How National Public Policies in Indonesia Address Maternal Mortality from The Perspective of Health Equity and Intersectionality

A Literature Review and Retrospective Policy Analysis Study

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57th Master of Public Health/International Course in Health Development KIT (Royal Tropical Institute) Vrije Universiteit Amsterdam (VU) How National Public Policies in Indonesia Address Maternal Mortality from The Perspective of Health Equity and Intersectionality

A Literature Review and Retrospective Policy Analysis Study

A thesis submitted in partial fulfilment of the requirement for the degree of Master of Science in Public Health

by

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Declaration:

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Signature

57th Master of Public Health/International Course in Health Development (MPH/ICHD) 14 September 2020 – 3 September 2021

KIT (Royal Tropical Institute)/Vrije Universiteit Amsterdam Amsterdam, The Netherlands September 2021

Organised by: KIT (Royal Tropical Institute) Amsterdam, The Netherlands

In co-operation with: Vrije Universiteit Amsterdam (VU) Amsterdam, The Netherlands

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ABBREVIATIONS

ANC Antenatal Care

BSNP Badan Standar Nasional Pendidikan

COVID-19 Coronavirus Disease of 2019

CPR Contraceptive Prevalence Rate

GDI Gender-related Development Index

GDP Gross Domestic Products

GSHS Global School-based Student Health Survey

HDI Human Development Index

HIV Human Immunodeficiency Virus

IDHS Indonesia Demographic Health Survey

IDP Internally Displaced People/Person(s)

JKN Jaminan Kesehatan Nasional

LMIC Low-and-Middle Income Country

MMR Maternal Mortality Ratio

MoECRT Ministry of Education, Culture, Research, and Technology

MoF Ministry of Finance

MoH Ministry of Health

MoL Ministry of Labour

MoRA Ministry of Religious Affairs

MoSA Ministry of Social Affairs

MoWECP Ministry of Women Empowerment and Child Protection

OOP Out-of-Pocket

PIS-PK Program Indonesia Sehat dengan Pendekatan Keluarga

PKH Program Keluarga Harapan

PMTCT Prevention of Mother-To-Child Transmission

PNC Post-natal Care

PPD Post-Partum Depression

PPE Personal Protective Equipment

Puskesmas Pusat Kesehatan Masyarakat

RPJMN Rencana Pembangunan Jangka Panjang Nasional

RPJPN Rencana Pembangunan Jangka Panjang Nasional

SBA Skilled Birth Attendants

SEA Southeast Asia

SRHR Sexual Reproductive Health and Rights

TBA Traditional Birth Attendants

THE Total Health Expenditure

UNDP United Nations Development Program

UNFPA United Nations Population Fund

UNICEF United Nations International Children's Emergency Fund

UU Undang-Undang

UUD Undang-Undang Dasar

WHO World Health Organization

ABSTRACT

Background: Indonesia still struggles to reduce its Maternal Mortality Rate (MMR). In 2015, the MMR in Indonesia is 305 per 100,000 live births – the highest in the SEA region.

Furthermore, the burden of maternal mortality is not distributed equally between different groups of women and girls.

Although the reduction of maternal mortality has been a priority within the development policy for the last decade, the MMR stays stagnant, raising concerns about adequacy of policies.

Objective: This study is a literature review and retrospective policy document analyses aimed to describe and analyse how Indonesian national public policy address maternal mortality from the perspective of health equity and intersectionality.

Findings: This study found that Indonesia has not adequately incorporated sexual and reproductive rights components in its policy response to reduce maternal mortality. Religious and moral biases limit the full protection and fulfilment of these rights. Furthermore, the policy response has not adequately addressed the intersecting determinants of maternal mortality, including gender, across different policy sectors. Indonesia could learn from other LMIC on how to develop evidence-based policy response that is pro-marginalized groups, synchronized between sectors, and supported by strong political will – including in addressing determinants that are deemed as not politically feasible.

Recommendations: This study recommends the national government of Indonesia to fully incorporate sexual reproductive rights components, gender mainstreaming approach, and synchronized intersectoral work into its policy response to reduce maternal mortality, and to gain evidence regarding various intersecting determinants of maternal mortality.

Keywords: maternal mortality; public policy; sexual reproductive rights; intersectionality; Indonesia

Chapter 1: BACKGROUND

Republic of Indonesia

Republic of Indonesia is a Southeast Asian (SEA) country strategically located between two oceans (Indian and the Pacific) and two continents (Asia and Australia)¹. It currently has more than 270 million inhabitants, of which 49.8% are females^{2,3}. The age composition of Indonesia females can be seen in Diagram 1. Out of this female population, women of reproductive age (which is defined by the WHO as those age 15 to 49 years old⁴) consist of 53%. Indonesia is also the largest archipelago in the world with more than 16,000 islands and divided into 34 provinces⁵. It is one of the most diverse country in the world. There are more than 600 ethnicity groups. Ethnicity plays as an important and complex but often ignored dimension in Indonesia's socioeconomic situation^{6,7}.



Figure 1: Map of Republic of Indonesia

Source: Indonesia Maps [Internet]. [cited 2021 Jul 22]. Available from: https://www.freeworldmaps.net/asia/indonesia/

Although Indonesia is classified by the World Bank as an upper-middle income country in 2019, 10.19% of Indonesians still live under national poverty line^{8,9}. This rate could increase up to 13% due to COVID19 pandemic^{8,10}. Economic inequality is also a problem, with 44% of the total expenditure contributed by the richest 20% Indonesians in 2010¹¹. Indonesia's Gini coefficient is 37.8¹². 7.07% of the labour force does not have a job in 2020¹³. Higher average income tends to be earned by male compared to female employees¹⁶.

According to United Nations Development Program (UNDP), Indonesia is ranked 107 out of 189 countries in terms of Human Development Index (HDI)²². In terms of Gender Development Index (GDI), one of the indicators measured for HDI, Indonesia scores 0.940 (107th rank in HDI) compared to 0.990 of Norway (1st rank) and 0.724 of Niger (189th rank)²³.

Indonesian people generally consider religion as an important part of their life and society although the country is constitutionally a secular state. The majority (87.18%) of Indonesians are affiliated with Islam, followed by Christian (6.96%), Catholic (2.91%), Hindu 1.69%), Budha (0.72%), and Kong Hu Chu (0.13%). Those six religions are the ones recognized by the State²⁶. Besides that, there are approximately 400 communities of traditional or indigenous belief systems and other religious minorities such as Sikh, Judaism, and Baha'i²⁷.

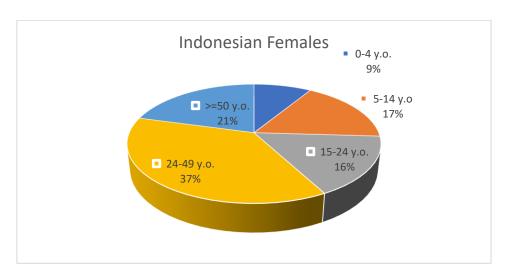


Diagram 1: Age Composition of Indonesian Females

Adapted from: Badan Pusat Statistika. Statistical Yearbook of Indonesia 2020. Stat Yearb Indones. 2020;(April):192. pg. 92

Indonesian health care system has been decentralized since the late 1990s after political reformation in the country. Administratively, it is generally divided into national, provincial, and district/municipality level. It is a decentralized system in which regional authorities have certain degree of responsibility and autonomy in managing their own health systems. The system is also based on a referral network with primary health centres (*Puskesmas*) managed by district/municipality health offices functioning as the gatekeepers and providing basic health care packages. The three levels of health governance manage secondary and tertiary hospitals providing further specialized or referred care. Beside public-owned facilities, there are also private health care providers (profit and nonprofit) on the primary, secondary, and tertiary level²⁸.

The country's health financing still struggles with Total Health Expenditure (THE) being only 3.3% of the Gross Domestic Products (GDP) and public fund being only 37.8% of the THE²⁸. Since 2014, Indonesia applied a national (social) health insurance system called Jaminan Kesehatan Nasional (JKN) which follows the three-tier healthcare system with primary healthcare serving as gatekeepers. The JKN scheme involves both public and private healthcare facilities. This system aims to cover every citizen by pooling fund from the government, payroll contribution from formal sectors (divided between employee's and employer's contribution), and (voluntary) member contribution for informal sectors, increasing health coverage, and improving the public pooled fund for health. However, the largest chunk of the fund is spent on curative and rehabilitative measures²⁸. In 2019, JKN covers 83% of the population. Enrolment in JKN must be at household level. The coverage is designed to include the poor and near-poor whose insurance contribution is covered by the government. However, even with JKN, Out-of-Pocket (OOP) expenditure is still high (34.85% of THE in 2018)^{29,30}. At the same time, Indonesia faces a triple-burden challenge coming from communicable, noncommunicable, and neglected communicable diseases³¹. Furthermore, in certain health programmes such as in Human Immunodeficiency Virus (HIV), tuberculosis, and immunization, Indonesia still relies significantly on external donors²⁹.

At the moment, health-related regulation in Indonesia is based on the Law of Health (*UU* 36/2009). Like every law in Indonesia, the Law of Health is based on the 1945 Indonesian Constitutional Law (*UUD* 1945). Beside the Law of Health, health can also be regulated

through law and regulations on several lower levels such as government regulations, presidential decisions, and regulations published by the Ministry of Health (MoH) or regional health offices. In 2014, a specific government regulation about reproductive health was passed $(PP\ 61/2014)^{32-34}$.

Sexual Reproductive Health and Rights (SRHR)

SRHR is defined as "a state of physical, emotional, mental, and social wellbeing in relation to all aspects of sexuality and reproduction, not merely the absence of disease, dysfunction, or infirmity"³⁶. It has four components: sexual health, sexual rights, reproductive health, and reproductive rights. The definition and description for each of the components of SRHR is laid out in Annex 1.

Indonesia is still facing many SRHR-related problems, especially among women and girls. One of the most striking examples is the Maternal Mortality Rate (MMR). Indonesia is still struggling with reducing its MMR. In 2015, the MMR was still 305 per 100,000 live births – three times the rate in SEA region (also the highest in SEA) and far away from the target of 184 per 100,000 set by the Sustainable Development Goals (SDG) 3 by 2024 or less than 70 per 100,000 by 2030^{35,37,38}. The MMR burden is also disproportionate among regions. It ranges from 247 per 100,000 in Java and Bali (the region closest to the central government) to as high as 489 per 100,000 in eastern region like Nusa Tenggara, Maluku, and Papua (the region furthest from the central government)³⁹. Indeed, reducing MMR is one of the focus priority stated in the National Strategic Plan 2020-2025³⁵.

SRHR is influenced by various determinants of health^{40,41}. One of those determinants that has been well studied is gender^{42,43}. Globally, women and girls are recognized as being uniquely vulnerable in terms of SRHR and even more so during the COVID-19 pandemic^{44–46}. Here, the term 'vulnerability' is critically seen as a product of women and girls being structurally unseen and underserved due to gender inequity instead of being an inherent weakness or lack of power⁴⁷. Although it is important, gender is not the only determinant that has significant impacts on the SRHR of women and girls. An intersectional approach has been proposed to recognize other systems of power interlinked with and beyond gender, and how they synergically and systematically create inequity in the fulfilment of SRHR – including inequity among women and girls themselves^{48–52}.

Chapter 2: PROBLEM STATEMENT AND JUSTIFICATION

Although maternal health and reducing MMR have long been a national policy priority, MMR in Indonesia is still high (305 per 100,000 live births in 2015 and the highest in SEA)^{37,39}. It is far from the Sustainable Development Goals (SDG) target of 70 per 100,000 by 2030 or even from the national target of 183 per 100,000 by 2024^{38,53}. It is also a disproportionate burden for women in different regions. MMR tends to be lower in regions closer to the centre of the government such as Java and Bali (247 per 100,000 live births) and twice higher in regions farther from the centre of the government such as Nusa Tenggara, Maluku, and Papua (489 per 100,000)³⁹. Several studies which examined the root causes of high MMR in Indonesia found some gaps that needed to be addressed. These gaps are related to intersecting determinants affecting different groups of women and girls such as socioeconomic status, age, geographic location, and marital status. Gaps and inconsistencies in public policy responding to the high MMR and its intersecting determinants also exist.

For example, despite the existence of a national family planning program (*Program Keluarga Berencana*) since 1992 which resulted in relatively good Contraceptive Prevalence Rate (CPR) – 63.6% in 2017⁵⁴ – progress has been slowed down. According to Indonesian Demographic Health Survey (IDHS) 2017, 10.6% of currently married women of reproductive age and 7.7% of all women of reproductive age still have unmet needs for family planning. This was partly due to various barriers to information and access to services that are not addressed adequately by the program – such as socioeconomic, geographical, age-related, and marital status-related barriers⁵⁵. It is globally known that contraceptive use helps reduce maternal mortality significantly by helping women to plan the size of their families and avert unintended pregnancy⁵⁶.

Inconsistencies between policies and policy implementations (or lack of policy) are also contributing factors. For example, despite recently raising the minimum age for marriage for girls from 16 to 19 years old to prevent early marriage and pregnancy, Indonesia still has problems with the high amount of (often easily given) dispensation against this regulation. Early and child marriage are still high and Indonesian adolescent girls are still at high risk of maternal deaths^{57,58}. The number of child marriages has even increased during the COVID-19 pandemic due to school closing, financial constrain, and gender bias⁵⁹. In education, there is inconsistency between the national 12-year basic education program and the fact that pregnant (especially out-of-wedlock) girls are often expelled from their schools and unable to retain education. Schools often see having pregnant students as a threat to their reputation and choose to expel them. Despite losing access to education, these girls are also at increased risk of being married off^{60–62}.

Policy regarding essential services to prevent maternal deaths such as the provision of safe abortion services has also been criticized. Although Indonesia has provided some legal grounds for safe abortion (medical emergencies, severe foetal anomalies, and rape), the regulation has been seen as biased with barriers such as spousal or family consent, narrow interpretation for medical emergencies, and a very short time window to access safe abortion in rape cases being put in place. Furthermore, Indonesian Criminal Code still includes illegal abortion as a crime against life, which interpretation could sanction healthcare providers, any helpers, and the women themselves^{67,68}.

With the recognition of SRHR as parts of the human rights framework, States have the responsibility to respect, protect, and fulfil SRHR for all^{69,70}. This responsibility also includes

addressing determinants of SRHR in order to improve SRHR outcomes such as MMR. The state's response to respect, protect, and fulfil SRHR, such as through their public policies to prevent maternal deaths, have to take the impacts of these intersecting determinants into consideration.

The existence of gaps, biases, and inconsistencies within and between Indonesian public policies related to the prevention of maternal deaths could hamper the effort to respect, protect, and fulfil SRHR for all Indonesian people, especially women and girls of reproductive age. It also means that the goals of health security and wellbeing for all Indonesian people would be more challenging to reach. Therefore, Indonesia is in dire need of public policies regarding the prevention of maternal deaths that are relevant with the problems and their root causes, are geared toward solutions, and do not leave anyone behind. However, there is currently no study that aims to analyse how Indonesian public policies address maternal mortality across intersecting determinants of health by emphasizing on human rights perspective through the lens of equity and intersectionality.

Research Objectives

General Objective

To analyse how Indonesian public policies address maternal mortality through the lens of equity and intersectionality in order to reduce maternal mortality in Indonesia and more equitably protect Indonesian women and girls from maternal deaths.

Specific Objectives

- 1. To describe and analyse if and how Indonesian public policies related to prevention of maternal deaths address the sexual and reproductive rights components of SRHR.
- 2. To describe and analyse if and how Indonesian public policies related to prevention of maternal deaths address gender and other intersecting social determinants of health that could affect maternal mortality among different groups of Indonesian women and girls.
- To draw lessons learned and examples from public policies in other countries with similar context to Indonesia on how to address gender and other intersecting determinants of health in order to reduce maternal mortality and more equitably protect women and girls from maternal deaths.
- 4. To offer recommendations for policy makers and stakeholders to reduce maternal mortality in Indonesia and more equitably protect Indonesian women and girls from maternal deaths.

Chapter 3: METHODOLOGY

Analytical Framework

This study is a literature review and a retrospective policy analysis study. The methodology of this study was based on an analytical framework on intersectionality in health (Figure 2). This framework was adapted from two different frameworks: a conceptual framework on intersectionality in health-related stigma in Indonesia and the intersectional gender analysis wheel^{52,71}. Both original frameworks are provided in Annex 2 and 3.

