

Intersectional inequality and health emergencies

The case of the Zika outbreak in Brazil

Abstract

During the Zika outbreak in Brazil, the incidences of Zika related congenital microcephaly seemed to be concentrated mainly among women from the lower socioeconomic classes. This study examines the relationship between the inequalities in Brazilian society and the effects they have had on the Zika outbreak. This is a qualitative case study using a comparative literature review of secondary sources as the empirical foundation. By conducting an analysis using the theories of postcolonial feminism and intersectionality, it was possible to examine and conclude what the inequalities women face in Brazil are, and how they have had an impact on how the Zika outbreak has manifested. Levels of marginalization and power imbalances in Brazilian society that produce and reproduce inequality based on gender and other social aspects have been a major factor, and need to change in order to empower these women and provide more equal opportunities for them both during health emergencies and otherwise.

Key words: Health emergencies, Brazil, Zika virus, Gender inequality, Intersectionality

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1 Introduction

1.1 Background

Globally, gender remains a key determinant of health. The Zika virus (ZIKV) outbreak that plagued Brazil and other Latin American countries during 2015-2016 unfortunately is no exception. The Zika outbreak was deemed by the World Health Organization (WHO) as a “Public Health Emergency of International Concern” since ZIKV infection was linked to neurological disorders such as microcephaly, a birth defect which causes children to be born with abnormally small heads leading to moderate or severe neurological problems and hinders cognitive development (Hawkes and Buse, 2013; WHO, 2017). Although Brazil has made progress, it is still a country with great social and economic inequalities, and still struggles with promoting gender equality and reducing violence against women (World Bank, 2016; UN Women, 2016). This nexus of inequalities and the health emergency of the Zika outbreak is what is of interest to this study, which will discuss and analyze the relationship between the inequalities women face in Brazil and the Zika outbreak.

At the time of writing, the WHO Director-General has since six months back declared the end of the “Public Health Emergency of International Concern” regarding ZIKV infection and neurological disorders linked to it (WHO, 2017). However, today there are still cases of people becoming ill with Zika fever and babies being born with microcephaly, which remains a significant public health challenge requiring actions to be made in order to resolve and mitigate the effects of the outbreak. And although its attempts and strategies have been criticized, the Brazilian government is still working hard to prevent transmission and provide care to those affected as well as research into the disease (Brazilian Ministry of Health, 2016).

This study is of importance because not only does it deal with a topic that is very important in ensuring development and better opportunities for women, it is directly linked to the Sustainable Development Goals (SDG) agenda, as it relates to several of the goals regarding gender equality, health, poverty and sub-issues related to these (SDGs 1, 3, 5, 6, 10, 11) (UN-DESA, 2016). Moreover, a number of human-driven factors such as urbanization and climate change among some, intensify and are jointly changing and interacting to influence distribution and contact with mosquitos which may be associated with different outbreaks such as the Zika outbreak (Ali et al, 2017; Shragai et al, 2017; Lima-Camara, 2016). Therefore, there is a certain urgency to understand how health emergencies affect populations’ and individuals’ vulnerability, as they are likely to happen more frequently.

In the WHO's "Roadmap for Action, 2014-2019: Integrating equity, gender, human rights and social determinants into the work of WHO", equity, human rights, as well as gender and social determinants are discussed as important components of ensuring that the WHO promotes health for all people in all of its programmes and processes (WHO, 2015). These components are also of importance to this study in order to understand the gendered consequences of the Zika outbreak, as inequity and inequalities are key concepts, which will be explained in a later section. However, one could argue that the Human Rights Charter (UDHR, 1948) and the human rights discourse in general is not gender specific enough, and to the extent that it is, is only influenced by Western liberal feminism (Arat, 2015). Therefore, the study will not focus on human rights as such but will instead discuss relevant rights, reproductive and sexual rights, and rights related to children and persons with disabilities, since the lack of fulfillment of these rights play an important role in explaining the gendered consequences of the Zika outbreak in Brazil and how it has disproportionately affected certain women. The theoretical frameworks used for the analysis, postcolonial feminism and intersectionality, will enable focus on gender and social determinants aspects regarding the Zika outbreak in Brazil.

By identifying and analyzing the inequities and inequalities that have shaped women's vulnerability to ZIKV infection and related pregnancies with babies suffering from microcephaly, it will be possible to understand how the Zika outbreak has produced such gendered consequences, and perhaps more clearly understand how to mitigate the adverse effects of ZIKV, and health emergencies more broadly. Because arguably not only has the Zika outbreak in Brazil been shaped by its inherent inequalities, the Zika outbreak has in turn perpetuated those inequalities making the situation even more difficult for the women who have been affected by this health crisis.

1.2 Aim and research questions

What is of interest to the thesis is understanding the relationship between the inequities and inequalities in Brazilian society and the effect they have had on the Zika outbreak. In this sense you could say that the Zika outbreak serves as a lens by which to discuss and analyze the inequalities that women face in Brazil and how they relate to health disparities. The aim of the thesis is to *identify and analyze how the inequalities that Brazilian women face have had an impact on the Zika outbreak in Brazil.*

As mentioned previously, not only has the Zika outbreak in Brazil been shaped by its inherent inequalities, the Zika outbreak has in turn perpetuated those inequalities making the situation even more difficult for the women who have been affected by this health emergency. This study will focus on the first part of this circle causality, namely the inequalities' effect on the Zika outbreak, but as the study progresses it will also become apparent how the inequalities that women experience have been made worse because of Zika. The study has chosen to focus on one of the know complications of ZIKV infection, namely Zika related congenital microcephaly which will be explained in more detail in the next section. By answering the

research questions and fulfilling the aim of the study, it will also be possible to provide some insights into the relationship between inequality and health emergencies more broadly.

The research questions for this study are:

- (i) *Why has the Zika outbreak in Brazil produced gendered consequences?*
- (ii) *Why have mainly certain women been affected by this complication of the Zika virus?*

The two research questions will help fulfill the aim of the study, and are both needed in order to get an accurate understanding of how the Zika outbreak, specifically the Zika related complication of congenital microcephaly, has manifested itself in Brazilian society and among Brazilian women.

