

Is Women's Political Empowerment Affecting COVID-19 Mortality?

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Abstract:

Much of the research on the ongoing pandemic has focused on the health and economic policies required to slow the spread of the disease and minimize its impact on the economy. The focus of this study is the political factors that influence policy-making. Specifically, we examine whether there is an association between women's political empowerment and COVID-19 mortality. We use data for 168 countries, ordinary least squares regressions, and an instrumental variables approach to assess this relationship. Our results show that political equality by gender and participation by women in civil society associations are negatively associated with cumulative COVID-19 deaths.

Key Words: *COVID-19, gender equality*

JEL Codes: *I1, I18, J16, C21*

Kadınların Siyasi Olarak Güçlendirilmesi COVID-19 Ölümlerini Etkilemekte midir?

Özet:

Devam eden COVID-19 salgınıyla ilgili olan çalışmaların çoğu, hastalığın hızının yavaşlatılması ve ekonomi üzerindeki etkilerinin en aza indirilmesi için gereken sağlık ve ekonomi politikaları üzerine yoğunlaşmaktadır. Bu çalışma, politika yapımını etkileyen siyasi faktörler üzerinde yoğunlaşmaktadır. Özel olarak ise, kadınların siyasi olarak güçlendirilmesi ve COVID-19 ölümleri arasındaki ilişkiyi incelemektedir. Çalışmada 168 ülkenin verileri kullanılarak en küçük kareler ve araç değişkenleri yöntemleriyle tahminler gerçekleştirilmiştir. Çalışmanın sonuçları toplumsal cinsiyete göre siyasi eşitlik ve kadınların sivil toplum örgütlerine katılımı ile kümülatif COVID-19 ölümleri arasında negatif ilişki olduğunu göstermektedir.

Anahtar Kelimeler: *COVID-19, toplumsal cinsiyet eşitsizliği*

JEL Kodları: *I1, I18, J16, C21*

1. Introduction and Theoretical Framework

The ongoing pandemic is unique to the modern era. A rapidly spreading virus that leaves all countries vulnerable and all members of those countries at risk of infection and possibly death. The antibiotics and routine immunizations that have protected us against the infectious diseases that ravaged the human population in the past, are helpless to protect us against novel viruses such as COVID-19. Understandably, a lot of attention has been paid to the health and economic policies designed to slow the spread of the pathogen and minimize its impact on the economy. The focus of this study is the political factors that influence policy-making. Specifically, we investigate whether there is an association between the political empowerment of women and COVID-19 mortality.

There is growing evidence of a positive association between indicators of women's political representation (e.g. proportion of parliamentarians that are women, electoral gender quotas) and government spending on welfare transfers and public health (Bolzendahl, 2009; Bolzendahl & Brooks, 2007; Clayton & Zetterberg, 2018), as well as population health outcomes (Bhalotra & Clots-Figueras, 2014; Ng & Muntaner, 2018; Swiss et al., 2012). In addition, Miller (2008) has found that the extension of the franchise to women at the state level in the United States was associated with increased public health spending and reductions in child mortality. This growing body of evidence suggests that improved gender equality in the political sphere (through suffrage, civil society organizations, political parties, and parliamentary representation) leads to improvements in population health.

The prevailing explanation for these results is that political empowerment enables women to promote their specific policy preferences (Barnes, 2012; Chattopadhyay & Duflo, 2004). Women are concerned about their own health and therefore are more likely to push for investment in public resources that reduce morbidity and mortality due to causes that are specific to women (e.g. reproductive health, cervical cancer, breast cancer, sexual assault, domestic violence, etc.). In addition, they will advocate to ensure that their health is adequately protected with respect to those diseases that are perceived as primarily afflicting men, but which are also prevalent among women (e.g. coronary heart disease) (Perez, 2019, Chapter 11). The corollary of this explanation is that men will also tend to prioritize

their own policy preferences, resulting in the potential neglect of the health requirements of women if political power is distributed in favor of men.

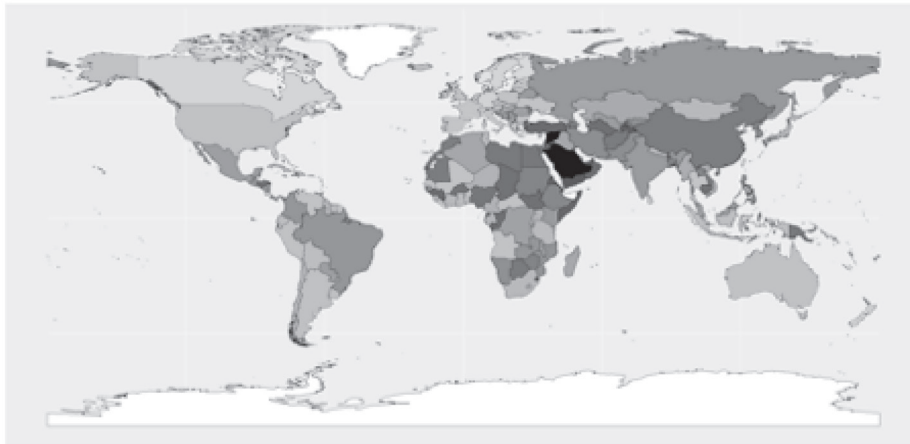
Highly contagious diseases affect everyone and so it may at first appear that this explanation does not allow us to predict that female political empowerment will influence the response of governments to COVID-19. That is, the policy preferences of women and men appear to be aligned in such cases. However, epidemics do not affect everyone equally. Low-income citizens are, out of necessity, more likely to continue working during epidemics, to be reliant on public transport to get to work, and to be employed in jobs where it is more difficult to maintain physical distance (e.g. service sector, manufacturing). Women are more likely to be employed in the service sector and to be reliant on public transport (ILO, 2016; Duchene, 2011). Health care workers are perhaps the most vulnerable to the pandemic and a higher proportion of those employed in the health sector are women (Bonniol et al., 2019). In 2019 women constituted 70.4% of workers engaged in human health and social work activities globally (ILO, 2020). Women are also more likely to perform unpaid caregiving duties for family members, making it even harder for them to avoid exposure to contagious diseases. This suggests that political empowerment (via labor unions, political parties, electoral pressure, political representation, etc.) will help to ensure that the health and safety of women in the workforce and beyond is not neglected during pandemics.