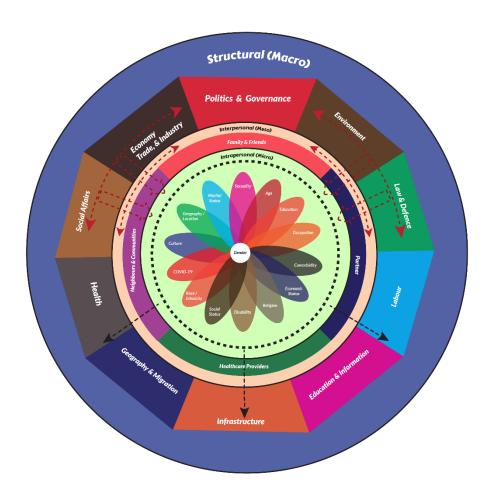


Figure 2: The analytical framework used in this study

Adapted from:

- a) Rai SS, Peters RMH, Syurina E V., Irwanto I, Naniche D, Zweekhorst MBM. Intersectionality and health-related stigma: insights from experiences of people living with stigmatized health conditions in Indonesia. Int J Equity Health. 2020;19(1):1–15. Pg.6.
- b) World Health Organization. Incorporating intersectional gender analysis into research on infectious diseases of poverty: a toolkit for health researchers. WHO. 2020. Pg.7.
- Betron ML, Mcclair TL, Currie S, Banerjee J. Expanding the agenda for addressing mistreatment in maternity care :

 a mapping review and gender analysis. 2018;1–13.

I chose to adapt both original frameworks to develop the analytical framework due to several reasons:

- To focus on the most relevant determinants of health in Indonesian context
- To start with gender is a well-known and well-researched determinant of SRHR
- To look into how structural responses towards maternal mortality, such as public policies in different sectors developed by the state, are shaped by and take (or not take) these determinants into consideration

In adapting and merging the frameworks, I used the 7 (seven) determinants provided in the first original framework - namely gender, religion, disability, sexuality, age, comorbidity, and poverty - but putting gender as a starting point according to the approach provided by the second original framework. I chose to use the phrase 'economic status' instead of 'poverty' because the former phrase has better language neutrality. Additionally, to be able to capture wider determinants in relation with maternal mortality and SRHR, I added 6 (six) other determinants that are relevant to Indonesian and/or similar LMIC context – namely education, occupation, social status, race/ethnicity, geography/location, culture, marital status, and COVID-19. These choices were based on a mapping review about maternity care done across several LMIC in Asia and Africa including Indonesia and also considering the current pandemic situation⁵⁶. These additional determinants also came from grouping the determinants provided by the second original framework. I elaborated the mesolevel into 4 (four) types of relationship: family and friends, partner, neighbours and communities, and healthcare providers according to the first original framework. I elaborated the macrolevel into 10 (ten) sectors according to groupings from the second original framework and the type of ministries within Indonesian government: politics and governance, environment, law and defence, labour, education and information, infrastructure, geography and migration, health, social affairs, and economy, trade, and industry. I added several arrows starting from the collective intersecting determinants and crosscutting the three levels (shown in dotted black line in Figure 2) to illustrate how these determinants operate through all different life levels.

Data Collection Methods

I conducted this study using literatures and policy documents as primary source of data and key informant interviews as secondary source of data.

For the 1st and 2nd objective, I used the search strategy in Table 1 to identify regulations, policies, and other types of documents related to national public policy to reduce maternal mortality, both within and beyond the health sector (Indonesian translation is provided in Annex 5). I also identified material documents by asking colleagues who work within SRHR advocacy in Indonesia and did snowballing sampling by following lists of references from documents collected. The types of the material documents included but not only limited to the ones listed in Annex 6. Documents that applied or were related to regulation and policies at national level from 2009 to August 2021 were included. Documents that applied or were related to regulation and policies at regional level were excluded. Finally, if a regulation or policy was retracted between 2009 and April 2021 and an updated one has been put in place in the same period, the updated version was included and analysed.

Table 2 shows a list of themes according to the analytical framework of the study and the rights component of SRHR. I developed a coding system based on this list of themes. I reread the material documents and used the coding system deductively to code and extract data from the material documents using NVivo.

I conducted semi-structured interviews with key informants as secondary source of data. Key informants were professionals working in SRHR-related advocacy in Indonesia, who are familiar with Indonesian SRHR public policy. I interviewed 6 (six) different key informants, from different professional backgrounds, age, and gender. These key informants were reached individually through personal network. They were interviewed about their professional opinion regarding the objectives of the study. I developed a list of themes according to the specific objectives of the study, which was used to develop the interview guides. Interviews were done in Indonesian language, recorded audio-visually, and transcribed verbatim. I used similar coding system according to the list of themes in Table 2 to extract data from the transcripts.

For the 3rd objective, I used the search strategy in Table 5 to identify literatures about impactful public policy to reduce maternal mortality in other countries with similar context with Indonesia. I also did snowballing sampling following list of references on identified literatures. There was no timeframe for literatures because in some countries, achievements in reducing maternal mortality happened before 2009. Literatures that do not analyse public policy on maternal mortality were excluded.

Table 1: Search strategy for Objective 1 and 2 in English translation

Database/ Search Engines	Language	Problem/ Issue		Ke	ywords	S
Google Google Scholar	Indonesian	maternal mortality OR maternal death OR maternal health OR pregnan* OR giving birth	AND	gender; sex*, sexual*, lesbian; culture OR tradition*; age, adolescent* OR youth OR young people; education; occupation OR profession* OR work*; comorbidity, HIV, mental health, obesity; econom* OR poverty OR income; religion; disability OR disabled; social status; race OR ethnic*; geograph* OR location; marital status OR marriage; COVID-19	AND	policy OR law* OR regulation OR program

Table 2: List of themes

Objectives	Themes
Objective 1	sexual rights; reproductive rights

Objective 2	Determinants: gender; sexuality; culture; age; education; occupation; comorbidity; economic status; religion; disability; social status; race/ethnicity; geography/location, marital status; COVID-19
Objective 2	Policy sectors: politics & governance; environment; law & defence; labour; education & information; infrastructure, geography & migration; health; social affairs; economy, trade, & industry

Table 3: Search strategy for Objective 3

Database/ Search Engines	Language	Problem/ Issue		Keywords		Geographical Focus
PubMed VU Library Google Google Scholar	English	Maternal mortality OR maternal death	AND	Effective policy OR impactful policy	AND	Thailand Kerala State of India Nepal

Study Limitations

There were several limitations that I could identify from the research methodologies for this study. First, I would mainly do analysis through public policy documents, which might not fully reflect the policy impacts and dynamic on the field. Second, I would not be able to analyse the context, process, and actors involved in policy development. Third, some public policy documents and implicit policies might have been missed. Lastly, I would not be able to do indepth analyses into the specific context at regional levels.

Chapter 4: STUDY RESULTS

Background information regarding intersecting determinants of maternal mortality in Indonesia is provided in Annex 7. In this chapter I would describe and analyse the findings of this study. This chapter is organized according to the specific objectives of this study.

Sexual and Reproductive Rights in the Public Policy Addressing Maternal Deaths

In this part, I would discuss and analyse about how national public policies to decrease MMR in Indonesia approached the 2 (two) rights components of SRHR.

a. Sexual Rights

In general, the phrases "sexual rights" (*hak seksual*) or "sexuality" (*seksualitas*) are rarely found in the policy documents – including in policy about pregnancy-related healthcare such as the MoH's Regulation Number 97/2014 (*Permenkes 97/2014*). The mention of 'sex' in policy documents is often in the context of preventing sexual activities outside marriage ("free sex"/seks bebas), which are seen as against moral and religious values (e.g. Ministry of Education, Culture, Research, and Technology (MoECRT)'s Regulation Number 21/2016 (*Permendikbud 21/2016*) about Standard Basic and Middle Education Content)⁷². Interestingly, different ministries could have different approach regarding sexuality. For example, the Ministry of Woman's Empowerment and Child Protection (MoWECP) published a statement against using virginity test as a tool to assess students' virtue in education – mentioning the unreliability of the test and that virginity was not a requirement for children's right to education⁷³.

Sexual health services are incorporated as one of the essential healthcare related to reproductive and maternal health^{34,74}, but the approach for its rights component were inconsistent even within the same policy document. For example, a definition of sexual health in Permenkes 97/2014 stated that "every woman has the rights to experience healthy sexual life safely – without being forced or discriminated against and also free from fear, shame, and quilt". However, in the same document it was also stated that sexual health services should be in line with morality and religious values or provided within legal marital framework. Sexual health was also seen exclusively within heteronormativity, such as being defined as "free from sexual orientation disorder and sexual deviation"74. There is no law criminalizing sexual or gender minority identities in Indonesia. However, the Constitution of Indonesia says that the people's basic rights are limited by other people's rights, religious and moral values, and the general security and peace. In this case, being a sexual minority or having (consensual) sexual relationship outside marriage can be considered as against the law. Meanwhile, the Bill Number 1/1974 (UU 1/1974) states that marriage is between a man and a woman and can only be legalized if it is done according to religious laws⁷⁵. Therefore, same-sex marriage is not allowed in Indonesia.

There are some policies about the provision of sexuality education to adolescents which were usually school-based or through adolescents' health program. I identified 3 (three) guidelines developed by the government in collaboration with a 3rd party for reproductive health education: one for elementary school teachers, one for child activists, and one for teachers of adolescents with intellectual disability. All have elements of sexual rights incorporated into

them such as the differences between sex and gender, body ownership, and healthy romantic relationship^{76–78}. However, I could not find any policy mandating the use of any of these guidelines. The guideline for elementary school teachers stated that its content could be adapted flexibly in regards with local sociocultural situation⁷⁸. This might incentivise schools or teachers to cherry-pick or to avoid providing the sexual rights-related information altogether. It is also interesting to note that these guidelines mainly used "reproductive health education" instead of "sexual reproductive health education" in their titles, reflecting similar hesitancy in using certain words related to sex or sexuality. On the other hand, strong rejection from policy makers to a more open approach towards children and young people's sexuality and sexual behaviour (e.g., discussing masturbation) exists, for example in a statement by the MoECRT against the publishing of a sexuality education book for children in 2017⁷⁹.

b. Reproductive Rights

Compared to sexual rights, reproductive rights are more often mentioned in the policy documents. In *Permenkes 97/2014*, life-course approach in maternal health are promoted – integrating services for adolescents, pre-pregnancy, pregnancy, post-pregnancy, family planning, and sexual health as a continuum⁷⁴. In the Government's Regulation Number 61/2014 (*PP 61/2014*) about Reproductive Health, male participation in family planning is encouraged³⁴. The state's responsibility to provide reproductive health services – ranging from promotive, preventive, curative, and rehabilitative – was emphasized, including to provide maternal health surveillance and audit for maternal deaths⁷⁴.

However, I found many inconsistencies and limitation of rights within marital bond and/or religious values. For example, *Permenkes 97/2014* states that there is some special consideration for providing contraceptive services for sexually active adolescents⁷⁴. Other part within *Permenkes 97/2014* and *PP 61/2014* states that contraceptives are for husband and wife or legally married couple^{34,74} This could be interpreted that unmarried adolescents cannot access contraceptive services.

Another limitation of rights exists in the abortion law. There were some legal grounds for safe abortion services stated in *PP 61/2014*: medical emergency (life- or health-threatening), severe foetal anomaly, and rape. However, safe abortion can only be obtained after the woman is deemed eligible by a team of medical experts whose job is to clarify the existence of medical emergency. It also needs spousal or family consent, which is a violation of the woman's right to an informed decision. In rape cases, an expert has to clarify that rape truly happens. Furthermore, abortion due to rape can only be obtained up to 40 days after the first day of the last period - which was less than the WHO's recommendation for the safe time frame for medical abortion (i.e. 84 days) and most likely counted based on religious principles instead of medical consideration³⁴. In MoH's Regulation Number 3/2016 (*Permenkes No.3/2016*), abortion can only be done in an accredited facility by a trained provider after eligibility clarification by a team appointed by the state. However, up until today there is no accredited facility appointed or training for providers by the state – effectively hampering the right to access safe abortion⁸⁰.

Indonesian public health policy has used family-based approach since 2016 under the name Healthy Indonesia Program with Family-Based Approach (*Program Indonesia Sehat dengan Pendekatan Keluarga*/PIS-PK)⁸¹. This approach also applies to reproductive health. One of the indicators of the PIS-PK program was family enrolment in the family planning program. Emphasizing on family-based approach can arguably make women's reproductive rights as individuals to access reproductive health service more underrecognized, especially in a society with gender bias problem such as Indonesia.

Indeed, recognition of women's (mothers') reproductive rights in the policy documents often comes in relation with the wellness of their children and the quality of future generations. *Permenkes 97/2014, PP 61/2014,* and MoH's Regulation Number 39/2019 (*Permenkes 39/2019*) about PIS-PK Program Guideline state that maternal healthcare aims for mothers to give birth to healthy and qualified future generations. The women's health as their own persons is only mentioned later without deeper elaboration^{34,74,81}. The governmental body that has the mandate to run the family planning program (the National Population and Family Planning Agency/BKKBN) was also founded based on a policy about demography and population development⁸². It seems like the policy was designed mainly based on population control-based principles rather than rights-based principles.

Data from key informant interviews support this finding. One informant stated that the government's policies are often based on control over people, not on how to help people change to live a better life. Another informant stated that although reproductive rights are enshrined in the law and policy documents, the phrase "reproductive rights" itself and its ties to sexual rights (or sexuality) is not palatable socio-politically. The informant pointed out that while most Indonesians would agree with the essential content of sexual reproductive rights (e.g., that women can decide if and when she wants to have children or that a person has the right to have sex without being forced and violence), they might become less acceptance when the phrase is used. According to the informant, this is also related to the political narrative from the conservative party who often ties sexual reproductive rights to sexual immorality. As another informant stated quite simply while talking about rights-based approach, "What rights? We [have] never been into those progressive type[s]."

Permenkes 97/2014 states that while reproductive rights (including the right not to get pregnant) are recognized as individual rights, contraceptive services still requires spousal consent due to "significant impacts for the marital institution"⁷⁴. The Bill Number 52/2009 (*UU 52/2009*) about Population and Family Development states that "the provision of contraceptive services had to be accountable in regards with religious, cultural, ethical, and health-related values⁸²." These are a form of limitation of reproductive rights based on moral and religious biases.

Intersecting Determinants of Maternal Deaths as Addressed in Public Policies

In this part, I would discuss and analyse how Indonesian public policies address intersecting determinants that could affect maternal mortality. This part is organized according to the structural (macrolevel) layer of the analytical framework.

a. Health

Gender. Gaps in health between genders is recognized in RPJPN 2000-2025 document and the MoH strategic plan documents from all 3 (three) periods mentioned above. Furthermore, in 2010 there was a joint decision letter signed by the MoH and the MoWECP about gender mainstreaming in health policy and budgeting, following a presidential instruction about gender mainstreaming in 2000^{87,88}. The relationship between gender inequity and maternal deaths – and the subsequent need for a gender responsive approach – is recognized⁸⁹. Disproportionate reproductive health burdens and vulnerabilities experienced by women due to their gender identity and gender roles are recognized – such as experienced by girls in child/early marriage, by women with disability, women workers, women living with HIV, and women who experienced domestic violence^{90–96}. Partner's involvement and support in

maternal healthcare and family planning, especially husbands, is encouraged (see^{34,74,97}). Gender as a crosscutting issue among different policy sectors that could affect maternal mortality is recognized⁸¹. Within HIV policy document – which I would argue as one that is the most inclusive – recognition extends to designing particular approach for marginalized women, such as those of sexual minorities and sex workers⁸¹.

However, I recognized several gaps as well. A confusion between equity and equality is still occasionally found in the documents. *UU 36/2009* states that gender equity is about treating man and woman "not differently" instead of "equally"³³. Women are often put as contributors to the quality of the next generations first and as individuals with their own rights second. Furthermore, although recognition ss growing and gender analysis seems to be slowly adapted into policy making, I could not yet find any specific strategy for improving gender equity – especially regarding the prevention of maternal deaths – in the policy documents. Meanwhile, data from key informant interviews revealed that there seems to be a disconnect between health and gender discourse and advocacy, including between activists themselves. According to the informant, this disconnect introduces even more challenges for gender mainstreaming in the health sector.

Sexuality. As discussed in Objective 2 above, sexual health services are incorporated as essential healthcare and integrated with reproductive health in policy documents, including through primary care providers such as midwives⁹⁸. However, it is still framed within heteronormativity. For example, the professional standard practice for midwives still includes "detection of sexual orientation disorders" as one of the competencies⁹⁸. Meanwhile, one of the key informants stated that sexual minority groups are an unseen population in the eyes of the policy makers, making their reproductive health vulnerabilities practically ignored. Furthermore, the family-based approach through the PIS-PK program had heteronormative definition of "family": mother, father, and children⁸¹. Sexual health is also limited within marital bonds. For example, *Permenkes 39/2016* frames sexual health and contraceptive information and counselling for young people in the context of marriage preparation⁸¹.