1.3 Delimitations

Certain delimitations have been made in this study in order to narrow down its scope and provide clear delineations for the case and its aims. ZIKV transmission and its health impacts are still largely not understood. The virus has been linked to Guillain-Barré syndrome and microcephaly in newborn babies, and links to other neurological diseases and complications are being investigated. Research suggests that if a pregnant woman becomes infected with ZIKV right before or during her pregnancy, her baby risks developing congenital microcephaly (WHO, 2017). Further research suggests that the first three months of pregnancy may be the most critical (Brazilian Ministry of Health, 2016). Moreover, not only does the *Aedes Aegypti* mosquito transfer the virus, so-called vector transmission, but ZIKV has also been found to be able to be sexually transmitted from men to women (WHO, 2017). Research conducted in Rio de Janeiro, found that there was a higher incidence of Zika in adult sexually active women than in adult sexually active men, which suggests that there is a significant contribution of sexual transmission from men to women (Coelho et al, 2016). Thus despite various health related consequences of acquiring ZIKV, the study wishes to focus on one of the known more severe complications caused by ZIKV infection, namely the cases of Zika related congenital microcephaly, and as such women are at the center of this issue.

1.4 Definitions

For the purpose of this study some definitions need to be made. Zika virus (ZIKV) refers to the virus and related illness caused by it, Zika fever. However, Zika fever may result in certain complications as has been explained, such as Guillain-Barré syndrome and congenital microcephaly. More research and insights are needed into ZIKV as much is still not understood about the disease or its transmission. The Zika outbreak then refers to the

widespread outbreak of ZIKV in Latin America and the Caribbean, but also some parts of the United States, in 2015-2016 (PAHO, 2017). Moreover, in the context of gender and health and for the purpose of this study, inequity and inequality, are important to define. The two concepts are closely related and can be used interchangeably depending on the context, however there are some differences. WHO defines equity and health inequity as follows:

“*Equity* is the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically. *Health inequities* therefore involve more than inequality with respect to health determinants, access to the resources needed to improve and maintain health or health outcomes. They also entail a failure to avoid or overcome inequalities that infringe on fairness and human rights norms.” (WHO, 2017).

One could thus argue that inequity is more closely related to the concepts of injustice and unfairness, and inequality more to the notion of being unequal and is produced by inequity. However, the study would argue that for the purpose of this thesis the concepts of inequity and inequality are inextricably linked as both relate to each other and aggravate the other, and as such will be used interchangeably. The exception being *health inequity* which was defined above, since that is directly related to health.

As such inequities and inequalities in this study refer to all the disadvantageous aspects; social, economic, racial, cultural, gender related, or otherwise, that have an impact on an individual’s subsequent susceptibility to disease and vulnerability to being disproportionately affected by disease.

1.5 Methodology

As mentioned, the aim of this study is to identify and analyze how the inequalities that women face has had an impact on the Zika outbreak in Brazil. As such, the study will be a case study of Brazil and the Zika outbreak. The analysis will be based on a research overview that will comprise a comparative literature review using secondary sources as empirical foundation for the specific case of Brazil. The research overview/comparative literature review will allow for a comprehensive understanding and analysis based on secondary sources without needing the researcher to conduct field work, and will be based on an extensive selection and analysis of previous research in order to shed light on the thesis topic and fulfill its aims. The material to be used for the literature review will be academic articles related to the topic as well as data and information gathered from relevant sources such as the WHO and other organizations. The data collection process of material has been conducted on the basis of relevance to the thesis topic, and like with any material may present certain biases. However, by conducting the literature review by using a vast array of different sources it is deemed that the likelihood of bias is diminished to a lesser extent.

Yin (2009) distinguishes between different types of cases and based on this distinction, the case of the ZIKV outbreak in Brazil will constitute an exemplifying case (Bryman, 2008), as the case is meant to serve in understanding the link between inequalities and the Zika

outbreak. Moreover, the case of Brazil is chosen for this qualitative case study since it was one of the countries that was hit the hardest by the Zika outbreak in 2015-2016, where the outbreak originated before spreading to other countries in the region, and also a country which still faces severe socioeconomic and structural inequalities which are expressed through and reinforce existing gender gaps (Vélez and Diniz, 2016) and as such is an interesting case for this study. Furthermore, since this thesis is a qualitative case study, issues regarding the study's generalizability are relevant to address. Since it is a single case study issues regarding its external validity or generalizability are worth considering, however since it is an exemplifying case, it is still very useful as it can provide valuable insights into the relationship between inequalities and ZIKV, and also inequalities and health emergencies more broadly.

Furthermore, case studies do not strive for the kind of level of external validity that may be the objective of other research designs, and instead wishes to describe and explain the case, as in this case of inequalities in Brazil and the Zika outbreak (de Vaus, 2001). Case study analysis is argued to require to be fundamentally a theoretically informed undertaking (de Vaus, 2001). As such, the study will be based on two theoretical frameworks, postcolonial feminism and intersectionality. The theoretical frameworks chosen for this study will be very useful when analyzing inequalities in Brazilian society in relation to the Zika outbreak since they are concerned with similar theoretical ideas relating to inequality and gender, and will allow for a comprehensive framework of analysis in the Brazilian context. The frameworks will thus take into account aspects such as postcolonial legacies and societal power hierarchies, as well as intersectional social identities and the inequalities related to them that manifest on multiple levels. These occurrences are of course intrinsically linked and need to be understood in order to provide an accurate picture of the intersectional inequality Brazilian women face and how it relates to the Zika outbreak. Postcolonial feminism will be the more overarching theory, and intersectionality will be the more focal point of theoretical departure and will be especially important in answering research question 2. However, in the analysis both theories will to a great extent be used concurrently. In addition, this study is not conducted during field work, but even so it is still important to consider the positionality of the researcher when speaking about the experiences of Brazilian women, and as such will be a consideration that will consistently be a part of the research process.

