possible cultural and socio-demographic differences might be related to differences in SGBV conceptualisation. These sessions should include both groups. The information given should be similar, and both groups should be accountable for implementation of SGBV preventable measures. Also, residents and professionals should recognise the impact they can have on prevention.

Secondly, it is a priority to address evidence-based causes of SGBV. As already mentioned above, it is essential to improve living and working conditions: avoiding shared spaces by non-related members respecting family culture and dynamics, ensure one sanitary facility per family, assuring age-balanced within the facilities (i.e. ensure the same and equitative proportion of ages in the accomodation facility), and respect gender-identities (by asking the preference of a person to share a space with a woman or a man). Another issue to consider is

the fact that residents have mentioned low awareness regarding preventive measures in both asylum facility and hosting country. In this respect, it is essential that they are active, included and regularly informed of existent preventive actions and their rights and duties within EARF.

The European community is committed to the protection of vulnerable migrants, and several Directives, Regulations and guidelines have been issued on these matters. However, we still assist to a violation of fundamental human rights towards refugees, AS and undocumented migrants in European countries, and a lack of implementation of effective preventive measures. Our findings suggest the existence of a clear link between SGBV victimisation and living and working conditions, calling for improving conditions in asylum facilities. Current European framework addressing SGBV in vulnerable migrants are still some way off the achievement of guidelines and its coherent implementation across MS. We stress the need for clear and specific European policies and directives on living and working conditions in reception facilities, and equitable and gender-sensitive asylum procedure as preventive measures for SGBV. We acknowledge the existent regulations as a positive effort to reduce vulnerability to violence. However, we believe that this is not sufficient as more policies should be translated into practice. The implementation of European policies, regulations and directives should be carefully followed up, and sanctions should appear if the timing is not respected. We believe it is also mandatory to ensure member states have the capacity and tools to implement it, and if not, the EU should focus on their capacity building.

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Annexes

Annexes

Annex I

In our third study, we have opted to use machine learning (ML) modelling. ML are predictive modelling using several different algorithms. In the following paragraphs, we will describe the three algorithms used to analyse our data: Random Forests algorithm, Support Vector Machines and Logistic Regression.

In 2001, Breiman (157) has introduced the term Random Forests algorithm as a general ensemble of decision trees (tree-like models based on dependent variables to predict independent variables), which depend on independent sets of data with the same distribution. Random forests have been approved as an effective tool in prediction (157). Moreover, they have proven to give generalisation error rates (over-fitting prevention) that compare favourably to the best statistical and machine learning methods, such as neural networks. The same author refers that random forests are among the most accurate general-purpose classifiers available (157). Yet, random forests algorithm is the most recent modelling method strategy. This algorithm is one of the learning methods from machine learning, and it is of most use to conduct classification and regression tasks. The learning algorithms construct a set of many individual learners (base learners) and combine them to predict new data by taking a weighted vote of each individual learner (158).

Support Vector Machines (SVM) have been first introduced in 1995 by Vapnik and Cortes (159). SVM is a data-driven model, highly and model-free recognised as a useful method to diagnose diseases in the clinical setting (160–162). The principle of the SVM is to find the optimal generalization of the model, in order to promote sparsity. This algorithm has important discriminative power for classification, especially when sample sizes are small and we are dealing with a large number of variables (high-dimensionality space). According to Yu et al (160) ‘SVM discriminates between two classes by generating a hyperplane that optimally separates classes after the input data have been transformed mathematically into a high-dimensional space’ (p.1).

As well, as the previous modelling algorithms, Logistic Regression is a predictive algorithm. Logistic regression is used to explain the relationship between binomial variables. Moreover, it is a useful method for small samples (163). Logistic regression depends on a pre-determined model to predict the occurrence (or not) of a binary event by fitting data to a logistic curve, i.e. it is used to explain the relationship between one dependent binary variable and one or more independent variables.

Annex II

In our third study, entitled: *Can we predict sexual and gender-based violence in European asylum facilities? Results from a machine learning approach*; we have conducted a cross-sectional study using machine learning to analyse our data. The approach used was suggested by Shmueli (122). We will now present an in-depth statistical description of the seven steps described by Shmueli (122) and followed in our methodology.