Age. Life-course approach in health policy provides integration of adolescents' health into the general reproductive health. Investing in adolescents' and young women's health was seen as important, including by preventing child/early marriage^{81,85,86,90,98,99}. Young women are also recognized as vulnerable population, for example for HIV infection¹⁰⁰. A guideline about adolescents' reproductive health education developed by the MoWECP and Rutgers WPF Indonesia for child activists incorporates a list of recommended adolescent-friendly healthcare providers⁷⁶. UU 36/2009 and Permenkes 97/2014 encourage empowering adolescents to be able to make informed choices and exercise responsibility - and emphasize the state's responsibility to provide the information and services they need^{33,74}. However, biases for moral values and marital status still exist, such as the emphasize on abstinence before marriage¹⁰¹. There is some tendency as well to invest in adolescent girls for future generations instead of for their own wellbeing, for example providing nutrition supplementation for motherhood preparation⁷⁴. Lastly, I could not find specific strategy in the policy documents to decrease age-based discrimination towards adolescent girls - especially regarding their gender and sexuality. Data from key informants' interview revealed the importance of youth-friendly and non-judgemental policy in healthcare provision to better reach adolescents who need sexual reproductive health services - especially those with unintended pregnancy or those who are victims of sexual violence.

Occupation. There is recognition for women workers' unique reproductive health needs. A guideline for women workers' reproductive health developed by the MoWECP states that beside providing maternal healthcare for pregnant employees, employers are also responsible

to ensure that the type of jobs that pregnant employees do are not a risk to their maternal health (such as jobs involving heavy lifting or bending)⁹².

Comorbidity. HIV testing and counselling is incorporated into reproductive health services mainly via PMTCT program. There is strategic differences between regions with general and concentrated HIV epidemy, with all pregnant women being offered testing in the general epidemic region^{93,98}. HIV testing and counselling are parts of the minimum service standard for public primary healthcare facilities (*Puskesmas*)¹⁰². Policy to provide PMTCT and HIV testing and counselling for female prisoners is also in place^{93,103,104}. There is also a specific regulation for gender mainstreaming in HIV-related program⁹⁴. Strategic planning for HIV program includes eradication of stigma and discrimination with a specific strategy and roadmap^{100,103}. However, I could not find any specific strategy for eradicating stigma and discrimination for PMTCT program.

The 2020-2024 action plan for mental health issue by the MoH recognizes that intersectoral work between maternal health and mental health is still inadequate. It also provides plans to integrate those services¹⁰⁵.

Chronic illnesses such as hypertension and heart diseases are mentioned in *Permenkes 97/2014* as factors related to poor maternal health⁷⁴. However, obesity as a risk factor of those illnesses is not mentioned as a nutritional problem. The policy for nutrition management in pregnancy focuses more on undernutrition and anaemia. Regarding management of chronic illnesses among pregnant women, the documents only mention general prevention, screening, and lifestyle changes without further elaboration. Furthermore, I could not find any policy documents about non-communicated diseases or nutrition which have specific attention to women or pregnant women.

Economic status. ANC, delivery, and PNC are covered by the JKN without any caps on number of children or pregnancy¹⁰⁵. JKN regulation for contraceptive services are different. Providers can reimburse service fee for Long-Acting Reversible Contraception (LARC) insertion or removal, but the cost of the LARC itself and other contraceptives services have to be included in the monthly capitation payment for providers¹⁰⁶.

Religion. The Ministry of Religious Affairs (MoRA) seems to support the legal grounds for safe abortion services, helping uncover religious barriers for the essential service¹⁰⁷. However, stigma is still common as religious interpretation for abortion varied. The MoRA also seems to support the policy to increase the legal minimum age of marriage from 16 (girls) and 18 (boys) to 19 for both, even though its position before was against it or at least conflicted. This varied position might be due to ideological contestation inside the ministry itself^{108–112}. On the other hand, the MoRA does not explicitly include sexual reproductive health education in the curriculum of its premarital course for Muslim couples¹¹³. However, despite the support for some crucial change in policy, I could not find any specific strategy to decrease the general stigma and bias related to sexual reproductive health beyond heteronormative marriage. Quite the opposite, policies for services like contraceptive and sexual health were stated to have to be in line with religious or moral values^{33,34,74,114}.

Disability. A guideline is developed by the MoECRT and Rutgers for teachers to provide reproductive health education for adolescents with intellectual disabilities (but not for other disabilities)⁷⁷. Some training for teachers at regional level have been done, but not yet at national level¹¹⁵. However, the guideline is not mandatory to use. Reproductive health vulnerabilities for women with disabilities are recognized. The MoWECP has released a guideline on how to support this group⁹¹.

COVID-19. During the pandemic, *Puskesmas* is instructed to keep providing maternal healthcare and family planning with life-course approach as essential services – with adjustments like appointment-based visits, telemedicine, task-shifting to community health volunteers (*kader*) and delaying some services (such as pregnancy class and 2nd trimester ANC visits). Pregnant women are recognized as vulnerable groups for COVID-19 and *Puskesmas* is tasked to register and do surveillance on them¹¹⁶. However, some services are instructed to be delivered remotely and this could be a challenge for women in rural areas or poor women without access to internet or phones. *Puskesmas* often lacks human resources as well as they are tasked with COVID-19-related activities. As number of cases are rising during the current wave, secondary and tertiary hospitals are overwhelmed and pregnant women who need specialistic care (including those infected with COVID-19) might be underserved.

Some women might be afraid of getting infected while visiting *Puskesmas* to get contraceptives – or COVID-19 restrictions limits their mobility, especially for those with imbalance power relation with their partners or who experience domestic violence – and this might force them to change to less acceptable/reliable contraceptives or to stop altogether. There is currently no policy for self-injectable contraceptives in Indonesia. This increases the chance of unintended pregnancy.

As on 2nd August 2021, the MoH finally released an instruction to vaccinate pregnant women from 2nd trimester and beyond against COVID-19¹¹⁷.

Culture. Cultural compatibility and the ability to deliver culturally safe services are emphasized as essential skills for frontline reproductive healthcare providers, such as midwives⁹⁸. There is a TBA-midwife partnership program applied in regions with certain sociocultural barriers as well, in which TBA are trained and encouraged to be midwife's helper, client's companion, and community educator – but not to handle the delivery process themselves^{74,118}.

Geography/location. Health gaps between regions and rural-urban areas are recognized in the health development strategy. MoH's strategic plans in the last decade emphasize this inequality as one of the strategic priorities^{85,86}. Meanwhile contracting healthcare workers (doctors and midwives) to be temporarily assigned in rural/underdeveloped areas have been done by the government since the 1970s^{119–121}. Recently, a similar policy called Health Nusantara Program (*Program Nusantara Sehat/NS*) was launched. NS introduces teambased temporary contracting mechanism, hiring healthcare workers as a team of various primary care workers (doctors, midwives, nurses, laboratory technicians, nutritionists, public health workers, dentists, pharmacists, etc.) and in some cases individual contracting^{122,123}. It is designed to adapt to local context and health needs in each region.

A regulation for telemedicine practice is in place since before COVID-19 pandemic. It aims to ease communication between providers in different healthcare facilities. It regulates teleconsultation and supporting examination such as ultrasonography (USG)¹²⁴. While it could help to tackle distance barrier and connect providers to experts in different regions, the technological requirements might make it an inequitable solution for rural/underdeveloped regions.

Permenkes 97/2014 states that delivery has to be handled in a healthcare facility⁷⁴. However, challenges might arise when there were not enough healthcare facilities in a region (especially in rural/underdeveloped ones), if the infrastructure to reach the facility was not good, or if transportation mode was not available. It might discourage pregnant women or their families from giving birth in a healthcare facility or introduce delay of care. On the other hand, *PP* 61/2014 STATES that a healthcare provider could help with the delivery outside healthcare

facilities if the facilities are unreachable³⁴. This might give providers some legal ground for flexibility in providing services. However, if providers were not knowledgeable about it, they might choose not to give out-of-facility delivery services to avoid legal repercussion even if the facilities could not be reached. One of the key informants revealed their experiences having to help transport pregnant women in labour to difficult-to-reach *Puskesmas* in rural areas – some of them ended up giving birth en-route. The informant questioned the flexibility of the policy for delivery in certain healthcare facilities in such situation, stating that in many villages people relied more on smaller village health posts rather than the *Puskesmas*, but they could not receive delivery care in those health posts due to lack of equipments.

Marital status. A guideline for reproductive health education (developed by the MoWECP and Rutgers) provides materials which are not biased towards marital status – an important initiative even though it is not mandatory for schools or teachers. However, most of the main policies documents I found emphasize on marital status requirement^{34,74,82} – worsening barriers for unmarried women and girls to access services and incentivizing discrimination in service provision against them.

b. Geography and Migration

Age. Reproductive health services for adolescents affected by disasters are mentioned in the Minister of Health's regulation about health crisis management, but it is limited vaguely to "introduction to reproductive health" without any mention on access to healthcare access or products – an undermining on what these adolescents (who are already a vulnerable group even in a non-disaster situation) might actually experience or need, such as menstrual health problems or sexual violence.

Disability. The Bill Number 24/2007 (*UU 24/2007*) about Disaster Management states that people with disability and/or pregnant women are recognized as one of the vulnerable groups in a disaster situation – prioritized for evacuation, healthcare, and psychosocial support¹²⁵.

Geography/location. *UU* 52/2009 states that "there are equal rights and responsibilities between comers and locals" and at the same time "there has to be protection for identity and culture of the locals" and at the same time "there has to be protection for identity and culture of the locals" and at the same time "there has to be protection for identity and culture of the locals" and at the same time "there has to be protection for identity and culture of the locals" and support for refugees compared to locals in a displacement situation, this policy's implementation might depend on power dynamic and political interpretation of who 'deserves' help. If the refugees come from a marginalized identity such as racial minorities, policy interpretation might tilt to put them at a disadvantage. In a different context like Papua, while the indigenous peoples are the one who experience marginalization and racism, power dynamic might tilt policy interpretation to put Papuan women in a more disadvantaged situation even though they are locals¹²⁶. Furthermore, one of the key informants elaborated on their experience facing fragmented services in the refugee camp settings. The informant stated that there was often unclear situation about which party was responsible to provide healthcare, who would benefit financially from the services, and who would cover the costs.

c. Infrastructure

Disability. The Bill Number 8/2016 (*UU 8/2016*) about People with Disabilities states that people with disabilities have the rights of accessibility at public facilities and the rights to appropriate accommodation to access public services¹²⁷. However, this policy does not provide details regarding the interpretation of accessibility or regarding different needs experienced by people with different types of disabilities.

Geography/location. Although infrastructure and transportation problems are recognized by policy makers as significant contributors to maternal mortality¹²⁸, I could not find any specific policy from the infrastructure policy sector with specific attention to prevention of maternal mortality.

d. Education and Information

Gender. The RPJPN 2005-2025 recognized that education gaps between genders is a problem in national development⁸³. However, gender bias is still common in education. For example, a reproductive health education module for elementary school teachers (developed in 2017 by the MoECRT, MoH, and MoRA with support from UNFPA and UNICEF) still lists typical gender roles in a family: the man (father) as breadwinner and head of the family and the woman (mother) as caretaker⁷⁸.

MoECRT's regulation Number 68/2013 (*Permendikbud 68/2013*) about curriculum for junior high school students includes gender equity in subjects such as sports, religions (but, interestingly, does not include Islam), language, and civic education ¹²⁹. A learning focal point module developed in 2020 by the National Education Standards Body (*Badan Standar Nasional* Pendidikan/BNSP) to guide learning standard in elementary to high school level further elaborates this with specific material guides for understanding gender roles beyond the traditional ones in the family. The same module includes gender equity and gender discrimination into the curriculum of similar subjects with the MoECRT's regulation ¹³⁰. Similarly, in a module for reproductive health education developed in 2020 for child protection activists/facilitators by the MoWECP and Rutgers WPF Indonesia and in a module for reproductive health education for teachers of adolescents with intellectual disabilities (developed in 2020 by the MoECRT and Rutgers WPF Indonesia), the roles for men and women are expanded beyond traditional roles, equality between men and women are more emphasized, and gender stereotyping is critically discussed ^{76,77}.

Sexuality. Policy makers are hesitant to talk about sexuality. If the subject is included in policy documents, it is usually discussed superficially or morally biased. Example is a coordinating minister's statement in 2020 about the 'national danger of free sex'¹¹⁴. Sex-positive approach is uncommon. For example, the 2017 MoERCT-MoH-MoRA guideline (see section 'Gender' above) attempts to promote delaying sexual activities for teenagers but do it through focusing on negative consequences of sexual activities (including abortion regardless of safety) ranging from watching pornography and masturbation to intercourse⁷⁸.

In 2016, the MoECRT claimed that sexuality education has been included in the national curriculum, in the form of thematic learning¹³¹. The BSPN module indeed includes topics such as the difference between sex/gender identity/sexual orientation, between affection/sexual attraction, and uses the phrase 'risky sexual behaviour' to encourage students' critical thinking about their choices instead of a general negative framing of sexual activities (see¹³⁰). However, the government tends to use politically safe language in regulations. *Permendikbud 21/2016* and the MoECRT's regulation Number 57/2014 (*Permendikbud 57/2014*) about Curriculum for Elementary Schools still uses the phrase "inappropriate behaviour" (*perbuatan tidak senonoh*) and "the danger of free sex", even though the list of contents matches the BSNP module^{72,132}

Data from key informant interviews revealed that there is still some hesitance to implement sexuality education in the general education curriculum. It is still seen by education practitioners as a 'Western' concept, although reproductive health education has been there in the curriculum since the 1970s (although still with a population wellbeing approach) and is part of the evolution of sexuality education until now. Furthermore, while a lot of modules have

been developed, none are currently adapted and standardized nationally. As one of the informants said, "[Module development] has become an industry of its own." Another informant revealed that while developed modules might have the rights-based perspective, application of those modules in trainings still use examples that are morally or religiously biased (e.g., applying reproductive rights only to married couples).

Age. The Bill Number 35/2014 (UU 35/2014) about Child Protection stated that every child (which is defined as under 18 years old, including a child still in the womb) has the right to education and to protection against injustice and abandonment. Therefore, the case of adolescents being expelled or retracted from schools due to unintended pregnancy and/or marriage are clearly a violation of the law, with the responsibility falling on their parents, families, or the government itself.

e. Labour

Occupation. The Bill Number 39/1999 (*UU 39/1999*) about Human Rights states that women have the rights for special protection in occupation against any threats to their health and wellbeing in relation with their reproductive function¹³³.

In the MoL's regulation Number 3/1989 (*Permenaker 3/1989*) about the Prohibition from Firing Female Employers due to Marriage, Pregnancy, or Birth, it is stated that employers are prohibited from firing their female employees because they are getting married, pregnant, or give birth. Employers are also obligated to do task shifting for pregnant employees who cannot work in their usual position due to their pregnancy without reducing the employees' rights. However, if task-shifting is not possible, employers could also opt to give unpaid leaves for as long as 7.5 months until the start of the employees' right for maternity leave. Another protection stated in the Bill Number 13/2003 (*UU 13/*2003) about Labour is that pregnant workers have the right not to work the night shift (11PM-7AM) if, according to a healthcare provider, working night shifts put their health at risk¹³⁴.

Comorbidity. The MoH's regulation Number 74/2014 (*Permenkes 74/2014*) about Counselling and Testing for HIV stated that workplaces can (and are advised to) provide HIV testing and counselling for their employees, either in their own facilities or in partnership with a 3rd party. However, it has to be done only for the health and wellbeing of the employees. Using HIV testing as a requirement for staff recruitment or promotion is prohibited (see¹⁰³). Furthermore, in the MoL's decision Number 68/2004 (*Kepmenakertrans 68/2004*) about Prevention and Management of HIV in the Workplace, it is stated that HIV testing and counselling has to be done with a written informed consent from the employees. It is also prohibited to use HIV testing and counselling as a requirement for contract extension or as part of a mandatory routine health screening. Additionally, employers are obligated to prevent all kinds of discrimination towards employees due to their HIV status¹³⁵.

Economic status. UU 13/2003 states that pregnant workers have the right to receive paid maternity leave for 1.5 month before and 1.5 month after birth. Those who experience miscarriage also have the right to receive a paid leave of 1.5 month after the miscarriage. The same bill also states that all workers have the rights to equal treatment and chance in the workplace – meaning that women have the right to be paid equally to men for equal work and receive equal chance for promotion or pay rise. However, women are still paid 23% than men in Indonesia – including the university-educated women¹³⁶.

COVID-19. During the COVID-19 pandemic, several policies are put in place to protect workers' rights – especially in health and economy. *UU 13/2003* states that every worker has the right for protection of health and wellbeing in the workplace¹³⁴. Hence, companies are

obligated to keep the health of their employees a priority by running appropriate COVID-19 measures – including mapping the risks of their employees for exposure, prevention (including by providing Personal Protective Equipments/PPE), screening, tracing, management, and referral 137–139. It means companies with pregnant workers are obligated to consider this group's vulnerability to COVID-19 and adjust (e.g., by implementing Work-From-Home/WFH) to protect their health.