1.6 Contextualization of research problem and previous research

When it comes to health emergencies and gender, women are often the ones who are the most vulnerable, face the most adverse effects and have the least power over their situation. A literature review conducted on the topic of gender and health emergencies, found that when looking at the HIV/AIDS and Ebola outbreaks and how inequity and inequalities may have shaped them, there seem to be some key issues that can be found consistently throughout the existing literature and research. Gender roles, gender-based power, societal norms and values,

violence, reproductive and sexual rights, as well as risk behavior are all important determinants of how these health emergencies have been shaped by inequity and gender inequalities in the societies that have experienced them, both for men and women. In the cases of these health emergencies, women's inferior status in society makes them more exposed and vulnerable in health emergencies, and their important role as caretakers further exacerbates the damage caused to them as individuals and society as a whole when they become ill or die because of that illness. The international and government responses to health emergencies in many cases also seem to be lacking effective policies and affirmative action based on the real needs of the women affected (Magnusson Penna, 2017). During the Zika outbreak in Brazil, women also seem to be the ones who are the most disadvantaged, and it is an interesting case, since as previous research suggests, they are already the most likely to face the most negative consequences of the health emergency because of their gender. But in this situation, it is even more likely, since one of the complications linked to ZIKV is congenital microcephaly in babies, making certain that the burden will be placed on women.

1.7 Disposition of thesis

The thesis has started with the previous section (Section 1) introducing the study, its aims and research questions, delimitations and definitions, as well as contextualizing the research problem and previous research. From this point on the thesis will be structured as follows. The theoretical frameworks to be used, postcolonial feminism and intersectionality, will be presented and discussed in the next section (Section 2). After that the research overview consisting of the comparative literature review on the existing literature and material found during the desk study that will serve as the study's empirical foundation will be presented (Section 3). That will be followed by an analysis of said material by using the theoretical frameworks which will comprise the backbone of the thesis (Section 4). Following the analysis section, a concluding section will be presented, and will include possible recommendations as to what needs to change in the context of gender and health emergencies (Section 5). The final section comprises the reference list.

2 Theoretical frameworks

2.1 Postcolonial feminism

Postcolonial feminism stems from postcolonialism, and is a theory concerned with addressing Eurocentrism and racism within Western feminism, while emphasizing the heterogeneity of feminisms and women all over the world. Focusing on the experiences and (mis)representation of women in the postcolonial world and how power structures disenfranchise certain women economically, politically and socially, the theory and its scholars have developed riveting analyses and contributed immensely to the understanding of women's struggles in the developing world (Mohanty, 1988; Tickner and Sjoberg, 2013).

Postcolonial feminist scholars have critiqued epistemological assumptions of Western feminist approaches in their attempts to speak about, and for, the "Third World woman" and universalizing women's experiences. Postcolonial feminist theory offers a more accurate view of women's experiences in the context of postcolonial and developing countries, taking into account how historical, cultural and social legacies from colonialism form certain groups' and individual's agency and position in society (Ozkazanc-Pan, 2012).

According to postcolonial feminism, women in postcolonial contexts such as Latin America or more specifically Brazil, not only suffer oppression because of the Western hegemony that culturally, socially and economically still lingers and causes power imbalances based on class, race and ethnicity, but also importantly because of their gender (Aguiar, 2016; Mendoza, 2015). A term coined by Holst Peterson and Rutherford is "double colonization", which can be used to describe this oppression and refers to the ways women simultaneously experience the oppression of colonialism and patriarchy (Holst Petersen and Rutherford, 1986).

These postcolonial legacies can be seen in Brazil as it is one of the most unequal countries in the world in terms of income inequality, and despite progress in recent decades still has great economic and social disparities among the population (World Bank, 2016; UNDP, 2016). Gender equality is also an area that lacks development and progress, and in the case of poverty, the majority of poor Brazilians are people of color, something which also reflects its past colonial times. Social opportunities are based on gender and ethnicity, categories that are vital in understanding the production and reproduction of socioeconomic inequities of power that permeate Brazilian society (Rosa, 2009).

Subsequently, postcolonial feminism is also concerned with how the intersection of gender, race, class, and nationality comes together to form an individual's level of inequality and position within the power dynamics operating in distinct colonial

contexts (Mendoza, 2015). This concept of intersectionality brings us to the second theoretical framework in this study.

2.2 Intersectionality

Coined by the feminist scholar Kimberlé Crenshaw, the term intersectionality and its analytic framework has become very important in different feminisms. Intersectionality theory and analysis also originated from the discontent of treating “women” as a homogenous group, more specifically how the existing feminisms did not adequately address the positionality of black American women and other women of color based on the multidimensionality of their experiences (Crenshaw, 1989; Crenshaw, 1991).

Intersectionality asserts that social identity categories such as race, class, gender, sexuality, etc. are interconnected and operate simultaneously and are able to produce both privilege and marginalization depending on the combination of social identities. It has become a key analytical framework and theoretical research paradigm through which feminist scholars in various fields seek to understand the interaction of these various social identities and how they in turn define societal power hierarchies. Intersectionality is thus a tool for the analysis of the ways in which different forms of social inequality, discrimination and oppression interact and overlap in intricate ways (Cooper, 2015; Smooth, 2013). Interestingly, not only does intersectionality help understand the experiences of individuals based on the intersections of their social identities, it is also concerned with the systems that give meaning to the categories which are ascribed to said identities, such as gender, class, race. As such at the societal level intersectionality aims to make visible the systems of oppression that maintain these power hierarchies in place and organize societies, while also aiming to theorize the experiences at the individual level (Smooth, 2013).

A concept which is relevant regarding that theorization is “kyriarchy”, a term coined by Schüssler Fiorenza, aiming to name the interlocking and multiplicative systems of domination and submission. Kyriarchy stresses the interconnectedness of various forms of oppression placing gender oppression within the overall matrix of other forms of oppression, and as such is an important intersectional analysis also placed within postcolonial contexts (Kwok, 2009). Similar to this concept, is also the concept of “matrix of domination” coined by Collins, which is also an intersectional analysis, and refers to how these intersecting oppressions are organized and looks at the overall social organization within which intersecting oppressions originate, develop and are restrained (Collins, 2009). These two concepts, kyriarchy and matrix of domination, are related, but the importance is that they both highlight how systems of oppression are interconnected and multiplicative. Importantly, not only is intersectionality and intersectional identities and related inequalities mutually reinforcing and interconnected, so too are the systems that produce and reproduce them. Furthermore, Collins (2009) argues that any specific matrix of domination has firstly a specific arrangement of intersecting systems of oppression (gender, social class, ethnicity, etc.) but also a particular organization of its domains of power (structural, disciplinary, hegemonic and interpersonal). Ultimately the

matrix of domination is very complex and operates in and through complex systems of oppression and is as such also historically specific and continuously changing (Collins, 2009).