1. Define goal
2. Collect data;
3. Prepare data & Exploratory data analysis;
4. Choose variables;
5. Choose methods;
6. Evaluate, Validate & Select models;
7. Use models.

Step 1 – Definition of goal: the goal was defined as predicting the dependent variable "were you a victim?".

Step 2 – Collect data: the data collection was made through interviews to residents and professionals of European reception and asylum facilities.

Step 3 – Preparation and exploratory analysis of the data:

The data was prepared by handling the no responses/missing values as acceptable response choices. E.g. for a yes/no question the third option 'no response' is handled as the third option. The exploratory data analysis highlighted an expected misrepresentation of the classes of the variable to be predicted ("were you the victim?"). The observed imbalance ratio of *non-victim* to *victim* of the whole dataset was 75:25 interpreted as significant enough to employ methods for subsampling the training data to avoid bias towards the most dominant class (non-victims). Two methods were used for preparing the dataset, as follow:

i. Undersampling based on k-nearest neighbours for ignoring samples which are not agreeing with their neighbourhood. (i.e. removing ambiguous information regarding samples of the same cluster presenting different results) (164).
    a. The final subset of data contained 384 of the initial 562 samples.
ii. Undersampling method for balancing the training dataset based on K nearest neighbours - NearMiss-2 (165). Accordingly, the seminal work from Zhang and Many did present NearMiss-2 along with random undersampling as the most effective methods for undersampling in their case-study. In our study, the random undersampling did not manage to yield models as performant as NearMiss2.
    a. The final data-set was balanced (equal number of observations for all possible level combinations) and contained 224 samples where 112 were non-victims, and 112 were victims.

Step 4 – Selection of variables: the selection of independent variables followed three well-defined steps:

i. The *first* step occurred before the modelling phase where domain experts selected the subset of relevant features to include in the machine learning part.
ii. The *second* phase was conducted while exploring the dataset and the sparsity of the available features. The following variables/features were removed due to their high sparsity conferring low information to the predictions.
    a. What was the reason for your departure?
    b. When did you leave the facility?
iii. The *third* phase was conducted in the present methodology following a wrapper approach for recursive feature elimination. The importance of each feature was offered by the Random Forests algorithm, which provides the importance of features by their influence in the predictability of the output due to the request of a certain subset of features. Once the model is trained we removed the least important feature for conducting the predictions, and we retrained it. This process was repeated until

the validation error (5-fold cross validation)[1] was deteriorated. The final selected features (independent variables) are presented in the following table and graph below, by order of importance to predict the dependent variable (being a victim). The higher number means that the variables is of most important to predict victimisation, while the lower value means the opposite.

Table: Best feature subset and feature importance, based on the importance of Random forest algorithm.

Description	Predictive Importance
With how many persons do you have to share these sanitary facilities?	1.000000
Can you specify which kind of accommodation you are living in?	0.367218
What is your actual status according to immigration law?	0.332777
What is your age in years?	0.321193
What is your current occupation in this facility?	0.315818
What is their approximate age?	0.298385
What is their sex?	0.265571
With how many adults (equal or older than 18) do you share this space?	0.249937
With how many children (younger than 18) do you share this space?	0.247091
If yes, are they living with you?	0.242666
What is your actual marital status?	0.242473
If yes, what is the size of this space?	0.236184
What kind of sanitary facilities do you have in this accommodation?	0.208560
In what type of reception/asylum facility are you living?	0.197513
What is their relationship to you?	0.176883
Do you have any children?	0.151167
What is their sex?	0.130415
Are you currently living with a partner?	0.102410

[1] 5-fold cross validation means that the training data set was divided into 5 equal-size subsets. Each subset was used as a test data set for a model trained on all cases and an equal number of non-cases randomly selected from the 4 remaining data subsets. This cross-validation process was repeated 5 times.