A minimum regional wage during the COVID-19 pandemic is obligated, and any change must only be made through a dialogue between the company and the workers (see¹⁴⁰). Another letter circulated by the MoL stated that if a worker must go under quarantine or falls sick with COVID-19, they have the right for a paid leave. However, when a company decides to close its production and sends its workers home, payment agreement must be made through dialogue between the company and the workers (see¹⁴¹). Additionally, a social program called Prework Card (*Kartu Prakerja*) has been extended to cover those who lost their jobs during the COVID-19 pandemic and small business owners. This program provides cash transfer, skills training, and entrepreneurship development¹⁴².

To compare policies with workers' experiences, workers' unions have reported that many workers were fired, experienced significant pay cut, or forced to work without health protection. Workers often have less bargaining power than companies – a gap in the regulation that puts dialogue as a solution¹⁴³. *Kartu Prakerja*'s effectiveness and efficiency have also been criticized because it uses a mostly-digital selection system that might put those without internet access or literacy at a disadvantage¹⁴⁴.

f. Social Affairs

Gender. Gender equity is mentioned in the RPJPN 2005-2025 as one of the most important principles for improving the quality of life and wellbeing of the people⁸³. Most of the policies about gender in the social affairs sector come from the MoWECP. As discussed in the previous sections, MoWECP has shown quite progressive stance in issues like adolescents' sexuality and child marriage – a contrast to, for example, the MoRA's hesitancy in supporting the policy to rise minimum age for marriage. For the eradication of child marriage, the MoWECP has been engaging with religious leaders and organizations to gain support¹⁴⁵. MoWECP has also pushed for gender mainstreaming in other ministries, including in the MoH, and for intersectoral works for gender equity⁸⁸. However, data from key informant's interview revealed that stated that although gender mainstreaming policy and guidelines exist, many policy makers and implementors do not have good gender awareness and policy/guideline implementation is often superficial.

In domestic violence issue, the Bill Number 23/2004 (*UU 23/2004*) about the Eradication of Domestic Violence states that the state has the responsibility to prevent domestic violence (physical, sexual, psychological, and neglect), to protect its victims, to take action against perpetrators, and to keep the safety and wellbeing of families. The bill regulates mechanism to give comprehensive support for victims (health, psychosocial, and legal support) based on human rights principles and gender equity (see⁹⁶).

Economic status. The Bill Number 11/2019 (*UU 11/2019*) about Social Wellbeing states that poverty reduction is done through strategies like counselling and guidance, social services, providing access to jobs and business opportunities, healthcare access, providing access to basic education, and housing. There is a conditional cash transfer program called Hopeful Family Program (*Program Keluarga Harapan*/PKH)¹⁴⁶. PKH targets poor families with

pregnant mothers and attendance at maternal healthcare services is required to be able to receive cash transfer.

Religion. Religious bias still tints policy on social affairs. For example, *UU 52/2009* limits citizen's reproductive rights within social and religious norms and legal marital bond⁸². *UU 35/2014* states that a child who became a victim of sexual violence has to be given education about social and religious norms¹⁴⁷ – a very peculiar policy on how to support victims of sexual violence, with a tendency for victim blaming.

Disability. The government raised the slogan "Inclusive Indonesia, Superior Disability" (*Indonesia Inklusif, Disabilitas Unggul*) in 2019 to show their goals on "inclusive development". The aims are to support people with disabilities to be "independent, become high quality human resources, and contribute to the nation". *UU 8/2016* states that people with disability have the rights to be free from stigma and discrimination, to start a family and have children (within legal marital bond), to gain equal access to healthcare, and to accessibility in public facilities and services¹²⁷. *UU 52/2019* states that people with disability have the right to access social rehabilitation, support, empowerment, and protection. Women with disability are recognized as a particularly vulnerable group who need extra social protection⁸². However, policy such as *UU 1/1974* includes contradictory statements to the inclusion goal – for example, *UU 1/1974* states that a husband are allowed to do polygamy (polygyny) if his wife is disabled or chronically ill⁷⁵. Polygyny itself has been argued to have negative impact on a woman's financial income and mental health^{148,149}.

Culture. The MoWECP stated in 2016 that there was a need to involve social engineering to address sociocultural factors that contributed to maternal mortality¹⁵⁰. However, there was no further elaboration on what were the exact sociocultural factors that needed to be changed. One of the key informants stated their doubt that 'better' cultural change will result from policy change, as it is also possible that bad policy triggers the occurrence of bad cultural practices. Another informant stated that blaming cultures and the people often becomes a scapegoat for lack of initiatives from policy makers themselves (e.g., to provide better service accessibility).

g. Economy, Trade, and Industry

Gender. The Ministry of Finance (MoF) recognized the potential contribution of women in economics, especially in small and medium businesses such as home industry. The MoF also recognized the reproductive health needs of women as a specific context to consider for women's economic empowerment. The government claimed that it considers gender dimension in economic and social support program, for example by transferring cash directly to women's hand without going through the men in the family (see¹⁵¹). The MoWECP stated similarly that women had to be supported as economic agents and that men had to be engaged to support women in business and economic activities as well (see¹⁵²). The President's Regulation Number 114/2020 (*Perpres 114*/2020) mandates an inclusive national financial strategy (*Strategi Nasional Keuangan* Inklusif/SNKI) in which women are one of the target groups. One of the latest programs from SNKI is SERUNI Program (Strengthening Women Micro-entrepreneurs to Digital Security and Financial Inclusion), which aims to improve financial literacy, digital literacy, and business management skills among women entrepreneurs and women with disabilities (see¹⁵³).

However, civil society criticized most of government's support as still gender neutral or at least gender aware, but not yet enough to transform gender-based power dynamic in the family and community (gender transformative). It is also important to note that while women mostly work in informal sectors, this sector is still untouched by most of the social support programs. Lastly,

women's participation and perspective in evaluating the accountability of government's economic and social support is still lacking¹⁵⁴.

h. Politics and Governance

Gender. As discussed in the previous sections, gender mainstreaming in policy planning and budgeting in all sectors has been mandated since more than 2 (two) decades ago through the President's Instruction Number 9/2000 (*Inpres 9/2000*). However, challenges remain in the gap between policy and the superficiality of its implementation, as key informants' interview revealed in the "Social Affairs" section above. However, one informant pointed out that there is hope in the future, as more and more young people with more awareness work inside governmental bodies.

Data from key informant interviews revealed that the biases in the general political take on women still exist today. One of the informants stated that back in the New Regime era, there was a strong political tendency to 'domesticate' women's roles – putting back women into their traditional roles as mothers and housewives. The informant further elaborated how this affected the policy approach to women's and maternal health as well, by connecting them to child's health instead of putting women as their own persons at the centre. The informant argued that because women were not (and still are not) at the centre, policy making process does not focus on what is truly happening in the women's life and what is killing them as mothers - for example, inadequate maternal and perinatal audits in cases of maternal deaths. Still according to the informant, this bias also affects how maternal mortality is often seen simply as numbers (or debatable methodologies to count those numbers) instead of a violation of women's rights to life and safety.

Furthermore, three from six informants raised concern about how the issue of maternal mortality seems to be put aside in the last few years while the government focuses more on stunting and nutrition – although both issues are included in the focus for RPJPN 2005-2025. One informant said, "[They want to] lower maternal mortality to lower stunting." Another informant stated that while regional leaders are aware about issues like child marriage, they are not as aware about maternal mortality. The same informant also pointed out that policy makers often offer technocratic solutions related to numbers and programs, but never touch fundamental issue like gender that is crucial for the policy design. Another informant stated that high-quality evidence related to gender as a determinant of maternal mortality as a basis for policy making is still lacking. Interestingly, another informant argued that this political ignorance about maternal mortality in relation to reproductive rights and gender equity issue is also affected by policy makers' ignorance in the significance of the issue within the arena of international politics and the benefits the country might gain if more attention is given to solve the problem at its root.

A recent development came in the form of President's Regulation Number 53/2021 (*Perpres 53/2021*). Through the regulation, the government states the National Strategic Plan for Human Rights 2021-2025 – with women as one of the target groups. The strategic goals of this plan include e-KTP availability for women from religious minorities and migrant women workers, and improvement of healthcare access for women living with HIV¹⁵⁵.

Economic status. All public services (such as the JKN enrollement and social supports such as the PKH program) are based on the Population Registration Number (*Nomor Induk Kependudukan*/NIK) that is written on KTP. The Bill Number 24/2013 (*UU 24/2013*) states that all Indonesian nationals (and foreign nationals with permanent residence permit) who are aged 17 years old or above are obligated to have KTP. *UU 24/2013* also states that, starting from

2013, KTP is equipped with an electronic chip (e-KTP) and is valid for life. However, according to the MoIA, more than 1.8 million Indonesians do not have an e-KTP in June 2020¹⁵⁶— and therefore will be unable to access public services including social support and social health insurance.

Religion. While I could not find any policy documents from the politics and governance sector addressing religion as a determinant of maternal mortality, data from key informant interviews revealed some interesting insights. One informant elaborated how there has always been ideological contestation among policy makers, especially after the end of the New Regime (*Orde Baru/Orba*, 1965-1998) and the rise of Islamic religious populism. According to the informant, this contestation makes it difficult to push for progressive policies in SRHR, especially for sensitive issues like safe abortion. The informant further stated that policy making is also still a male-dominated arena – a situation that is supported by religious populism as a further driver in gender bias and makes less and less chance for women's voice (other than biased and conservative narratives about women and their roles) to reach the policy making table. Without enough incentives and support, politicians are not willing to take the political risks to advocate for SRHR – a situation for which the informant gave an example: the regulation for safe abortion's legal ground that has been set up since 2014-2016 but has no further implementation in the field until today.

Disability. The National Strategic Plan for Human Rights 2021-2025 also includes people with disabilities as one of the target groups. Among the strategic goals is increased number of primary healthcare facilities that are accessible to people with disabilities¹⁵⁵.

i. Environment

Gender. The Bill Number 32/2009 (*UU 32/2009*) about Environmental Protection and Management states that every activity (including business) that has the potential to negatively impact environment and ecosystem (including human's health and wellbeing) must be conducted with adequate environmental risk assessment (see¹⁵⁷). Furthermore, the Government's Regulation Number 22/2021 (*PP 22/2021*) states that the party in charge for the activity must involve local people in the assessment, including women with specific attention to gender equity (see¹⁵⁸). Indeed, the Ministry of Environment and Forestry (MoEF)'s Regulation Number P.31/2017 (*PermenLHK P.31/2017*) about Gender Mainstreaming recognizes that environmental changes could have different impact on men and women (see¹⁵⁹). These policies mean that negative impacts from environmental changes made by industries such as pollution (air, land, water) that could affect maternal and women's reproductive health should be considered on the environmental risk assessment. However, in various environmental conflicts, women's voices (especially those from indigenous communities) are often pushed aside including through violence (see^{160,161}). The implementation of the *PP 22/2021* is yet to be seen to solve this problem.

j. Law and Defence

Gender. Religious bias can still be found in the regulation for human rights. For example, *UU* 39/1999 states that adult and/or married women have the rights to conduct their own legal acts, except it is regulated differently in their religion. This policy might provide legal barrier for adult but unmarried pregnant women who want to decide something on their reproductive health. Additionally, one of the key informants pointed out on an inconsistency in the policy related to safe abortion services: the fact that the child protection law defines children as those under 18 years old, including unborn faetus¹⁴⁷.

The guideline for reproductive healthcare services in the detention facilities states that female prisoners have to be provided with maternal health care (including family planning), either inside the facility or in partnership with a 3rd party¹⁶².

Effective Policy to Decrease Maternal Mortality in Other LMIC

In this part, I will discuss and analyse research findings from literature reviews regarding what other LMIC with similar context to Indonesia have done to address determinants of maternal deaths – focusing on Thailand, Kerala State of India, and Nepal.

Table 4: Summary of other LMIC's policy

Country	MMR	Policy	Challenges
	38/100,000 (2015) ¹⁶³	Investment in health infrastructure and other rural development programs since 1975 ¹⁶⁴	
Thailand		Developing mainly tax-based UHC system since 2002 (SRH services are covered) ¹⁶⁵ ¹⁶⁴	Teen pregnancy, low coverage of cervical cancer screening & HPV vaccine ¹⁶⁴
		Mechanism of feasibility and risk-and-benefit analyses for interventions covered ¹⁶⁴	
Kerala	Decentralization of health system up to village levels (35-40% state budget goes to regional governments) ¹⁶⁷		Re-growing utilization of private health providers, some local governments are not supportive/less committed ^{168,169}
Nerala	(2018) ¹⁶⁶	Audit of maternal death cases informing development of quality standards for practice	Low support from hospital administrative staffs, the need to integrate audits into the system, variability of practices ^{170,171}
		Liberalization of abortion law ¹⁷³	
Nepal	190/100,000 (2013) ¹⁷²	Strong political will to make big legal change through evidence-informed policy ¹⁷³	Stigma financial barrier, limited dissemination of information ¹⁷¹
		Rapid implementation of policy change ¹⁷⁴	

a. Thailand

Health. Thailand's government spending in health in 2018 is 76% of the total health expenditure in the country¹⁷⁵. The country is famous for its achievement in UHC, with OOP payment only 11% of total health expenditure¹⁷⁶. Interestingly, the initial drive for the UHC policy was mainly political. This political commitment persists despite changes in the regimes of government.

Geography/migration. Since the 1975, Thailand has been investing in healthcare infrastructure and strengthening its primary healthcare network. The target was to provide one hospital per district (serving +/- 50,000 people) and one health centre per subdistrict (serving +/- 5,000 people)¹⁶⁴. The availability of both infrastructure and human resources in rural areas enables the district health system to provide high quality services closer to where people live and build trust between the system and the people¹⁶⁴. Thailand's primary health care network is currently team-based and involves community health workers, making a strong connection between healthcare workers and the community¹⁷⁷. Additionally, Thailand has a community-based family planning program that manage to meet the needs of women in hard-to-reach areas¹⁷⁸. As a result, maternal and child healthcare in Thailand is of good equity, with small urban-rural gap¹⁷⁹. Currently 99.6% delivery in Thailand is attended by SBA and only 8% married woman aged 15-49 years old have unmet needs for contraceptives^{180,181}.

b. Kerala State of India

Health. The state government of Kerala has been investing in public health infrastructure and human resources in health since the 1960s, including primary healthcare facilities. ¹⁸². After realizing the danger of financial risk associated with the central government's pro-privatization of healthcare in the 1980s, the state government in Kerala decided to decentralize its healthcare system. This policy was accompanied by special allocations for disadvantaged groups based on socioeconomic status (including caste) and gender. The policy was shown to be effective in increasing equal access to healthcare especially for people from lower socioeconomic status and helping the healthcare system responding better to community needs¹⁶⁷.

Politics and governance. Kerala is the only state who do Confidential Review of Maternal Deaths (CRMD). From the process, obstetric and non-obstetric causes of death were identified and subsequent effort to improve quality of care was made. In 2016, the state government conducted a process to develop evidence-based Quality Standards (QS) in hospitals for improving quality of maternal healthcare and lower MMR even more. The development of this QS was largely informed by the CRMD Audit. The pilot project for the QS in 8 hospitals showed reduction in referrals due to postpartum haemorrhage and hypertensive disorders (the 2 most identified causes of death) in 6 months. After the pilot project, the state government decided to expand QS to other 32 health facilities, showing persistent political and financial commitment towards maternal health and the willingness to do evidence-informed policy making.

c. Nepal

Law and defence. Nepal's health authority has recognized the contribution of unsafe abortion towards high maternal mortality since early 1990s¹⁷³. Data regarding the prevalence of deaths due to unsafe abortion has been collected since mid-1980s and became an important basis for advocacy¹⁸³. The combination of public health concern about maternal mortality and human rights concern about women (especially poor ones) being criminalized for having an abortion made a strong joined advocacy to liberalize abortion law in Nepal despite entrenched social stigma. Nepal's abortion law went through a huge change in 2002, going from sending women to jails for abortion to legalizing safe abortion on demand up to 12 weeks of pregnancy. A 66-fold increase in numbers of clients getting safe abortion from 2004 to 2006 (from 719 women to 47,451 women, respectively)^{173,183}. This safe abortion policy has likely played a significant role in pushing down Nepal's maternal mortality¹⁸⁴. A retrospective study comparing risk of serious complication and sepsis from abortion before and after implementation found that in

2007-2010, women who had abortion were 1.35 times less likely to have serious complication and 2.7 times less likely to have sepsis ¹⁸⁵ .

Chapter 4: DISCUSSION

Research findings for Objective 1 identified some half-hearted integration of sexual and reproductive rights-based principles into policy approach to reduce maternal mortality in Indonesia. The phrase "reproductive rights" has been enshrined in various policy documents, although "sexual rights" still seem like an alien concept among policy makers.