However, concerns have also been raised about the difficulties with intersectionality's theoretical coherence, as it is difficult to clearly conceptualize and theorize the logic by which these multiple and sometimes contradictory forms of oppression are related to each other, and ultimately come together to comprise a unified whole (Ferguson, 2016). Moreover,

“Intersectionality faces a particular definitional dilemma—it participates in the very power relations that it examines and, as a result, must pay special attention to the conditions that make its knowledge claims comprehensible.” (Collins, 2015: 3).

These are valid concerns, and like with any theory, there are always certain problems to have in mind. However, it is deemed that for this study intersectionality theory is invaluable in order to understand the inequalities women have faced and how they have had an effect on the Zika outbreak, and will be instrumental in conducting the analysis.

3 Research overview

3.1 Zika related microcephaly cases in Brazil

ZIKV infection is often asymptomatic, and generally only produces mild symptoms, such as fever, skin rashes, headaches and muscle and joint pain among others. But by November 2015, the Brazilian government declared a national public health emergency as cases of suspected microcephaly continued to increase. By January 2016 Brazil had reported 3,893 suspected cases of microcephaly, including 49 deaths, and by March the same year 863 cases of Zika related congenital microcephaly had been confirmed (WHO, 2017; Diniz, 2016). It was this devastating outcome and association of ZIKV infection with clusters of microcephaly and other neurological disorders, numbers that are likely to increase as more cases are reported, that caused the WHO to declare the Zika outbreak to be a “Public Health Emergency of International Concern” in February 2016 (WHO, 2017). There is still very little known about what kind of future awaits these children born with microcephaly and their families, but for the babies who do survive, it is certain that they will have severe developmental problems, need a lot of care because of their disability and long lasting special needs (CDC, 2016). Most of the cases of congenital microcephaly have been concentrated in the North and Northeast of Brazil, 66% of the babies reported to have Zika related neurological disorders have been born in four states in this region, which is one of the country’s least developed regions. So you could say that the geography of the epidemic mirrors the social inequalities of Brazilian society (Diniz, 2016). ZIKV infection has been concentrated mainly among young women of color with low incomes living in the country’s least economically developed regions, both heavily populated urban areas and remote rural areas. Thus the women affected by ZIKV infection and this complication of the Zika virus are already among the poorest and most vulnerable in Brazil, with the least visibility in public policy and decision making even before the outbreak (Diniz et al, 2016).

3.2 Reproductive and sexual rights

As with other health epidemics such as HIV/AIDS, reproductive and sexual rights are a very important aspect of the Zika outbreak. Particularly because Brazil, and Latin America more broadly, lack in providing full reproductive rights and meeting the needs of providing reproductive health services especially for the most impoverished women and those who live

in remote rural locations. In the Zika outbreak, already existing inequalities and problems in Brazilian society were compounded by the health epidemic.

3.2.1 Abortion

Abortion in Brazil is illegal. The only exceptions are when the pregnancy is a result of sexual violence or incest, if the mother's life is in danger, or the fetus suffers from anencephaly, a condition where the fetus has virtually no brain and thus no brain activity. The exception of anencephaly is particularly interesting for this case, since microcephaly caused by Zika is similar to the condition of anencephaly, however the difference being that with microcephaly although the size of the fetus' brain is very small, it does have a brain and thus better chances of survival (Borges et al, 2016). Moreover, since abortion is a crime it also has a related sentence, a sentence which the Brazilian government is trying to increase for women convicted of having an abortion to prevent giving birth to a child with Zika related complications. Meanwhile, the government is also confiscating shipments of pills for medical abortions, clearly putting a lot of effort into preventing what they consider to be a crime (Harris, Silverman and Marshall, 2016).

However, like in most other countries with restrictive abortion laws in the region, the number of abortions made every year is still very high, but are instead abortions made under often very dangerous conditions. It is estimated that at least one million illegal abortions are performed in Brazil each year, and The National Health System (Sistema Único de Saúde) estimates that 250,000 women come into emergency rooms every year with problems directly related to unsafe abortions. Unsafe abortion is the fourth leading cause of maternal mortality in Brazil (HRW, 2016). It is difficult to say now if the incidences of unsafe abortion and related deaths will increase because of the Zika outbreak, but there is under the circumstances a great risk that this will be the case.

The issue of abortion also becomes a class issue, since it is mostly the women from the lower socioeconomic classes that procure these illegal procedures or are more likely to die from them, as they do not have the resources to find alternatives for example, "safer" clandestine abortion clinics or going abroad to have the procedure done (Diniz, 2016; Lesser and Kitron, 2016). The abortion aspect is an important one, as it strips women's agency of deciding over their own bodies, health and future and subsequently puts them in serious danger should they decide to have the procedure done illegally. However, the Brazilian government like other Latin American governments in countries affected by the Zika outbreak, simply urged women to avoid pregnancy, clearly without acknowledging their own role in hindering, especially marginalized, women's access to contraceptives, sex education and safe abortion practices to start with (Davies and Bennett, 2016).

3.2.2 Access to health services

Access to health services and provision in Brazil varies greatly depending on where you live and your socioeconomic status, and stigma related to sexual and reproductive health services

also constitutes a problem for those who seek it. For example, the provision of access to contraceptives is very low for marginalized women (Diniz et al, 2016; Diniz, d'Oliveira, and Lansky, 2012). Moreover, women who have given birth to babies with congenital microcephaly, also find it difficult accessing maternity and neonatal health services aimed specifically at stimulating and helping them and their children with special needs. Many women have to spend hours on public transport with their babies to get to health centers for a 30-minute session with a doctor or psychologist, and then go all the way back home. These women who before they gave birth to their microcephalic babies already struggled to make ends meet, have to rely on money from benefactors and other family members to pay transportation, medical costs and food, as many of them are not protected under the government's welfare and social provision schemes (Diniz, 2016). In the areas most affected by the Zika outbreak, as mentioned the regions in the North and Northeast of the country, women are less likely to have access to contraceptives, less likely to be using a method that works, and also less likely to have access to the necessary health services (Davies and Bennett, 2016).