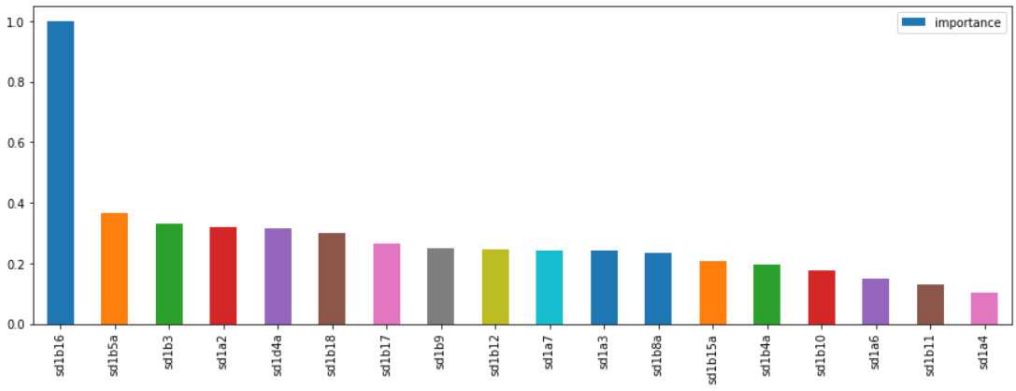


Figure: Best feature subset and feature importance based on Random Forests algorithm.

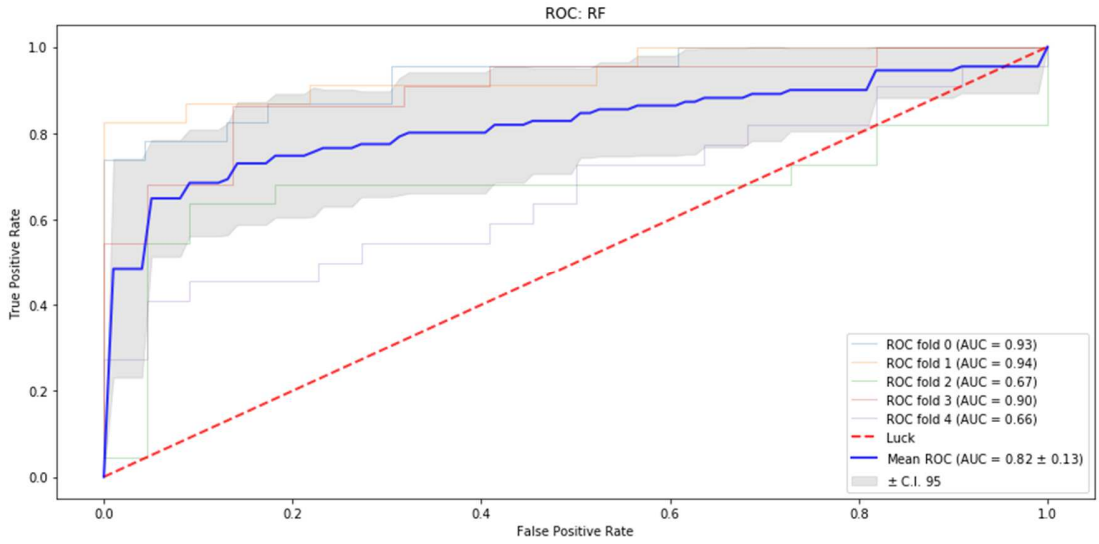
Step 5 – Select the methods: the chosen machine learning methods for conducting the modelling phase and inferring the most suitable for the job at hand were the Random Forests, the Support Vector Machines and Logistic Regression.

Step 6 & 7 – Evaluate, Validate & Select models and Use models:

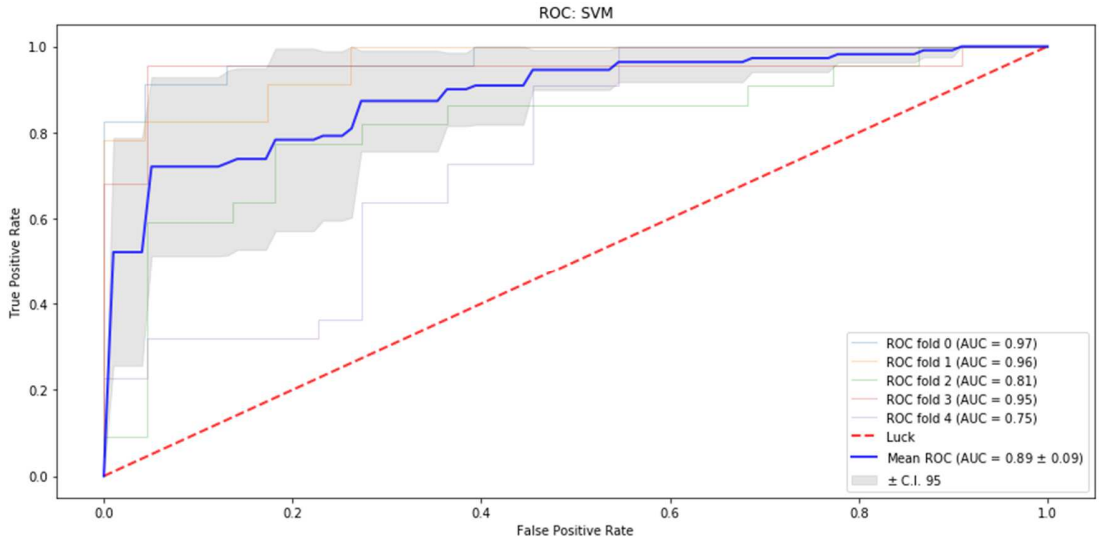
The AUCs (area under the receiving operating characteristic-ROC curve) for testing data sets were calculated and used to compare the powers of the different models. The higher the AUC (closer to 1), the higher predictive power of a model. AUC of a ROC curve takes into account the sensitivity (true positive rate which corresponds to the proportion of positive data points that are correctly considered as positive, with respect to all positive data points) and specificity (false positive referring to the proportion of negative data points that are mistakenly considered as positive, with respect to all negative data points). The AUC of a ROC curve is superior when presenting high sensitivity and high specificity.

The most performant model was Support Vector Machines with 0.89 +/- 0.09 of AUC in a 5-fold cross-validation setting. The Random Forests achieved 0.82 +/- 0.13 of AUC, whereas the Logistic Regression performed 0.80 +/- 0.09 of AUC on the same datasets. The Support Vector Machines were clearly superior for the specific task given the dataset provided. However, the other methods are advisable to be employed as well in future works due to their

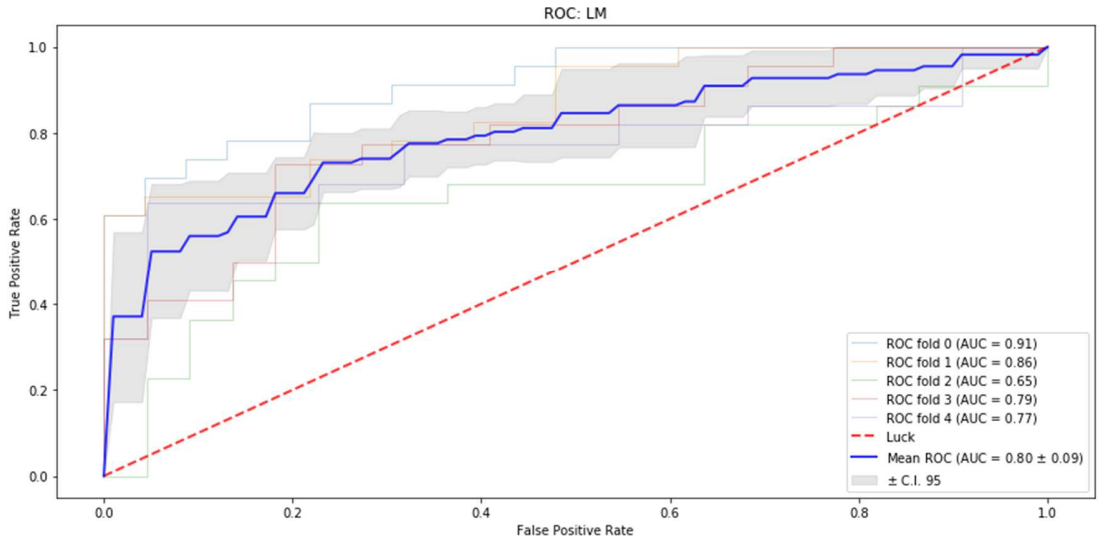
proven robustness. The results of the 5-fold cross validation on the best of each method are presented in the following graphs.



Random Forest performance with optimised hyper-parameters.



Support Vector Machines performance with optimised hyper-parameters.



Logistic Regression on the final subset of features.