Among reproductive rights, the right to freely and consensually make an informed decision and the right to privacy, confidentiality, respect, and violence are not fully protected or even violated. Many policies about reproductive health procedure still mandate 3rd party's consent. Some policies limit the fulfilment of rights to married people or under certain bureaucratic condition. The right to mutually respectful and equitable gender relations is only addressed superficially, as most policies do not address gender equity in depth. Among sexual rights, the rights for achieving sexual health and to receive information and sexuality education are limited within morally acceptable acts – leaving adolescents and unmarried people unprotected. The rights to choose sexual partner, be sexually active or not, and engage in consensual sexual relationship are not protected, because sexual relationship is only recognized within marriage. The right to bodily integrity is not addressed at all. The right to marry is limited to what religious laws permit and only within heteronormative concept. Meanwhile, the rights related to sexual orientation and gender identity are violated because the policy tends to discriminate sexual minority groups.

Biases related to religious and moral values consistently exist in the policy documents, twisting the elaboration of sexual reproductive rights and limiting their fulfilment inside the corridor of morally acceptable framework – such as marital bond. This clash between rights-based and moral-based principles results in a lot of inconsistencies in the policy documents. Policy makers seem unable to decide on what ground they need to step on fully. On one hand, there is an international push for the state's commitment to protect rights – especially with arrival of the Sustainable Development Goals (SDG) and its indicators. On the other hand, consideration for political feasibility and the rising of religious populism in Indonesian political discourse incentivize them to choose for politically 'safer' choices – even if it means violating the rights of the people.

It is also interesting to look into how gender bias in politics shape this understanding of reproductive rights. As Julia Suryakusuma wrote in her book, "State Ibuism", the New Regime era of the government of Indonesia left a legacy of women's domestication – reducing women into domestic roles within family and childcare ¹⁸⁶. The construction of maternal healthcare in Indonesia has long been linked to childcare. While it is true that a child's health is tightly interlinked with their mother's health, it is disheartening to see how Indonesia policy very often puts maternal health only within the context of childbearing and rearing – failing to see a woman as a person of her own without always having to contribute for a 'better future generation'. Furthermore, this political take on maternal health wipes women as individuals from the narrative, detaching maternal mortality issue from the stories told by women's lives and leaving it as a number to debate on.

In the findings for Objective 2, I identified some attempts to integrate gender mainstreaming into policy making in reducing maternal deaths. Formally, gender has been recognized as a driver. Some policies are gender aware, especially those dealing with strategic issues like HIV and domestic violence. Some policies have attempted to make change through integrating updated gender-related concept and using non-biased language, for example the reproductive health education modules that were usually developed win partnership between the government and a 3rd party. However, policy documents show the lack of specific strategy or

depth to actually transform gender bias problems feeding into maternal mortality issue in Indonesia. It could be due to the lack of in-depth understanding about gender among policy makers, while gender is still understood simply as "something to do with women". Indeed, some policy documents stop at mentioning women as a recognized group but do not follow up with what has to be done in regard to women. It could also be a remnant of *ibuism* policy as discussed above, as women and their lived context or experiences are not considered in the policy making process.

Looking into policies in sectors other than health, most of them do not have an explicit link to reduction of maternal mortality. As an issue that has been prioritized for the long-term strategic development plan, I would expect some extend of explicit intersectoral work – especially because there is already a recognition of maternal mortality as an intersectoral problem. It seems like policy development in non-health sectors is largely unaware of how it connects with reduction of maternal deaths. It is surprising to see how a strategic sector like infrastructure does not have any policy documents linked specifically to maternal health.

Looking into determinants other than gender, I found that not all determinants are included in the policy documents. More commonly known determinants related to health such as education, geography, age, and economic status are addressed to some extent. Determinants related to other public health concerns such as HIV are also addressed. Other determinants - such as social status, disability, obesity, and mental health - only have general or vague connection within policy documents. Disability is addressed a bit deeper in the latest documents, probably due to the rise of its significance within human rights discourse. It is surprising to see that obesity is only superficially addressed while Indonesia is experiencing double burden in its epidemiological changes. It is also disheartening to see that no policy documents talk about race disparity, while Eastern Indonesians (especially Papuans) bears some of the heaviest burden in maternal mortality. The exclusion of race in the policy is not surprising, however, considering the long history of political tension surrounding Papua and how Indonesian government chooses to approach this problem so far. Meanwhile, determinants such as religion, sexuality, and marital status are addressed only to further enforce barriers to health instead of reducing them - for example, by limiting access to services to married couples. Looking into how religious and moral biases limit the fulfilment of sexual reproductive rights in the policy response, this barrier enforcement by the state is not surprising but needs to be continuously criticized as it violates the rights and limits protection for those who are already marginalized.

After looking at public policy in Indonesia, in Objective 4 I looked into what other LMIC with similar context have done to address determinants of their maternal mortality issue. From the findings, I would like to emphasize 2 (two) learning points as compared to previous findings above.

First, evidence-informed policy making is crucial. Kerala State of India and Thailand have shown continued political willingness to invest into evidence generating and dissemination to look into the roots of the problem. Nepal has shown that public health evidence can inform policy makers well on how to make impactful policy – especially when policy makers are willing to use that evidence even in controversial issue. Nepal has also shown how the political choice not to delay implementation of a crucial policy like safe abortion for too long can help make more impactful changes for the people – something that Indonesia and its abortion policy can learn from.

Second, explicit investment in health matters – especially when it is supported by synchronized development in other sectors. Thailand's pro-rural policy that has long been in place are synchronized between infrastructure, human resources, and other rural

developments projects – making a crucial basis for its healthcare accessibility and coverage. Similar lesson could be learned from Kerala's health decentralization policy, when power and resources are largely shared with the local people to better respond to local health needs. While it is true that a country like Thailand is smaller and has more homogenous population, Indonesia – with its established network of primary healthcare facilities and decentralized health system – could opt to do something similar while not forgetting that it is not just health. Development in other sectors also matters.

Strength and Limitations of the Study

The analytical framework that I used for this study is a useful to look into intersecting determinants in Indonesian context, how it could affect people's health status, and how policy in different sectors can address and shape their influences in people's health. It has helped me to zoom into different aspects addressed in policy documents, categorize them, and look into how policies address those aspects – by strengthening, weakening, or ignoring them.

However, using this framework also introduced a challenge related to how wide it is. I found challenges in categorizing policy content based on each of the determinants, as at many times they were overlapping. Although I developed the outer layer for policy sectors partly based on categorization of ministries in Indonesia, I found it challenging at times to put certain policy documents into a certain sector – especially when the document was on a specific intersectoral issue and/or a joined work between different ministries.

In the process of looking for documents for this study, I have identified some challenges that could impact the robustness of evidence that have been discussed. My search strategy could not always find documents from each of the policy sectors. Some documents might have been missed. Not every policy document contained keywords for the determinants of for maternal health. For key informant interviews, I have limited number and variation of backgrounds of informants. I also did not include documents from regional governments. This limits my ability to look into how policy might impact certain marginalized community in Indonesia, especially Eastern Indonesia.

Chapter 5: CONCLUSION AND RECOMMENDATION

Conclusion

High maternal mortality is currently still a pressing issue for health in Indonesia. It is a complex phenomenon driven by various determinants that, in turn, are interacting in a complex way with each other.

The state has the responsibility to protect, respect, and fulfil the rights of its people, including sexual and reproductive rights. Maternal mortality is a sexual reproductive rights problem because women do not deserve to die. To be able to address maternal mortality effectively and equitably, policy makers have to consider this obligation of the state. Indonesian national public policy has attempted to integrate sexual reproductive rights into its approach. However, moral and religious bias constrain many of the rights. As a result, the policy cherry picks on who deserve to enjoy the rights in what kind of situation and at the same time violates or ignores the rights of the people who do not fall into a morally and religiously acceptable framework enforced by the policy itself.

The complexity of maternal mortality issue warrants policy makers to carefully look at its determinants and match policy response to them. Indonesian national public policy has attempted to address some determinants of maternal mortality – such as gender, age, economic status, geography, education, and HIV. However, this attempt is often not in-depth or disconnected between sectors. There are some determinants that are not addressed or only vaguely touched – such race, social status, mental health, obesity, and disability. In other times, barriers to access to health related to certain determinants are even enforced by the policy or are not recognized – such as in religion, marital status, and sexuality.

Indonesia can learn from how policy in other LMIC countries address some of the determinants to reduce their maternal mortality. A pro-marginalized group and evidence-based approach is needed to better respond to their vulnerabilities. Strong and continues commitment and political will is crucial to address determinants that are deemed not politically feasible. Synchronization between sectors is also important to avoid fragmented policy response that will only address part of the problems.

Recommendations

The national government of Indonesia is recommended to:

- Fully integrate sexual and reproductive rights principles in its policy response to reduce maternal mortality, especially the rights of women and girls. It can be done by referring to international agreement and guidelines on Sexual Reproductive Health and Rights (SRHR).
- 2. Strengthen gender mainstreaming within every policy to reduce maternal mortality and prioritize women and girls as individual subjects at the centre of the policy response. Gender mainstreaming should aim to change fundamental values that are the drivers of gender inequity in the society (gender transformative approach). Extensive and continuous training would be needed and can be done in collaboration with civil society.
- 3. Conduct situational analysis to gain better evidence related to intersecting determinants of maternal mortality to better inform policy response prioritizing on gender, age, economic status, geography, and intellectual disability. Data from

- evidence should be disaggregated to help identify vulnerable groups in different context. Regional governments have more knowledge for local context and should be involved in the analysis.
- 4. Involve all policy sectors (not just health) in the strategy to reduce maternal mortality and synchronize intersectoral policy response informed with evidence and guided by rights-based principles. Every ministry should be made aware of the maternal mortality issue, are informed about its drivers and evidence, and tasked to contribute according to their authority.

Annex 1: Components of Sexual and Reproductive Health and Rights

Sexual Health

"A state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled."

Sexual health implies that all people have access to:

- Counselling and care related to sexuality, sexual identity, and sexual relationships
- Services for the prevention and management of sexually transmitted infections, including HIV/AIDS, and other diseases of the genitourinary system
- Psychosexual counselling and treatment for sexual dysfunction and disorders
- Prevention and management of cancers of the reproductive system

Reproductive Health

"A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes." 187

Reproductive health implies that all people are able to:

- Receive accurate information about the reproductive system and the services needed to maintain reproductive health
- Manage menstruation in a hygienic way, in privacy, and with dignity
- Access multisectoral services to prevent and respond to intimate partner violence and other forms of gender-based violence
- Access safe, effective, affordable, and acceptable methods of contraception of their choice
- Access appropriate health-care services to ensure safe and healthy pregnancy and childbirth, and healthy infants
- Access safe abortion services, including post-abortion care
- Access services for prevention, management, and treatment of infertility

Sexual Rights

Sexual rights are human rights and include the right of all persons, free of discrimination, coercion, and violence, to:

- Achieve the highest attainable standard of sexual health, including access to sexual and reproductive health services
- Seek, receive, and impart information related to sexuality
- Receive comprehensive, evidencebased, sexuality education
- Have their bodily integrity respected
- Choose their sexual partner
- Decide whether to be sexually active or not
- Engage in consensual sexual relations
- Choose whether, when, and whom to marry

Reproductive Rights

Reproductive rights rest on the recognition of the human rights of all couples and individuals to decide freely and responsibly the number, spacing, and timing of their children, to have the information and means to do so, and the right to attain the highest standard of reproductive health. They also include:

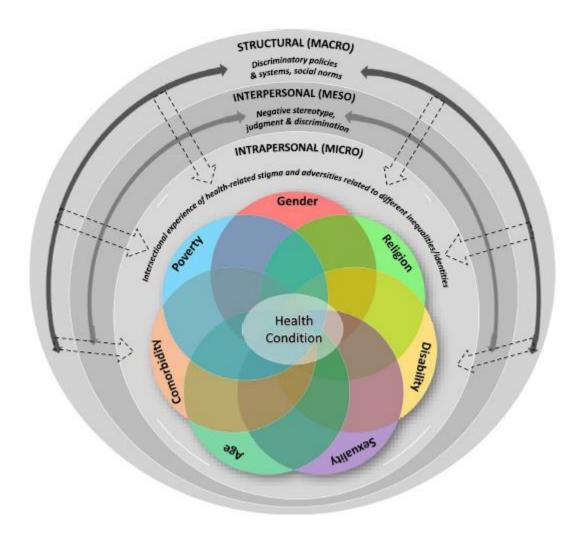
- The right to make decisions concerning reproduction free of discrimination, coercion, and violence
- The right to privacy, confidentiality, respect, and informed consent
- The right to mutually respectful and equitable gender relations

- Enter into marriage with free and full consent and with equality between spouses in and at the dissolution of marriage
- Pursue a satisfying, safe, and pleasurable sexual life, free from stigma and discrimination
- Make free, informed, and voluntary decisions on their sexuality, sexual orientation, and gender identity

Source:

Starrs AM, Ezeh AC, Barker G, Basu A, Bertrand JT, Blum R, et al. Accelerate progress sexual and reproductive health and rights for all: report of the Guttmacher–Lancet Commission. Lancet. 2018;391(10140):2642–92. Pg.10.

Annex 2: Conceptual framework on intersectionality in health-related stigma in Indonesia

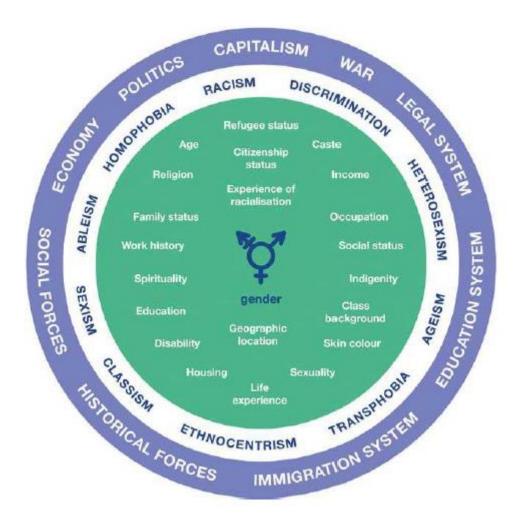


This framework was developed from the results of a recent study analysing what determinants of health affected health-related stigma in Indonesian context, including stigma related to SRHR problems such as Human Immunodeficiency Virus (HIV) infection, and how these determinants intersected with each other. This framework also illustrates how these intersecting determinants operated to generate stigma in several different levels of someone's life (the intrapersonal (micro), interpersonal (meso), and structural (macro) levels) and how the dynamic on the higher levels influenced and shaped the lower ones⁷¹.

Source:

Rai SS, Peters RMH, Syurina E V., Irwanto I, Naniche D, Zweekhorst MBM. Intersectionality and health-related stigma: insights from experiences of people living with stigmatized health conditions in Indonesia. Int J Equity Health. 2020;19(1):1–15. Pg.6.

Annex 3: Intersectional gender analyses wheel



This framework is a toolkit for health researchers that was initially developed by the WHO to analyse infectious disease of poverty. This toolkit is based on the theory of intersectionality as well, using gender as an entry point to go into deeper analysis of other characteristics within intersectionality⁵². This toolkit was developed specifically for health researchers to integrate intersectionality into their research. Additionally, this toolkit could be used not only to analyse how people's health, lives, needs, and experiences are differently affected by various intersecting determinants of health, but also how various structural systems in a society within which these intersecting determinants operate can address (or worsen) these differences⁵².

Source:

World Health Organization. Incorporating intersectional gender analysis into research on infectious diseases of poverty: a toolkit for health researchers. WHO. 2020. Pg.7.

Annex 4: Search strategy for Objective 1 in Indonesian language

Database/ Search Engines	Language	Problem/ Issue		Keywords		Geographical Focus
Pubmed, VU Library, Google, Google Scholar	Indonesian	Kematian ibu OR kesehatan ibu	AND	gender; seks*, seksual*, lesbian; budaya OR tradisi*; usia OR umur, remaja OR orang muda OR anak muda; pendidikan; pekerjaan; komorbid* OR penyerta, HIV, kesehatan mental, obesitas; ekonomi OR kemiskinan OR penghasilan; agama OR kepercayaan; disabilitas OR cacat, status sosial; suku; geografi OR lokasi OR tempat tinggal; status pernikahan; COVID-19	AND	Indonesia

Annex 5: Search strategy for Objective 2 and 3 in Indonesian language

Database/ Search Engines	Language	Problem/ Issue		Keywords		
Google Google Scholar	Indonesian	Kesehatan ibu OR kematian ibu OR kehamilan OR melahirkan	AND	gender; seks*, seksual*, lesbian; budaya OR tradisi*; usia OR umur, remaja OR orang muda OR anak muda; pendidikan; pekerjaan; komorbid* OR penyerta, HIV, kesehatan mental, obesitas; ekonomi OR kemiskinan OR penghasilan; agama OR kepercayaan; disabilitas OR cacat, status sosial; suku; geografi OR lokasi OR tempat tinggal; status pernikahan; COVID-19	AND	Kebijakan OR peraturan OR regulasi OR program

Annex 6: List of possible types of material documents

Category	Examples		
Official documents	Policies or policy directives		
	Strategies for sectors or on specific health problems		
	Official statements and declarations		
	Official position papers		
	Statistical surveys or publications		
Implementation	Training manuals or work tools (booklets, clinical files, etc.)		
documents	 Midterm/final reports or evaluations 		
	Financial analyses		
	Operational plans		
	Project proposals		
	Funding requests		
Legal documents	• Laws		
	Regulations		
	Memorandums of understanding		
	Cooperation agreements		
Working documents	Meeting reports or minutes		
	Memoranda		
	Committee reports		
	PowerPoint presentations		
	Draft documents		
	Mission reports		
	• Emails		
Scholarly work	Scientific or peer-reviewed publications		
	Masters or doctoral dissertations		
	Textbooks and other course materials		
Media and	Newspaper and magazine articles		
communications	Podcasts, videos and radio and television segments		
	Advertisements and posters		
	Newsletters, bulletins, listservs, blogs and webpages Twitter convergations and other social modia.		
Other	Twitter conversations and other social media Promotional metarials (name notehooks languards etc.)		
Other	Promotional materials (pens, notebooks, lanyards, etc.) Werning labels and putritional labels an food and other		
	Warning labels and nutritional labels on food and other products		
	products		
	Medical or other health devices Floor plane, grabitectural plane and mane		
	Floor plans, architectural plans and maps		

Source:

Dalglish SL, Khalid H, McMahon SA. Document analysis in health policy research: the READ approach. Health Policy Plan. 2020;(November):1424–31. Pg.1427.