3.3 Housing and infrastructure

The women affected by ZIKV infection and related microcephaly complications in their pregnancies, all have in common that they live in modest houses with often incomplete structures. The rise of informal urbanization, poverty and the absence of proper sanitary conditions has been a huge factor in the spread of the Zika virus in Latin America and Brazil. The WHO recognized early on that:

“...the burden of Zika falls on the poor... In tropical cities throughout the developing world, the poor cannot afford air-conditioning, window screens, or even insect repellents. With no piped water and poor sanitation, they are forced to store water in containers, providing ideal conditions for the proliferation of mosquitoes”. (WHO in Vélez and Diniz, 2016: 59).

The concentration of ZIKV infection in marginalized districts in Brazil is also related to irregular water distribution since water pressure diminishes the farther way the household is from central water distribution points. This is something which has been further exacerbated by recent droughts like the ones in Sao Paulo and Rio de Janeiro in 2015. It is common for families and households in less privileged neighborhoods to store their water (both for drinking, bathing and other activities) in water tanks. These water tanks get filled on the days that the neighborhood receives water, which in the poorer parts can be very unpredictable. These water tanks are often not of the best quality, with cracks and open parts in its surface, which are optimal breeding grounds for the mosquito that carries the Zika virus. Poor water and sewage management with closed pipes also constitutes a problem (Lesser and Kitron, 2016).

3.4 Sexual and gender-based violence

There is arguably a strong link between gender based violence and reproductive health. Many women who are currently affected by Zika and other health emergencies live within asymmetrical power relationships that often make it impossible for them to decide over their bodies, sexuality, reproduction and ultimately their lives (Vélez and Diniz, 2016). The Brazilian government urged women to avoid pregnancies until more was known about Zika and the related microcephaly cases. However, the Latin American region, and Brazil is no exception, has high levels of sexual assault, intimate partner violence and non-consensual sex which makes it difficult for women to control unwanted pregnancies (PAHO, 2013). Data suggests that many pregnancies in Latin America are unwanted, and the most impoverished women are at an increased risk of unplanned pregnancy, as well as an increased risk of being exposed to vector-borne illnesses like ZIKV (Langer et al, 2016).

3.5 Health emergency response

The health emergency response to the Zika outbreak, both by the Brazilian government but also the international response, has been criticized for not encompassing policies and strategies that take into account the structural inequalities that exist in the affected societies and the differing levels of women's autonomy based on their socioeconomic status. By implementing policies and actions that are neutral and target all individuals as if they have the same agency, access to reproductive health services, and autonomy, the responses are not fit to appropriately aid those who are affected the most. By leaving structural gender inequalities out of the crisis response further compounds those inequalities (Davies and Bennett, 2016).

“... while public health interventions to support women in making autonomous sexual and reproductive choices are vital, advice and programming may not adequately address the socio-economic options open to these young women that determine their sexual and reproductive ‘choices’. Therefore, in a public health emergency, where a virus (like Ebola and Zika) can be spread by sexual relations, attention to the location and equality of the women and girls affected by the disease outbreak is vital to ensure that advice on containment and treatment compensates for the limited choices likely to be available to this population.” (Davies and Bennett, 2016: 1051).

Women and their real life situation have become conspicuously invisible from the outbreak responses, and lessons related to this which were learned from the Ebola outbreak were unfortunately not incorporated into the Zika response (Davies and Bennett, 2016; Langer et al, 2016). Moreover, importantly, during health epidemics, not only is the initial emergency response vital, but also the more long-term commitment to fighting entrenched health inequities as well as the health emergency, and as such must have the same careful considerations when being developed and implemented. Internationally, the response could

have put more pressure on local governments to change legislation and/or implement more effective policies.

3.6 Differing responses: the HIV/AIDS epidemic in Brazil as an example

The HIV/AIDS epidemic in Brazil, has been fought with a response that has been praised as a stellar example of good health policies and strategies in a health emergency, and has also become a model for other countries to use. The response included a combination of preventive measures and free distribution of antiretroviral drugs, which resulted in an impressive fall in mortality (Lotufo, 2001). This difference in outcome in health emergency response will serve as an interesting example when compared to the Zika outbreak and other epidemics. As will be discussed in the analysis, the difference likely lies in the incentive to promote effective policies depending on *who* is affected in a health emergency.

4 Analysis

4.1 Reproductive and sexual rights

The fulfillment of women's reproductive rights and provision of accessible reproductive health services are a very important aspect of public health policies and programs, and their attainment is dependent on their effectiveness of addressing economic, political and social vulnerabilities that endanger the health of certain subpopulations and minority groups, of which women constitute one such subpopulation (Wang and Pillai, 2001). As discussed, Brazil's restrictive abortion laws and the lack of access to reproductive and sexual health services, have been important in shaping how the Zika outbreak has manifested in society and how it has affected women. These rights relate to women's lack of right to decide over their own bodies, and restrict them from making important decisions about their own health and futures.

As mentioned, women in postcolonial countries suffer not only from oppression from the patriarchy but also from colonialism and its legacies, and as such suffer from "double colonization", and "in this oppression, her colonized brother is no longer her accomplice, but her oppressor" (Holst Petersen and Rutherford, 1986; Tyagi, 2014: 45). This "double colonization" is apparent in the case of the Zika outbreak in Brazil as women who have been at the epicenter of this health emergency, have had the least to say in the matter, and have had to resist the oppression created by the matrix of domination consisting of many systems of oppression, both along gender lines but also other social, economic and cultural processes creating their disenfranchisement in society. Arguably women lack reproductive and sexual rights partly because they are underrepresented in decision making processes and women's rights and issues are not seen as important or framed in an uncondusive way (Celis, Severs and Erzeel, 2016).