Annex 7: Intersecting determinants of maternal mortality

This section contains background information on the situation of maternal mortality and its intersecting determinants in Indonesia.

a. Gender

In this part, I would discuss how gender could affect a woman/girl's vulnerability to maternal death through several aspects of her life.

Decision Making

A national study found that women with greater autonomy – measured by high Women's Participation Index (WPI) score – related to decision making in their households were 1.7 times more likely to use maternal health services compared to those with none or low WPI score, especially for adequate antenatal care (ANC) visits¹⁸⁸. Another study using the data from Indonesian Demographic Health Survey (IDHS) 2012 found that women who were involved in 2 or more household decision makings were 1.11 times more likely to complete 4 ANC visits compared those who were involved in only one or no decision makings¹⁸⁹.

Several smaller scale studies supported this finding. For example, qualitative studies in various regions (East and West Nusa Tenggara, Banten, West, Central, and East Java, Southeast Sulawesi) described how husbands and extended family members of pregnant women (such as uncles and in-laws) held greater decision power in matters crucially related to maternal health such as when and from whom to seek care. This power imbalance was also exacerbated by gender bias in culture and tradition, such as risky practices (e.g., traditional abdominal massage) or the notion that pregnancy is 'natural' for women. Pregnant women were often compelled or forced to undertake traditional practices. The notion of pregnancy's 'naturality' - in which pregnant women are seen as not needing specific care or having certain vulnerabilities - led to inadequate maternal healthcare, unsupportive family, and failure to recognize danger signs. There were also dependency on the husbands for financial support and/or mobility, or the women feeling compelled not to leave domestic responsibilities 190-197. Additionally, data from key informant interviews revealed that gender bias makes a woman's unique reproductive health needs get unrecognized, not understood, or played down by her family or community – as women's reproductive health are considered 'not important enough'. Interestingly, urban and educated pregnant women could also experience similar gendered power struggles albeit in lesser intensity, as shown by a study in urban Yogyakarta¹⁹⁸. Furthermore, stigma and shame experienced by unmarried pregnant women (which were related to the gendered notion of 'honour in virginity' as a woman) led to additional barriers to care and avoidable deaths, as shown by a study in rural Eastern Indonesia 199.

Nutrition

Gender bias could also influence what pregnant women do and eat during their pregnancy. A study in Riau found that pregnant women often experienced double burden due to having to do both domestic chores and productive (money-making) activities. This double burden led to less resting time and poorer health status for the pregnant women. Additionally, food distribution in the family was often biased towards male members. More nutritious food was allocated for the husband and other children, leaving pregnant women at risk of undernutrition such as anaemia (a known risk factor for maternal mortality)^{200–202}. There was also less autonomy for pregnant women to decide what to eat. Their menu was decided by their

husbands and extended family members who often acted based on cultural food taboos and misinformation or ignorance about nutrition in pregnancy, as shown by a study in West Nusa Tenggara²⁰³. This could lead to, for example, inadequate supply of animal protein and Iron Deficiency Anaemia (IDA). Interestingly, a national study using data from Indonesia Family Life Survey (IFLS) found that greater share in asset and power for women in the household was associated with more expenditure for nutritious food and less for unhealthy products such as alcohol and tobacco²⁰⁴.

Family Planning

Data from the National Population and Family Planning Agency (Badan Kependudukan Keluarga Berencana Nasional/BKKBN) also showed a gendered pattern in the uptakes for different contraceptive methods. In May 2021, the proportion of new acceptors for male contraceptive methods such as condoms and vasectomy (compared to the total number of new acceptors) were very low (4.5% and 0.02%, respectively). It could be partly explained by the limited access due to the COVID-19 pandemic which has been declared as an international public emergency on 30th January 2020. However, in June 2020, the proportion were 9.64% and 0.05% respectively. In June 2019 (before the pandemic), the proportion were 4.13% and 0.04% respectively²⁰⁵. The constantly low uptake for male contraception could indicate challenges in engaging males to be actively participating in family planning. These challenges were related to traditional gender norms such as masculinity preservation and the perception that family planning is only women's business, which further created misinformation and hesitance^{206–208}. On the other hand, there is still 10.6% unmet contraceptive needs for currently married Indonesian women of reproductive age²⁰⁹. Studies found that Indonesian women who were more empowered in the household (e.g. in relation with knowledge, economy, and decision making) were 1.5-1.9 times more likely to have their family planning needs met^{206,210}. These gendered gaps in family planning program could lead to more unintended pregnancy and, subsequently, maternal mortality.

Domestic Violence

Domestic violence is another phenomenon that is affected by gender and could have correlation with maternal mortality. A study among rural Central Javanese women found that 11% of them have experienced physical violence from their husbands and 22% have experienced sexual violence. It was also found that women who endorsed 2 or more justifications for men's (husband's) violence against women were 1.2 times more at risk for sexual violence²¹¹. This also reflects on one of the findings in a national study using IDHS 2012 data, which found that women who justified wife beating were 1.25 times less likely to give birth in a healthcare facility¹⁸⁹. Another study in West Nusa Tenggara found even higher prevalence of unwanted sex among married women (66.3%) and high prevalence of emotional or physical abuse (43.1%). Violence happened to them even during pregnancy. Sexual violence also exposed them to Sexually Transmitted Infection (STI) if the husbands had extramarital sexual affairs and put them at risk for unintended pregnancy - all could lead to poor maternal health outcomes ²¹². However, data from key informant interviews revealed that gender bias and the related cycle of violence might contribute more to poor maternal health than simply from direct (physical and sexual) violence. According to one of the informants, cycle of violence - rooted in gender bias that is learned since a young age - might take the form of neglect or psychological violence as well (e.g., husbands not supporting their wives during pregnancy or asserting dominance upon their wives' reproductive health). Additionally, the informant also stated that cycle of violence could start in the teenage years long before

marriage in the form of dating violence – with often includes sexual and psychological violence (e.g., manipulation and controlling). Another informant raised their concern about female homicide cases when the victim was murdered because of their pregnancy and how those might be unseen cases of maternal deaths.

Female Prisoners

Gender bias also influences how female prisoners experience their reproductive health challenges. A study in 6 prisons and one detention centre in Indonesia revealed how – even though there are specific prisons for women in Indonesia – the health system, facilities, and resources inside the prisons were still tailored to incarceration of male prisoners and not adapted to female's reproductive needs. Women who were pregnant and had to give birth while being incarcerated often had to rely on 'informal' health-related supports such as from their fellow prisoners in their block²¹³. Another study done by the Community Legal Aid Agency (*LBH Masyarakat*) in 4 prisons in Indonesia found gaps in the availability of reproductive healthcare services for female prisoners between regions – ranging from only 0-3% inmate respondents stating that services were available in Gorontalo and North Sulawesi to 97% in a Central Java prison²¹⁴. I could not find specific data regarding pregnancy outcomes in Indonesian prisons. However, due to the number of women and girls currently incarcerated nationally (13,553 inmates in June 2021; there is no age-stratified data) and the fact that female prisoners are the fastest growing prison population^{214,215}, the lack of adequate reproductive healthcare in prisons could lead to overlooked pockets of maternal mortality.

Adolescents and Young Women

Gender bias could impact adolescent girls and young women uniquely, as will be further discussed in the 'Age' and 'Education' session below. For example, the notion that education was not important for girls because their roles were perceived to be mainly domestic could put girls at risk for child/early marriage – and subsequently high-risk pregnancy. There was also cultural bias related to gender, such as stigma about women who had not been married at a certain age or who rejected marriage proposal. Moreover, imbalance in decision making power could put adolescent girls and young women at risk for sexual violence, including from their partners²¹⁶. Data from key informants' interviews supports this finding. According to one of the informants, girls from rural areas and poorer families are often not prioritized for education and married off at a young age to ease the family's financial burden. The informant further stated that often girls' getting married off as soon as possible is related to the family's social status, because "they will be asked why no one wants to marry their daughter".

b. Sexuality

Women and girls of sexual minorities, such as those who identify as non-heterosexuals, might face additional challenges in their reproductive health and rights. This could be especially prominent in a context where traditional/conservative concept of marriage is strongly upheld like Indonesia. I could not find data about the size of sexual minority women population in Indonesia. However, in the Philippines 1.8% female young adults self-identified as lesbians, 2% preferred exclusively same-sex partners, and 2% prefer either male or female partners²¹⁷. In Thailand, 11.2% females aged 15-21 years old self-identified as lesbians or bisexuals²¹⁸. If we assume that the proportion of sexual minority women in Indonesia is similar, there would be 7,7-15 million sexual minority women and girls in Indonesia – with 3.4-7.5 million among them being of reproductive age.

There were some studies that explored the experience of Indonesian lesbian women who were involved in a mixed orientation marriage (being married to a heterosexual man). The respondents in those studies described how they experienced unsatisfying and/or unwanted sex and unintended pregnancy within their marriage, including an attempt to terminate the pregnancy unsafely^{219,220}. I could not find specific data regarding pregnancy outcomes among sexual minority women in Indonesia, SEA, or other LMIC. However, studies done in High Income Countries (HIC) such as the US found that sexual minority women were more at risk for poor health status before pregnancy – which could significantly influence their health when they did get pregnant – and more likely to experience poor pregnancy outcomes^{221,222}. They were also more at risk of experiencing unintended pregnancy²²³. Due to same-sex marriage having no legal ground in Indonesia and sexual minorities/same-sex relationship being heavily discriminated against²²⁴, it could be expected that many Indonesian sexual minority women are forced or compelled to enter mixed orientation marriage/relationship and/or experiencing unintended pregnancy.

Aside from a mixed orientation marriage, data from key informants' interview revealed that sexual minority women are also at risk for sexual violence such as corrective rape – when a sexual minority woman or a transgender man is raped to make them change their sexual orientation/gender identity. One of the informants stated that those rapes often result in unintended pregnancy. The informant further stated that some sexual minority women work as sex workers due to lacking other financial or familial support. These women have to face the risk of sexual assaults or unprotected sexual intercourse on the job.

Another thing about a woman's sexuality in the traditional marital concept is about sexual activities outside of marriage. As described in the section about gender above, pregnant unmarried women could face extra barriers to access maternal healthcare due to shame and stigma. They might choose to hide their pregnancy and refrain from public activities, leading to poor pregnancy outcomes and even deaths¹⁹⁹. Additionally, they may resort to unsafe abortion^{225–227} – an important cause of maternal death. It is estimated that 76% of abortion in Indonesia is unsafe²²⁸.

c. Age

In this part, I would discuss how age could affect a woman/girl's vulnerability to maternal death through several aspects of her life.

Maternal Health

A study using data from 2010 Indonesia Population Census found that age-specific maternal mortality among 12-14 years old girls was extremely high (565 per 100,000 live births) compared to women aged 20-24, 25-29, and 30-34 (105/100,000, 101/100,000, and 131/100,000 respectively). The rate dropped for the 15-19 years old but was still high (151/100,000)²²⁹. Age-Specific Fertility Rate (ASFR) among 10-14 years old Indonesia girls is <1/1,000 girls²³⁰. However, ASFR among 15-19 years old is quite high (36/1,000) with girls in rural areas have twice the ASFR of girls in urban areas (51 and 24/1,000, respectively)²³¹. Older women beyond age 35 were also more at risk for maternal mortality, with mortality rate of 184/100,000 for those aged 35-39 and 187/100,000 for those aged 40-44²²⁹. A study in East Java found that women aged >35 were 17.4 times more likely to experience maternal mortality due to eclampsia²³². Another study done in South Sumatera found that age (<20 and >35) had significant correlation with pre-eclampsia. A study in West Java found that high risk maternal age (<20 and >35) were associated with more maternal deaths²³³. A multicountry study done

using national data of caesarean section in institutional deliveries found that the prevalence of caesarean section among Indonesian women was 1.07 times higher as the age of pregnant women got a year older²³³. A study in a tertiary hospital in Jakarta found that the among teenage (12-19) pregnancy, the prevalence of eclampsia, anaemia at labour, and postpartum haemorrhage were higher (4.03, 2.42, and 2.59 times respectively) compared to women aged 20-34²³³.

On the other hand, a study using data from IDHS 2017 found that women aged 20-44 were 1.4-1.6 times more knowledgeable about pregnancy danger signs compared to those aged 15-19²³⁴. Women aged 15-19 were also 3.8 times less likely to complete their antenatal care visits compared to those aged 44-49. In fact, all other age groups were more likely to complete their visits compared to the 15-19 year-olds – although this study did not provide any data about the 12-14 year-olds²³⁵. Another study found that higher education, higher income, living in urban areas, and lower birth order were associated with more complete antenatal care visits among married adolescents and young women²³⁶.

Sexual Debut and Early/Child Marriage

According to IDHS 2017, only 2% of unmarried women aged 15-24 years old had had sexual intercourse compared to 8% of men from the same age group. The majority (59%) of those women had their first sexual intercourse between the age of 15 to 19 years old, compared to 74% men. 6% of each gender who had had sexual intercourse reported their first between the age of 11 and 14²³⁷. However, Indonesia Global School-based Health Survey System (GSHS) 2015 found that 3.8% of 13-17 years old girls self-reported that they had had sexual intercourse during the last year. Among them, 90.3% had their first sexual intercourse before the age of 15 and approximately 60% had had more than one sexual partner²³⁷. IDHS 2017 found that among 15-24 years old women who had had sexual intercourse, 54% reported the reason as love (compared to 46% among men, 16% said it just happened (15% among men), and 16% reported it as forced (0.7% among men). Only 4% women reported the reason as curiosity (compared to 34% among men)²³⁷. Another study done using data from IDHS 2017 found that the younger an adolescent or young adult started dating, the more likely they would engage in sexual practices including intercourse²³⁸.

According to IDHS 2017, 9.1% adolescent girls aged 15-19 were married or living together with a partner and 0.9% were divorced or separated²⁰⁹. Meanwhile, 33.4% of currently married women aged 20-49 were first married before they turned 20²⁰⁹. A study using data from IDHS 2012 found that 15-19 years old women who had lower education were 2.9-7.3 times more likely to marry than those who were more highly educated. Those who came from lower income families were also 1.5-1.8 times more at risk of early marriage compared to those from higher income families. Furthermore, those who lived in rural areas were 1.5 times more at risk compared to those in urban areas. Additionally, those who did not have access to radio, magazine, or newspapers were 1.2-1.4 times more at risk compared to those who had²³⁹. A study in West Java found that factors the influenced parents to marry their daughters off early were negative sociocultural perception for women who had not married after reaching a certain age (this upper age 'limit' could be as young as 17 years old), avoiding stigma against unmarried girls who got pregnant, to ease economic burden, a perception that sending girls away to continue education would expose them to negative social influence, and stigma against dating or courtship among adolescents²⁴⁰. Another study done in Riau found that adolescent girls sometimes agreed to marry early due to the perception that it was a common thing to do. They could also face peer pressure to date and engage in sexual relationship²⁴¹. A study in North Sumatera found that parents who perceived their daughters' social relationship as inappropriate were 3 times more likely to marry them off early. On the other hand, parents who were more aware about the impacts of early marriage were 3 times less likely to marry their daughters off early²⁴². A study in East Java Found that parents' good knowledge about and attitude for adolescents' reproductive health were protective against early marriage²⁴³.

A study in Central Java illustrated challenges faced by adolescent girls aged 13-16 who experienced unintended pregnancy to disclose the pregnancy to their parents. Challenges manifested in the form of the fear of being sinful, negative reaction from parents, being expelled from school, stigma from the community, not feeling ready to marry, and unsupportive partners. Some also experienced domestic violence from their family members due to the pregnancy. These challenges led the girls to experience psychological stress, having health problems during pregnancy, not accessing maternal healthcare services, and attempting unsafe abortion²⁴⁴.

Family Planning

According to IDHS 2017, modern contraceptive use among 15-19 years old women in Indonesia was 4.2%. This was very low compared to the prevalence among other older age groups (27.6-59.1%). Even when the prevalence was measured only for married women, contraceptive use among this 15-19 year-olds was still the lowest at 43.8%²⁰⁹. A study using IDHS 2012 data found that married adolescent women who had more awareness about contraception methods, had living child or children, and had been exposed to information from healthcare workers were more likely to use modern contraception (3-3.5, 7-10, and 1.9 times respectively). Higher husband's education was also significantly associated with use of modern contraceptives in this group²⁴⁵.

d. Education

In this part, I would discuss how education could affect a woman/girl's vulnerability to maternal death through several aspects of her life.

Maternal Health

A study using data from IDHS 2012 found that higher education among pregnant women were associated with better utilization of maternal healthcare services - which included antenatal care, institutional delivery, and postnatal care 189. A study using data from IDHS 2017 confirmed this pattern by finding that women with secondary and higher education were 3.7-3.9 times more likely to complete more than 4 (four) antenatal care visits compared to uneducated women²⁴⁶. Adolescent girls and young women aged 15-24 who were uneducated were 4-4.2 less likely to finish more than 4 (four) antenatal care visits compared to highly educated ones²³⁶. A study in Central Java found that there was a significant association between higher education and pregnant women's knowledge about danger signs in pregnancy²⁴⁷. Likewise, a study in Lampung found that there was a significant negative correlation between education and anaemia incidence among pregnant women²⁴⁸. Furthermore, A study in North Sulawesi found that there was significant positive correlation between pregnant women's education level and their utilization of the Maternal and Child Health book – a book that contained various health-related indicator cards and information about maternal and child health²⁴⁹. Another study done in West Java found similar pattern in which highly educated pregnant women were 3.56 times more likely to utilize the book²⁵⁰.

Adolescents and Young Women

Education was a protective factor against early/child marriage. Two studies done in Yogyakarta and East Java found that there was significant correlation between higher education and older first age of marriage among women^{251,252}. Another study done in West Java found than there was significant correlation between higher level of knowledge among junior high school girls about the healthy minimum age of marriage with lower risk for getting married early²⁵³. A study using data from IDHS 2012 found that girls who did not complete primary education were 7.3 times more likely to marry early compared to those who completed senior high school²³⁹. However, two studies in West Java and Riau found challenges to keep adolescent girls in school – such as financial challenges, gender bias such as the notion that girls did not need education because their roles would be mainly domestic, less emphasize about the importance of education, and the perception that marriage was a better option compared to (or solution for) adolescents' perceived inappropriate social dynamic such as dating^{240,241}. Data from interview with key informants reveal that girls in rural area are often seen as 'second' compared to boys, not prioritized for education, and often get married off at a young age to ease the family's financial burden. Interestingly, a study in North Sumatera found that parents' higher education and level of knowledge was significantly correlated with lower chance of them marrying their daughters off early²⁴².

Education could also protect against unintended pregnancy, with a study using data from Basic Health Research (Riset Kesehatan Dasar/Riskesdas) 2013 finding that highly educated women were 1.6 times less likely to experience it compared to uneducated ones²⁵⁴. On the other hand, A study using data from IDHS 2017 found that there was no significant correlation between education and the risk of unintended pregnancy, which could partly be explained by knowledge and information being able to be obtained outside of formal education system²¹⁶. However, a study in several regions with high rate of child marriage in Indonesia found that girls with inadequate knowledge about their sexual and reproductive health and rights were at risk to experience unintended pregnancy and sexual violence - which could be the reason why they were married off early. There was gender bias as well, with lacking the knowledge making girls unable to negotiate their own limits in a relationship - including unable to refuse sexual intercourse or feeling compelled/being manipulated to 'prove' their love through sex²⁵⁵. Data from key informant interviews also revealed that when girls with low education are married off, they have less capacity to advocate for their own needs or rights and might struggle to take care of their own health. As one informant said, "Among these vulnerable girls... Before they are married, the decision maker is the father. After they are married, it is the husband. They have no sovereignty."

e. Occupation

A study in Riau found that employed pregnant women were 1.3 times more likely to give birth in a healthcare facility compared to unemployed ones²⁵⁶. A study using data from the Basic Health Research 2010 found that employment status of pregnant women in West Java was positively correlated with ANC visits and institutional delivery²⁵⁷. A study in SEA countries found that Indonesian pregnant women with highest level of labour force participation were 1.13 times more likely to have sufficient numbers of ANC visits compared to those with lowest level of labour force participation²⁵⁸. This might be explained by working women having more financial power and independency. Data from key informant interviews revealed that women in rural areas, especially the low educated ones, usually either take traditional roles as a homemaker or work in a supportive position (e.g., manual workers) without much control for

their own income. It makes them have less bargaining and financial power in their household. However, another study in Riau found that working women were 3.6 times more likely to experience pre-eclampsia compared to non-working ones. On the other hand, this study did not differentiate the type of jobs done by the working women²⁵⁹.

A study in a coal mining region in South Kalimantan found that pregnant women who worked as manual worker (*buruh*) were 1.34 times more likely to experience chronic undernutrition compared to those who did not work. Meanwhile, those who work in the formal private sector (*pegawai swasta*) were 1.3 times more protected from chronic malnutrition compared to nonworking ones²⁶⁰. Although this study was done in 2007, I included it in the analysis due to its significance and unique perspective from conducting a study in a mining region. Another study done in an industrial area in East Java found that repetitive work, exposure to irritative chemicals, and noise pollution were positively correlated with pregnancy disorders among female workers²⁶¹. These studies indicated that beyond employment status, types of work and occupational hazards could affect maternal health and, subsequently, maternal mortality.

f. Comorbidity

In this section, I will focus on 3 (three) comorbidities and how they can affect a woman/girl's vulnerability to maternal death: Human Immunodeficiency Virus (HIV) infection, mental health disorders, and obesity. This was due to those comorbidities contributing to health-related stigma in Indonesian context – as described by the first original framework adapted for this study. Each comorbidity is also recognized as a global public health concern.

Human Immunodeficiency Virus

i) Feminization of HIV Epidemiology

New HIV infection pattern in Indonesia has shown a feminization pattern with increasing number of women getting infected²⁶². Although only 35-45% of both HIV and AIDS reported cases were among women in the last decade, when the data was stratified by profession it was found that there were 5 times as many housewives living with AIDS as FSW²⁶³. This pattern of infection among housewives was likely due to them living with high-risk partners – such as MSM, male clients of sex workers, or men who inject drugs^{262,264,265}. A qualitative study in Lampung described how housewives living with HIV found their HIV status unintentionally when they or their husbands get sick or through pregnancy examination²⁶⁶. In certain regions such as Papua (one of the 5 provinces with the most HIV and AIDS cases), 81% of HIV new infections were among low-risk population (44% male, 37% female)^{267,268}. On the other hand, only 15% of Indonesian women were comprehensively knowledgeable about HIV²⁰⁹.

As has been discussed in the 'Gender' section above, gendered power imbalance contributed to women's vulnerability to unwanted sex and STI, including HIV infection. Meanwhile, HIV-infected pregnant women were 7.8 times more at risk for pregnancy-related deaths compared to uninfected ones globally – especially due to secondary infections and obstetric-related sepsis^{269,270}.

ii) HIV Screening, Management, and Prevention of Mother-to-Child Transmission (PMTCT)

Studies done in various regions (West, Central, and East Java, North Sumatera, West Sumatera, Papua) found some barriers that affected HIV screening, management, and PMTCT among pregnant women. Barriers included misinformation, shame and stigma, internalized negative norms, perception of not being at risk, lack of support from partners or families, hesitancy to provide services and lack of support from healthcare workers, extra administrative costs, and lack of privacy^{271–276}.

Meanwhile, a study in West Java (another 1 in 5 provinces with the most HIV cases) to analyse the quality of PMTCT and ANC integrated programs in 2017 found that integration was poorly implemented due to factors like fragmented system and funding mechanism, lack of engagement with private sectors, stigma among healthcare workers, poor referral system, lack of clear guidelines, and poor monitoring and evaluation mechanism²⁷⁷. Furthermore, A study in 4 (four) referral hospitals for PMTCT program in West Java in 2016 found that referral hospitals still lacked preparedness in program implementation due to factors like lack of facilities and infrastructures, lack of training and stigmatizing behaviour among healthcare workers, and lack of guarantee for protection against occupational hazards²⁷⁸.

Mental Health Disorders

The prevalence of post-partum depression (PPD) among Indonesian mothers is estimated to be 15-26%^{279–281}. Studies done in LMIC like Ethiopia and Brazil estimated that among mothers with PPD, around 12% had suicidal ideation^{282,283}. It is estimated that among LMIC in SEA region, 2.2% of pregnancy-related deaths were due to suicide²⁸⁴. Indonesian mothers with pregnancy or delivery-related complications were 6 times more at risk to experience PPD compared to those without complications. Other risk factors for PPD such as lack of social support, financial difficulties, and childcare stress were also identified^{279–281,285}. In LMIC settings, unwanted pregnancy as a risk factor for PPD among vulnerable population like rural women and adolescents was also identified^{284,286}. Two studies in Italy and China found that COVID-19 pandemic and its restriction might be another risk factor for PPD, with the prevalence of PPD about 44% and 30% respectively^{287,288}. Considering the current state of the pandemic in Indonesia (see 'COVID-19' section below), it might also be a similar or worse situation for Indonesian women²⁸⁹.

Beyond a direct cause of death like suicide, mental health disorders could also affect a pregnant woman's physical health. Pregnant women with bipolar disorders were 2.81 times more at risk for gestational hypertension and 1.6 times more at risk for antepartum haemorrhage compared to non-bipolar women, although confounding factors affecting this correlation need to be further studied²⁹⁰. Pregnant women with schizophrenia were 1.84 times more at risk for pre-eclampsia and 1.72 times more at risk for venous thromboembolism compared to non-schizophrenic ones²⁹¹. This might be related to the heritability of the disorder itself and its connection with neural development. Additionally, women with history of mental health disorders were even more at risk to develop PPD. A study in Bangladesh found that mothers who had depressive symptoms during pregnancy were 2.5 times more at risk for PPD compared to those who did not²⁹². Mothers with history of self-harm before conception were 1.32 times more at risk for PPD²⁹³. This might be due to additional stress introduced by pregnancy to the already vulnerable mental health situation of these mothers. Overall, all these risk factors – physical and psychological – could create a vicious cycle for maternal health.

Mental health disorders are conditions that are still highly stigmatized. This stigma might come from stigma related to the disorder itself, from fear of being seen as 'not a good mother', or from fear of endangering the baby due to treatments associated with mental health disorders.

Stigma could also introduce barriers to access to healthcare, both physical and psychological care²⁹⁴.

Obesity

A study in West Sumatera found that women with pre-pregnancy Body Mass Index (BMI) ≥27.5 (obese according to Asian BMI classification) were 2.31 times more at risk for induced delivery, 2.05 times more at risk for caesarean section, 13.46 times more at risk to deliver babies with macrosomia, and 1.81 times more at risk for postpartum haemorrhage compared to normal weight women²⁹⁵. This might be due to various physical and physiological adversities associated with obesity. A study in East Java found that obese women (BMI ≥30) were 5.3 times more at risk for pre-eclampsia, although this study did not mention whether the BMI was measured before or after conception²⁹⁶. Obesity is indeed a known independent risk factor for hypertension²⁹⁷. A study in East Java found that while overweight/obese pregnant women were 1.4-2.2 times more likely to have chronic hypertension, chronic hypertension itself was also positively correlated with more Intensive Care Unit (ICU) admissions and maternal deaths²⁹⁸. Meanwhile, another study in East Java found that pregnant women with Mean Arterial Pressure (MAP) >90 mmHg were 32.3 times more at risk for pre-eclampsia²⁹⁶.

A nationally representative study using data from multiple IFLS cycles found that 62.4% of overweight Indonesian women in 2014 were of reproductive age. Married women were 2.4 times more at risk for being overweight compared to unmarried ones. Furthermore, although overweight/obesity is often seen a problem of the rich, women from the second poorest and middle wealth quintiles were 1.1 times more at risk for being overweight compared to the richest ones. This was in line with another finding that more and more proportion of overweight adults came from the two poorest wealth quintiles during a period from 1993 to 2014²⁹⁹.

Obesity is a condition that is still highly stigmatized worldwide, especially for women and including stigma from healthcare providers. Despite overweight and obesity being a structural problem, weight management are often placed as an individual responsibility. It has been found globally that weight-related stigma – instead of helping or 'motivating' people – actually put barriers for them to access healthcare and discourage them from engaging in healthier lifestyle^{300,301}.

g. Economic Status

Access to Healthcare

A study using data from various IDHS cycles (1991-2012) found that pregnant women from the richest quintile were 3.63 times more likely to have adequate ANC visits and 5.45 times more likely to have institutional birth compared to those from the poorest quintile³⁰². Furthermore, although during the last 2 decades the Caesarean Section Rate (CSR) in Indonesia was improving 10-folds, richest women were also 2.83 times more likely to have the procedure compared to poorest ones. CSR among richest women was above the global recommended rate of 10-15%, but CSR among the poorest was below it. It might reflect overuse of CS among (and its accessibility favouring towards) richest women, leaving poorest women with higher maternal health burden underserved^{302,303}. Interestingly, another study using data from the 2010 Indonesian Population Census found that the key contributor for the differences between high-MMR and low-MMR region was not socioeconomic status, but the physical availability of health services³⁰⁴. One of the key informants emphasized a gap in

Indonesian health system, where the attempt to strengthen primary healthcare services is not linked to good referral system and accessible referral facilities.

A specific access to healthcare impacting maternal deaths that is revealed from the key informant interviews is access to safe abortion. Although Indonesia has some legal grounds for safe abortion services regulated since 2014, the policy implementation is poor. Some providers might provide skilled services underground, but with a very high price. This might force women with unintended pregnancy to opt for cheaper but more dangerous options to end their pregnancy, such as traditional massaging. Indeed, abortion is quite common in Indonesia. A study among women in Java Island in 2018 estimated that there is 42.5 abortion (either safe or unsafe) per 1,000 women²²⁸ – a rate that is comparable to SEA (43 per 1,000) and slightly higher than the global rate (39 per 1,000)³⁰⁵. An estimated up to 79% of these abortions in Indonesia are unsafe²²⁸.

Health Insurance

A study using data from IDHS 2017 found that pregnant women who were enrolled in the JKN scheme had more adequate ANC visits, skilled birth attendance, institutional birth, and Post-Natal Care (PNC) visits. This impact was especially profound for poor women³⁰⁶. Another study using data from IFLS 5 found that the JKN indeed helped reduce Out-of-Pocket (OOP) payment and the risk of experiencing Catastrophic Delivery Expenditure (CDE) for delivery services, especially if the services were provided in public facilities. However, it was also found that JKN did not eliminate OOP fully. This was likely due to inadequate medical supplies or overcrowded JKN-covered beds in health facilities, forcing women to buy utilities outside themselves or upgrading to higher-level beds. Furthermore, JKN utilization among poor women was less than the rich ones – despite them being more at risk for CDE. This might be due to the poor being discouraged from using JKN by having to pay OOP and opting for home delivery instead³⁰⁷. Additionally, even when they were covered by JKN, maternal healthcare utilization among women in Eastern Indonesia was still much lower than among women in Java, Bali, or Sumatera³⁰⁶.

Child/Early Marriage

Poverty is one of the main determinants for child marriage. A study using data from IDHS 2012 found that wealth was a protective factor against child marriage. Furthermore, girls from poorer families were often seen as a financial burden, making them more prone to be retracted from school by their families and married off instead. Girls who entered child marriage were at risk for early (and high-risk) pregnancy and unequal relationship with their partners, contributing into a cycle of poverty^{62,308}.

h. Religion

Access to Healthcare

The history of family planning program in Indonesia has been intertwined with religion for a long time. Religious socio-political forces in the country have been evolving from being an opponent of contraception from the 1930s to 1960s to acting as a significant ally in promoting the national family planning program during the New Regime era (1965-1998). Religious organizations have supported the program through narration such as the importance of saving the mothers' life. However, it did not mean that religious bias in reproductive health was fully

eliminated. Reproductive health is still framed within the morally acceptable heterosexual marriage framework. After the *Reformasi* and the fall of the New Regime, there is a growing religious populism and conservatism in Indonesian socio-political scene – especially for Islam. These forces have been introducing barriers to access to services that are seen as outside the aforementioned framework, such as contraceptives for young and unmarried people, safe abortion, and easy access to condoms for HIV prevention^{309–312}. A key informant raised the question on why government's publication on the cause of maternal mortality never puts the word "unsafe abortion", although it is 1 of 5 most common cause of maternal death globally. Two informants pointed at the restricted access to abortion as a hidden (or unacknowledged) driver of maternal deaths, while one stated that there is a possibility that deaths due to unsafe abortion were recorded as haemorrhage or sepsis.