Making sexual and reproductive health services more accessible to women from all segments of society is imperative in ensuring improved social determinants of health equity, and even more so during a health emergency. Moreover, the Brazilian government's policies during the Zika outbreak are arguably an excellent example of how women's reproductive and sexual rights keep being denied, ultimately denying them control over their own bodies, while still having the whole burden of the effects of the Zika outbreak placed on their shoulders. The participation of women in the decision making process regarding how national and local governments react to health emergencies is very important and needs to be at the core of developing effective and realistic approaches and policies developed in response to health

emergencies like the Zika outbreak (Caprara and Ridde, 2016). In the case of abortion laws, religion also plays a critical role. The vast majority of Brazilians are Christians, and the majority of them being Roman Catholics (ARDA, 2016). Roman Catholicism was an inherent element of the Portuguese colonial settlement in Brazil, although the church as an organization was weak. Even so, religions with strong moral ideas opposing abortion like Roman Catholicism and others with similar moral standpoints which have become widespread in Brazil, are legacies from the colonial era and have been strong forces in the debate about the legalization of abortion, and can arguably be seen as a major factor hindering its legalization.

Moreover, during the Rubella epidemic in the United States between 1963-65, the health effects the epidemic which caused birth defects in thousands of babies born during that time had a profound change on society and became a catalyst for social change by spurring changes to abortion policy in the US. However, this was because the Rubella outbreak began affecting women across the spectrum of society, even the ones from the higher socioeconomic classes. The privilege, and presumed respectability, of these women made abortion to be viewed differently by society. However, the cultural and social background in Latin American countries generally, and Brazil specifically, is quite different from the US, and importantly Zika has for reasons discussed in the previous sections mainly been concentrated among the women from the lower socioeconomic classes, and as such is not likely to have the same transformative power. Nonetheless, the United Nations High Commissioner for Human Rights has called on Latin American nations to change policies that do not agree with international standards, and the Zika epidemic could reduce stigma and eliminate legal and cultural barriers to birth control and abortion by providing the urgency and biological legitimacy to change these barriers (Hordatt Brosco and Brosco, 2016). Unfortunately, there are still no signs that this will be the case.

4.2 Poverty and social determinants of health

Furthermore, the levels of poverty and inequality that plague Brazilian society can also be ascribed to the extracting qualities of the Brazilian colony and the after effects of the colonial era. The regions of the North and Northeast of the country have reported the majority of cases of Zika related congenital microcephaly, regions where a higher percentage of the general population are more impoverished and marginalized, and also where a greater majority of the population are people of color (Lesser and Kitron, 2016; Diniz, 2016). Related to this, discrimination and health provision especially for individuals from lower socioeconomic classes, is as discussed greatly lacking in certain areas in Brazil and differs greatly depending on geographic region, clearly illustrating how social determinants of health are linked to health (in)equity, also seen when analyzed in the case of the Zika outbreak. Stigma stemming from religious views and social norms hindering open discussion about sexual matters, as well as lack of education regarding sex and contraceptives, are also a problem in hindering women from seeking medical help and guidance from reproductive and sexual health services, even when they are present in the area (Diniz, d'Oliveira and Lansky, 2012).

Brazilian society is a class society where class distinctions are very influential. Moreover, as mentioned, people in the lower socioeconomic classes are often non-white Brazilians (Rosa, 2009). This can be ascribed to Brazil's dark colonial past and how Brazil has dealt with Afro-descendants and indigenous Brazilians also after slavery was abolished in 1888. Not only was Brazil one of the last countries to abolish slavery, it was also the country that imported the most African slaves. An estimated four million African slaves survived the journey and arrived in Brazil, and those numbers coupled with the continuous stream of indigenous slave labor, provided enormous benefits for the colony in terms of free labor on plantations and for other forms of labor (Hébrard, 2013). Oppression, discrimination, violence and enslavement of indigenous peoples and Africans are some of the many atrocious components and acts established under colonial rule in Brazil which have had long lasting effects on Brazilian society and levels of inequality, and are still perpetrated today under modern forms (Mollett, 2017). Women from the lower socioeconomic classes, many of whom are women of color or indigenous women, are then even more subjugated to the oppression and disenfranchisements partly founded in postcolonial legacies in Brazil which have shaped the power structures we see in Brazilian society today (again double colonization is a concept that fits well). It is vital to empower women and other marginalized groups in order for them to overcome the structural injustices and health inequities they face. The WHO has stated that:

“A characteristic common to groups that experience health inequities—such as poor or marginalized persons, racial and ethnic minorities, and women—is lack of political, social or economic power.” (WHO, 2017).

Moreover, as discussed in the research overview, women from lower socioeconomic classes are more exposed to the mosquito which transmits the Zika virus because of the lower quality housing and infrastructure in the areas where they live, due to poverty, informal urbanization, exposed structures, and improper or non-existent sewerage and water facilities. An interesting aspect related to this, is how people from the lower socioeconomic classes relate to the Brazilian state. In the area of health, health policies are and always have been created by members of Brazil's dominant classes, whose approaches though often well intentioned, may be seen by the population (especially the segments of society who are used to being oppressed) as paternalistic or as a part of a broader system of social control and inequity. These sentiments have clear historical foundations based on experiences of the state abusing its power to control minorities and marginalized groups, and cannot be separated from histories and occurrences that have made the general public suspicious of the state and its representatives (Lesser and Kitron, 2016).

4.3 Intersectional identities and inequalities

As becomes apparent throughout the analysis, there are certain preconditions and inequalities that are linked with increased vulnerability to ZIKV. In the case of the Zika outbreak and Zika related congenital microcephaly, not only is being a woman a factor, but importantly how

gender intersects with other compounding factors. There is a saying in Brazil: “Mosquitos are democratic; they bite the rich and the poor alike.” While that may be true, the Zika outbreak much like other epidemics has demonstrated that this is not entirely the case, as the impact has been different across social, class, and gender lines. As such one could argue that ZIKV and the way the outbreak has been experienced is another indicator of the inequality that persists in Brazil (Lesser and Kitron, 2016).

As has been discussed, it is poor women who have been the most affected by the Zika outbreak and consequently given birth to babies with microcephaly. The women affected are from the lower socioeconomic classes, live under poor conditions in poor quality housing either in urban or rural areas, and often lack good access to sexual and reproductive health services. Once they become pregnant, they then lack the right to terminate their pregnancy, because of the laws on abortion, but importantly also because of their economic status in society and related lack of options to access alternatives that may be present to women of higher socioeconomic classes, like “safer” clandestine abortion clinics or going abroad to have the procedure done (Diniz, 2016). It is this intersection of social identities that have formed the multiple levels of injustice that these women face and their subsequent vulnerability to the Zika virus, which are constructed and operate under the kyriarchy, or matrix of domination, which they find themselves in.