Religion also affected how the community and women themselves behave. A study in Yogyakarta found even though religion did not have significant correlation with family planning program participation, it had negative correlation with the choice to use certain types of contraceptives (such as Intra Uterine Device (IUD) or sterilization) that were perceived as forbidden by religion - typically, long-acting and more reliable methods³¹³. Furthermore, a study using data from various IDHS cycles found that non-Muslim women were 1.38 times more likely to give birth in a healthcare facility compared to Muslim women³⁰². It might be due to certain factors among Muslim women like restricted mobility, less autonomy, lack of privacy, or hesitance to reveal certain body parts to male/foreign healthcare providers – as have been found by studies in Bangladesh and Ghana^{314,315}. This was in contrast with, for example, Balinese Hindu women who were more open towards family planning program despite the fact that religion was also an important part of their lives³¹⁶. Religious bias could also negatively affect maternal mortality prevention efforts through the fatalistic perception that maternal deaths were God's will or that maternal disorders were due to sins or curses 199,317. Data from key informant interviews revealed that there is also a view among Muslims that a mother who dies in childbirth will die a syahid death (dying while defending her religion and/or God) making the family less incentivized to maximize the effort to save the mother's life. However, religious faith and prayers could be a form of psychological support for mothers during their pregnancy and birth (see 'Culture' section below).

Child/Early Marriage

The growing Islamic religious populism also affected how the community – including young people – perceive marriage. There was a push for young people to get married as early as possible. This was endorsed by online celebrities and young people themselves (including those who come from the economic middle class and have good internet literacy), being seen as an expression of religious piety³¹⁸.

Meanwhile, practises to bypass the legal framework to marry adolescents early have been happening for a long time – especially in rural areas. These practices ranged from faking the age of the brides to backdating marriage registration and polygyny. They were affected by religious perspectives through the perception of marriage as a more 'moral' arrangement compared to dating for young people, marriage as the only solution for unintended pregnancy, and through the involvement of local religious leaders to sanction child/early marriage³¹⁹. One of the key informants emphasized the importance of paying attention to the rising of religious ultraconservatism – something that might not kill women and girls directly but would put them at a more vulnerable position to experience harmful practices including child marriage.

Religious Minorities

Religious minorities in Indonesia have been going through discrimination for a long time. This discrimination involved violence, murder, home eviction, and harassment. It also involved bureaucratic discrimination such as not being able to get a national identity card (*Kartu Tanda Penduduk*/KTP) due to having to put 1 of the 6 state-recognized religions in the card. This situation put them into a vulnerable situation as they were marginalized and unable to access many public services and social support – including health services and insurance – due to not being a KTP holder. Some of them were also forced to become internally displaced for years, putting them into a more precarious situation. Additionally, violence and conflict might add additional stress and trauma for pregnant women from religious minorities³²⁰.

i. Disability

According to the Statistical Central Body (*Biro Pusat Statistika*), 4.45% Indonesians live with disability. However, this is much less than the WHO's global estimate of 15% and likely an underestimate due to stigma/shame and mis-categorization (e.g., not including mental disorders). From this number, 54% are women and most of them live in rural areas. Among women with disability, 14.2% are of reproductive age³²¹.

People with disability in Indonesia are still quite marginalized. Women, especially, face the double burden of gender bias and disability-related discrimination. A study in East Java illustrated how women and girls with disability were prone to sexual violence, including rape, and subsequently unintended pregnancy. They also had limited support when they became victims of sexual violence, for example because they were seen as unreliable witness by the legal system and because providers or counsellors did not have enough knowledge about disability itself. The internalized discrimination could also make them feel like that they could not speak up. Furthermore, women and girls with disability often had limited information and access to care regarding their sexual and reproductive health needs because they were seen as asexual beings. For example, dealing with menstrual health or finding contraceptive method that fit their needs could be challenging. Additionally, women and girls with disability were prone to be at financial disadvantages because of lack of access to education and employment. This put them into even more vulnerable situation³²². One of the key informants emphasized the vulnerability of poor adolescent girls with intellectual disabilities to rape, unintended pregnancy, and lack of access to healthcare due to financial situation and the girls' limited capability to understand the changes on their bodies.

I could not find specific studies regarding maternal health and disability in Indonesia. However, studies from LMIC like rural Nepal and Ghana illustrated how women with disability who wanted to receive maternal healthcare faced barriers such as lack of accessible and affordable transportation, inaccessible physical healthcare facilities, stigma and discrimination, lack of knowledge and awareness from healthcare providers, communication barriers, and OOP payment. All of these made maternal healthcare inaccessible and unfitting for their needs^{323,324}. Furthermore, women with disabilities might have increased risk for certain maternal disorders. A systematic review and meta-analysis concluded that women with physical disability were 1.55 times more at risk for caesarean section compared to able-bodied women. Meanwhile, women with intellectual and developmental disabilities were 1.29 times more at risk for caesarean section and 1.77 times more at risk for hypertensive disorder compared able-bodied women. This might be due to women with disability being more prone to comorbidities before pregnancy or not getting enough pre-natal care and support. Another important reason is because providers might see disability itself as a reason for caesarean section. However, studies used in this review had some number of confounding factors and high heterogeneity³²⁵.

j. Social Status

Beyond the objective indicators such as income level, economic status, or education, social status is also determined by many other factors in a complex society like Indonesia. These factors include, for example, familial connection or inheritance, royalty/aristocracy, sociopolitical network, past service to the community, or professional status. More commonly mentioned layers of identities such as gender and ethnicity could also affect someone's social status. How these factors interlink is very contextual. However, the higher a person's status is, the more power or access they will have 326–328.

A study in low-income urban population in the US found that Subjective Social Status (SSS) was positively correlated with maternal health³²⁹. Another study in Lebanon found that people with highest political connection and activity were 1.44-2.75 times more likely to gain access to financial aids for health compared to those least connected/active³³⁰. A study using data from 3 rounds of IFLS found that women with more social capital and household assets could better invest their household expenditure on healthier food items and reduce consumption for unhealthy (and typically male's) items such as tobacco²⁰⁴. I could not find specific study measuring the correlation between women's social status and their maternal health in Indonesia; however, these studies could give some insight into how social status might affect someone's wellbeing in settings similar to Indonesia.

k. Race/Ethnicity

Papua has been historically in a complex socio-political relationship with Indonesia since its annexation in 1969. Armed conflicts, military deployments, state violence, racism, political oppression, and exploitation of natural resources have been happening in Papua even today^{331–334}. A study about child morbidity and mortality in Papua found how systemic racialized politics and violence put Papuans at a disadvantage with disproportionate health burdens, poor health services, and poverty – including by internalizing racism³³⁵.

MMR in Papua is the highest among all regions³⁹. Nationally representative studies found than pregnant women in Papua were less likely to access adequate maternal health services compared to women in Java or other regions (especially in west and central Indonesia; see 'Geography/Location' section below)^{246,302,336}. Furthermore, indigenous Papuan women were 3.05 times more at risk for HIV infection compared to non-Papuan women living in Papua (pendatang)³³⁷.

Intergenerational trauma resulting from the conflict also affected how Papuan perceived health-related programs by the Indonesian government. For example, they might see having children as an expression of resistance against genocide and the influx of immigrants (non-Papuan Indonesians) and refuse to join family planning program. They might also believe that contraceptives were made to 'ruin' Papuan women's womb and 'finish off' their race³³⁸. This emphasized that a top-down health-related strategy without Papuans' perspective and aspirations would not be effective.

I. COVID-19

A multinational study found that pregnant women with COVID-19 infection were 1.76 times more at risk for pre-eclampsia/eclampsia, 3.38 times more at risk for severe infections, 5.04 times more at risk for ICU admission, and 22.3 times more at risk for death compared to those uninfected³³⁹. A study in East Java found that pregnant women with COVID-19 infection were

6.91 times more at risk for death compared to uninfected ones; however, this study was only done in one tertiary hospital³⁴⁰. A study in West Nusa Tenggara found that being in a COVID-19 cluster and having comorbidities were significantly correlated with deaths among pregnant women during the period of March to December 2020.

Apart from COVID-19 infection as a direct cause of death, it was estimated globally that excess deaths due to disrupted health services for other health needs (including maternal health) would exceed the number of direct deaths. I could not find any estimation for excess maternal death during COVID-19 pandemic in Indonesia. However, as an illustration, general excess death in Indonesia was estimated to be 2.5-3 times the number of reported direct deaths³⁴¹. Additionally, COVID-19 restriction might add significant mental health burden and put pregnant women at more risk for PPD (see 'Comorbidity' section above).

With the current pandemic situation in Indonesia – with more than 50,000 daily new cases, more than 1,000 daily reported deaths, only 15% of the population was vaccinated at least once, and no current vaccination program for pregnant women (per mid-July 2021)³⁴² – it is expected that the country would face significant increase in maternal deaths in the future.

m. Culture

Traditional practices related to pregnancy and birth are quite common in many different regions in Indonesia. These practices come in different forms – such as prayers, rituals, massages, herbs, taboos, physical activities – and are usually intended to keep the mother and baby safe and healthy. Therefore, these practices could affect maternal health in many different ways.

Traditional Birth Attendants (TBA) exist in many different cultures or ethnic groups in Indonesia. Some studies have explored the reasons why pregnant women choose or not choose to use their services over services provided by the Skilled Birth Attendants (SBA) such as midwives or by the formal healthcare system. Studies done in Madura, rural West Java, Banten, East Nusa Tenggara, Riau, Southeast Sulawesi, North Maluku, Papua, and West Papua revealed similar reasons on why pregnant women choose to use TBA's services. For example, TBA were perceived as older, more experienced (for example compared to young midwives), kinder, more patient, more encouraging towards natural birth, give extra services (for example cooking, bathing, household chores)^{197,343–352}. TBA were also perceived as more accessible due to cultural, language, and/or familial connection. They were usually an influential person in the community who were respected and knowledgeable in traditions and cultural rules. Another reason was simply because the use of TBA's services was something that has been done as a tradition from generation to generation. TBA did not usually ask for high financial payment and the women or her family would compensate for their services according to the local custom or tradition – sometimes for free 197,343-352. Even in more urban settings such as Jakarta, some women still chose to use TBA because of perceived affordability and the extra services³⁵³.

Traditional beliefs and practices also have gender and power relation element – for example between pregnant women and their husbands, parents, in-laws, cultural leaders, or their traditional community at large. The people's strong traditional beliefs about pregnancy and birth could make them afraid of the consequences of not doing certain rituals or doing something against tradition. Pregnant women could have less decision power compared to their husbands or in laws. Pregnant women in traditional families or communities could be also forced, feel compelled, or simply too scared not to do the mandatory traditional practices. Some of these practices could have detrimental effects to the pregnant women's

health^{197,343,344,347,348,350,352}. Studies done in West Java, Banten, Madura, Maluku, and Papua found the existence of risky traditional practices such as banning a pregnant woman from eating meat and fish, massaging the abdomen to 'correct' the baby's position or to hasten the uterus' recovery after birth, and cutting the umbilical cord with bamboo sticks. Many of these practices were also done by TBA. However, practices such as rituals and prayers could also have good psychological effects for the pregnant women and their families. Some women described that they felt calmer and safer during birth when prayers and mantras were done by a cultural leader or a TBA^{197,343,344,347,348,350,352}.

n. Geography/Location

At the national level in 2020, 95.16% ever-married women aged 15-49 years old have had their last childbirth helped by a Skilled Birth Attendant (SBA). However, this situation is not equal between regions. Some eastern Indonesian regions like Maluku Utara and Papua still struggles with SBA coverage of 72.81% and 68.49%, respectively. Some regions in central Indonesia such as East Nusa Tenggara and Central Kalimantan have between 80 and 90% coverage. The MMR in these regions are also higher than the national rate (466 per 100,000 live births for Kalimantan, 489 per 100,000 for Nusa Tenggara-Maluku-Papua). This is in contrast with, for example, regions which are closer to the centre of governance such as Jakarta and Yogyakarta – which manage to have almost 100% SBA coverage³⁵⁴. Meanwhile, at the national level in 2018, only 82.74% ever-married aged 15-49 years old have had their last childbirth in a healthcare facility. Again, this was disproportionate between regions. East Nusa Tenggara only had 76.42%, Central Kalimantan 47.68%, Maluku 33.91%, and Papua 53.11%³⁵⁵. The national target for the proportion of births in healthcare facilities is 95% by 2024⁵³.

A study using data from 2010 Indonesian Population Census found that the differences between high-MMR and low-MMR regions could be largely explained by differences in access to healthcare – such as distance to nearest hospitals, numbers of doctors in the health centre, and numbers of doctors living in the villages. A study using data from IDHS 2012 found that pregnant women in Eastern Indonesia like Maluku and Papua were 2.7 and 3.3 times less likely to have adequate ANC visits compared to those in Java. They were also 3.3 and 2.3 times less likely to give birth safely. Regarding the urban-rural disparities, nationally rural women were 1.2 times less likely to give birth safely compared to urban ones. However, women in Maluku and Papua faced more inequities as well. Rural women in Maluku were 2.5 times less likely to give birth safely compared to their urban counterparts. For Papua, it was 3.3 times less likely. We can compare it to Java, where rural women were 'only' 1.6 times less likely to give birth safely compared to the urban ones. These findings showed that looking only at the national indicators might run the risk of missing out inequities that is happening at regional level and between regions.

Inequities between region and between urban-rural could be partly explained by the nature of Indonesia as an archipelago state – the biggest in the world. This introduces challenges in access and infrastructure. It could also be explained by the differences in size of regions – some regions like provinces in Java are smaller, more densely populated, and more connectible. Some like Kalimantan and Papua are larger, more scarcely populated, with more distance and barriers between regions. However, for regions in Eastern Indonesia (especially Papua), structural racism and discrimination plays a significant part in maintaining inequities (see 'Race/Ethnicity' section above).

Indonesia has a long history of natural disasters due to its geographical situation - such as earthquakes, volcano eruption, or tsunami. It is estimated that there were 705,000 Indonesians being internally displaced due to natural disaster in 2020 – a 1.5 folds increase from the 2019 estimation³⁵⁶. However, disasters do not only constitute natural ones. Social conflict and violence - such as those triggered by ethnical, religious, or sociopolitical background - also contribute to people being displaced from their homes³⁵⁷. It is estimated that there was already 40,000 Internally Displaced People (IDP) due to conflicts by the end of 2019. An additional 4,600 people were displaced by conflict in 2020, mainly in Papua³⁵⁶. This data does not include those displaced by industrial or developmental projects which are harder to estimate - for example in cases such as the 2006 Lapindo mud disaster in Sidoarjo, East Java, or the 2019 eviction of Bandung City's (the capital of West Java Province) citizen in Tamansari^{356,358,359}. In any internal displacement situation, reproductive health is an essential need but access to services is limited. Many IDP have been living in camps or unable to go home for years after the disaster happened. It is estimated that among 10 LMIC with IDP refugees due to conflicts in 2010, the MMR was 132 per 100,000 live births with 53.7% of deaths happened in refugee camp sites³⁶⁰. Meanwhile, it is estimated that 17% of the global maternal deaths occurred in humanitarian settings³⁶¹. I could not find specific data regarding the maternal death situation among IDP women in Indonesia – particularly those displaced by social conflict and violence. However, stories from women like the Papuan mothers in Nduga who had to give birth in the forest while hiding from armed conflicts between Papuan freedom fighters and Indonesian military forces indicated that this group's vulnerabilities in sexual reproductive health are pressing needs but often overlooked³⁶².

o. Marital Status

Due to religious and moral bias that frame sexual and reproductive healthcare (see 'Religion' section above), unmarried women might have less access to those services. They might be discouraged to go because of the fear of being stigmatized. Unmarried pregnant women and girls, especially, might choose not to access services at all and risk their health or opt for unsafe abortion (see 'Sexuality' section above). On the other hand, child/early marriage is still often seen as a solution for unintended pregnancy among adolescents, cutting their access to education and putting them at risk for unequal or abusive relationship. Even when marriage does not happen due to pregnancy, the moralistic perception that teen pregnancy is acceptable as long as it happens within marriage, poverty, lack of education, and the gender biased perception that girls' roles would be mainly domestic put girls at risk for child/early marriage (see "Gender", 'Age", and 'Education' section above). Interestingly, a study using data from IDHS 2017 found that pregnant women who had a husband/partner were 2.1 times more likely to have adequate ANC visits³³⁶. Likewise, this might be due to the perception that pregnancy is acceptable if it happens within marriage. It could also be due to the psychological and financial support given by the husband/partner – as discusses in the 'Gender' section, husbands had an important influence in decision making related to the women's health.

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