Moreover, studies on the relationship between health and social inequality have investigated the effect of socioeconomic status on health. These studies have found a social class-health status gradient that has persisted over time despite changing levels of socioeconomic development (Wang and Pillai, 2001). This suggests that the intersectional inequality related to socioeconomic class is important in determining an individual’s quality of health, despite overall improvements in socioeconomic development. Furthermore, these intersectional identities and the marginalization they produce, are in turn inextricably linked to the postcolonial legacies and power structures which shapes Brazilian society. Thus the women’s intersectional identities and related inequalities compound their marginalization by stripping them of structural power, positioning them in the margins of a society where they face entrenched structural problems and social inequality.

“Intersecting systems of power catalyze social formations of complex social inequalities that are organized via unequal material realities and distinctive social experiences for people who live within them.” (Collins, 2015: 14).

In the case of the Zika outbreak in Brazil and the women most disproportionately affected by it, all the domains of power described by Collins (2009) seem to be influential in creating and shaping the matrix of domination they find themselves in to varying degrees. The interpersonal domain of power (where discriminatory practices of everyday life and everyday discrimination occur), but more importantly the other three domains, the disciplinary domain (power relying on bureaucratic hierarchies and surveillance); the structural domain (organized practices in social institutions that create and maintain unequal and unfair distribution of social resources); and the hegemonic domain (where power is concentrated in a social system and ideas and ideology are used to depoliticize the dissent of those whose views are not in accordance with the status quo) (Collins, 2009).

Moreover, when examining the Zika outbreak in Brazil, or in any case where women face oppression, it is important to understand how gender intersects with other social identities. Because if one does not aim to see the intersectionality of these issues and also how the systems of power that create them are interconnected and multiplicative, it is not possible to grasp how the oppression and marginalization manifests and operates, subsequently not understanding what needs to be done to empower these women.

4.4 Men's role, masculinity, and issues of sexual and gender-based violence

Brazilian society is a patriarchal society, and in Brazil like much of the rest of Latin America, macho culture and pervasive norms regarding masculinity and femininity are an inherent part of the culture. These norms and notions of masculinity and femininity, i.e. expressions of gendered identities, are detrimental to women, as they promote an idea of men as strong and dominant, and women as inferior, and are critical in constructing the social relations that facilitate sexual and gender-based violence (Pitt, 2008). These norms could thus be an important part in explaining and understanding the high rates of sexual and gender-based violence in the region. Not only is this an issue greatly hindering women's well-being and empowerment, but the high levels of sexual assault, intimate partner violence and non-consensual sex also make it difficult for women to control unwanted pregnancies (PAHO, 2013) which can have disastrous consequences for these women who lack safe and legal means to terminate unwanted pregnancies, especially in the times of Zika. Women's important role as caretakers are in this health emergency also an important aspect.

Furthermore, since women often lack power in making decisions over their own sexuality and reproduction, men's increased role in women's reproductive health is an important aspect of potentially bringing a more effective community response to the Zika outbreak. Importantly it can also help frame the Zika outbreak as a community problem, and not just a women's problem. Men should be involved in aspects and dialogues regarding negotiating sex while respecting women's rights and decisions; assuming roles of responsibility as husbands or partners of pregnant women who are at risk of being infected or are already infected with ZIKV; and roles as fathers of children born with Zika complications such as congenital microcephaly, among others. These men's roles and participation are some of the many that go beyond the current guidelines that exist on safe sex, condom use and postponing conception, aspects which are issues in which women rarely have the power and autonomy to have the final say in anyway (Osamor and Grady, 2016). Men need to be included in the dialogue and policy formulations in a conducive way, and also be encouraged to assume the same levels of responsibility that women have. The health issues regarding ZIKV need to be framed as more than just women's issues.

4.5 Children's special needs and the rights of persons with disabilities

Another important aspect of the Zika outbreak which affects the women and their families, as well as the children born with the disabilities caused by congenital microcephaly, are the rights, inequalities and health inequities related to children and persons with disabilities.

It is clear that for the women who already struggle to make ends meet and are already marginalized in society, having a child with moderate to severe disabilities presents numerous challenges for them as they find themselves living in this new reality, as discussed in the research overview. Having a disability, or a child with a disability, as is the case for the women affected by the Zika outbreak, creates the introduction of another social identity which intersects to most likely further compound inequality and marginalization (Sommo and Chaskes, 2013). This is because Latin American countries, Brazil included, have a history of ignoring both women's reproductive rights and disabled peoples' rights (Harris et al, 2016). Some would also argue that there is a conflict of interest between women's reproductive rights and disability rights. However, this study would argue that although there might seem to be a conflict, in reality there should be no inherent conflict in recognizing a woman's right to terminate a pregnancy and free herself of the many burdens, physical and psychological, that accompany a pregnancy and later caring for a child with microcephaly, while respecting disabled people's rights of living equal and healthy lives (Diniz, 2016). In any case, these children will have special needs that need to be met in order to overcome existing and further inequalities and health inequities that they are likely to face, compounded by Zika and their disability, and they and their families need to have accessible, affordable, high quality care and support. Arguably something that needs to be dealt with at the political level by increasing accessibility and budget allocations to such health programmes.

4.6 The HIV/AIDS epidemic in Brazil vis-à-vis the Zika outbreak

As has been seen through the intersectionality theoretical framework, the women in Brazil who have been disproportionately affected by the Zika outbreak, have been more exposed due to the intersectionality of their social identities and the systems of power/oppression which have created their increased vulnerability in this case. As an example to illustrate how responses in Brazil can differ when it is instead individuals from the top segments of Brazilian society who are affected, the case of the HIV/AIDS epidemic in Brazil will be used. As has been discussed, intersectionality asserts that social identity categories such as race, class, gender, sexuality, are interconnected and operate simultaneously, and as such they are able to produce both privilege and marginalization depending on the combination of social identities. In the case of the intersectional identities of women who have been the worst off during the Zika outbreak, these social identities created increased marginalization both before and during the outbreak. In the case of the HIV/AIDS epidemic which started in the 1980's-

1990's in Brazil, the people who were the most affected and became infected at least in the beginning of the epidemic, had intersectional identities (rich, male, and often white) that created privilege. This was something that was also seen in the response in fighting the HIV/AIDS epidemic.

Notably, the HIV/AIDS epidemic affected people with power, unlike dengue, tuberculosis and now ZIKV, which are “diseases of the poor”, since they have primarily affected the poor and marginalized (Gómez, 2013; Lotufo, 2016). The federal budget for fighting HIV/AIDS has been increasing, and the budget for controlling vectors like *Aedes Aegypti* which are the mosquitos who transmit dengue and ZIKV among many other diseases, has been declining (Barreto et al, 2011), at least up until the Zika outbreak. Is it a coincidence that the HIV/AIDS epidemic was dealt with much more effectively? No, arguably it is not. Because the social identities of the ones privileged and in power and the domains of power which create the systems of power and oppression, also grant them more power in social and political structures, and more political incentive to deal effectively with issues that affect them. Diseases of the poor on the other hand, have the contrary effect, as they target vulnerable and marginalized people whose social identities and position in power structures leave them with little power and voice to grant them visibility in the efforts to mitigate health emergencies. Again, matrices of domination and related power structures and levels of privilege vis-à-vis marginalization seem to be an important aspect of health and social determinants of health in health emergencies. Moreover, in Brazil it seems that social movements and NGOs do not have the power to exert pressure on the government to influence policy in health programs on behalf of the people who lack power to make their voices heard. However, it has been found that international criticism and international pressure does have the ability to do so in certain cases (Gómez, 2013). The Zika outbreak is a disappointment in this sense, as international criticism (which could have been expressed more forcefully) has not had an impact on the way the government has responded to the outbreak.

As mentioned, the Brazilian government like many other governments in the region, urged women to avoid pregnancy. But there is a disconnect between the presumed autonomy in international and regional advice given by governments and organizations, and women's real life options. The Brazilian government urged its women to avoid pregnancy during the Zika outbreak, yet did not provide them with the means necessary to do so, and grant them autonomy by providing comprehensive reproductive and sexual health care services, like contraceptives, sexual education, and should the women decide, safe legal abortions free from stigma. And all this independent of the woman's socioeconomic status or geographic location.

5 Conclusion

This study set out to understand the relationship between the inequalities in Brazilian society and the effect they have had on the Zika outbreak, and the stated aim of the study was to identify and analyze how the inequalities that Brazilian women face have had an impact on the Zika outbreak in Brazil. In this endeavor, postcolonial feminism and intersectionality have been instrumental in aiding the study to make a thorough analysis and acquiring a theoretically informed understanding of how the inequalities women face have shaped the Zika outbreak in Brazil. As stated in the beginning, there is a circle causality to this relationship. These women were already marginalized, impoverished and had little power in the societal structures of Brazilian society. And not only has the Zika outbreak been shaped by the society's inherent inequalities, the Zika outbreak in turn perpetuated those inequalities making the situation even more difficult for the women who have been disproportionately affected by this health emergency. Moreover, not only has gender been an important aspect in determining this, but more importantly how gender has intersected with other social aspects to compound the inequalities discussed.

As has been discussed and illustrated throughout the study, the Zika outbreak in Brazil has produced gendered consequences because of not only the existing complication of congenital microcephaly in newborn babies which naturally impacted women more than men, but also because of Brazil's social, economic, political and cultural aspects. Women from lower socioeconomic classes have been much more vulnerable as they have been more likely than their counterparts to lack access to good reproductive and sexual health services, and have been more exposed to the mosquitos who carry ZIKV due to the poor quality of their housing and/or because they live in rural areas. Moreover, there has arguably been very little political will or action to tackle the Zika outbreak by implementing effective policies and/or changing legislation to empower women to make their own choices over their health and future, like in the case of abortion. Legalizing abortion would be instrumental in empowering women to decide over their own bodies and futures, and is without a doubt a major factor in producing gendered consequences in the Zika outbreak. Just because these women contract the disease, should not have to mean that they need to just accept their fate because they lack options. Moreover, overcoming the already existing structural inequalities in Brazilian society that create these differences in socioeconomic levels and health, would be an immense contribution to mitigating the effects of the Zika outbreak and future health emergencies. In relation to this, cultural and social aspects such as the patriarchal society which is Brazilian society as well as aspects such as religion, have been a factor in producing the gendered consequences of the Zika outbreak. Religion and religious groups have for decades strongly opposed the legalization of abortion, and moral ideas about sex hinder an open discussion and education about sexual matters and protection. Men who could contribute in many positive ways to helping and supporting women tend to not assume responsibility, and caring for the babies born with microcephaly are seen as women's issues and responsibilities.

As to why mainly certain women have been affected by this complication of ZIKV, the answer is clear. With the help of an intersectional analysis it has become apparent that the intersection of social identities of these women, mainly being women from the lower socioeconomic classes, and because of this also often women of color, have increased the vulnerability of this group of women. Women who already before the Zika outbreak faced many challenges due to marginalization and poverty, became more susceptible to contracting ZIKV and when they realized they were in this difficult situation, have not been given the option to terminate their pregnancies. In addition, once their children suffering from this disability have been born, they have received little help from the state to provide and care for these children who have special needs. These social identities and related inequalities are as discussed largely related to the structural power imbalances in Brazilian society and can be understood through the intersectionality framework, where the postcolonial context and the experiences of the “Third world woman” have been an important part of the explanation of how these systems have been created and operate. What can be seen in the case of the Zika outbreak in terms of intersectional identities and related inequalities is likely to be important in explaining gender inequality in other health emergencies, as many of the inequalities addressed are similar in other contexts.

In conclusion, this case is one of many that emphasizes the role gender, structural and social inequalities have in health emergencies. It also exemplifies how important it is to ensure equality and health equity for all individuals and population groups. This needs to be done by overcoming such inequities and inequalities if health emergencies like the Zika outbreak are to be dealt with effectively, as well as ensuring that prior to possible health emergencies such aspects are not already predetermining certain individuals to be disproportionately affected.

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