Unlike previous studies, the focus of this article is the influence of women's political empowerment via all levels of political influence (voting, civil society organizations, political parties, local and regional government, etc.), and not just representation in the national assembly or executive branch. This is important because it captures the grassroots impact of women's political voice. Women in parliament or the executive branch may reflect the chance outcome of a particular election cycle, as well as political actors from more privileged backgrounds. Equally, it may be the product of quotas that are legally mandated or voluntarily instituted by political parties. Quotas may increase female representation in the national assembly, but leave them underrepresented at the level of CSOs, local government, and party administration.

As we can see from Figure 1, there was substantial variation in the distribution of political power by gender between countries in 2019, ranging from a score of -2.4 in Syria to a score of +3.7 in Norway. The scale reflects the degree to which political power is shared between women and men, where the lowest possible score indicates that political power almost entirely lies in the hands of men and the highest possible score indicates that political power is close to being equally shared (Figure constructed in R using data from Coppedge et al., 2020).

The following section introduces the data and estimation methods for the study. Section 3 summarizes the estimation results and section 4 discusses those results. Section 5 outlines the limitations of the study, as well as avenues for future research. Section 6 concludes.

Figure 1: *Distribution of political power by gender in 2019*



2. Data and Estimation Methods

We use an ordinary least squares (OLS) regression to assess the relationship between the distribution of political power by gender and response to the pandemic. The estimation model takes the following form.

$$y_i = \beta_0 + \beta_1 X_i + \beta_2 Z_i + \mu_i$$

Where X is the main independent variable of interest, Z is the set of control variables, and i is the set of countries. To measure pandemic response in each country we use total deaths (logged) as of August 1, 2020 in each country since the onset of the pandemic. Our data source is the European Center for Disease Prevention (ECDC, 2020). We use deaths rather than cases because these are easier to estimate given the prevalence of asymptomatic cases. Nevertheless, we must acknowledge that some countries may be underreporting deaths or vary in the way they classify co-morbidities. Even though countries were first exposed to the pandemic at different times we use total deaths so as to capture policies designed to slow the initial onset of the disease (e.g. border control policies). China was excluded from the analysis because we are interested in each country's response to an external shock. We do not use deaths per capita because larger populations may be more vulnerable to the spread of transmissible diseases. We do, however, include total population (logged) as a control variable.

Our main independent variable of interest is taken from the Varieties of Democracy (V-Dem) project's data set. We use version 10 of the V-Dem dataset, which covers 201 countries from 1789 to 2019 (Coppedge et al., 2020). V-Dem uses multiple country experts to estimate numerous political indicators and employs various methods to account for disagreement and potential sources of measurement error (Marquardt & Pemstein, 2018; Boese, 2019). Our primary indicator of women's political empowerment is power distributed by gender in 2019. The lowest possible score for that variable indicates that men have a

nearly complete monopoly on political power and the highest possible score indicates that women and men have roughly equal political power (Coppedge et al., 2020). Our alternative indicator is women's participation in civil society organizations (CSOs) in 2019. The lowest possible score for that variable indicates that women are almost always prevented from participating in CSOs and the highest possible score indicates that women are almost never prevented from participating in CSOs. For both variables we use the estimates produced by V-Dem's measurement model.

We include a selection of economic, political, and epidemiological covariates to control for factors that might be correlated both with level of female empowerment and mortality due to the pandemic. These are GDP per capita in 2017 (lag distributed, logged) (Global Burden of Disease Collaborative Network, 2018), liberal democracy in 2019 (Coppedge et al., 2020), out-of-pocket spending on health per capita in 2017 (logged) (Global Burden of Disease Collaborative Network, 2020), outdoor air pollution (population weighted average of particulate matter 2.5) in 2017 (Global Burden of Disease Collaborative Network, 2018), prevalence of upper and lower respiratory diseases in 2017, prevalence of ischemic heart disease in 2017 (Global Burden of Disease Collaborative Network, 2017), and total population in 2019 (logged) (World Bank, 2020). We also include dummy variables for each continent so as to control for regional effects (Nunn & Puga, 2012).

In spite of the inclusion of these control variables, our results may be biased due to unmeasured confounders. In order to further address this issue, we also run a two-stage least squares (IV 2SLS) analysis using the following two exogenous instrumental variables. Gender equality diffusion is the average distribution of political power by gender for the region, excluding the country itself. Previous studies have shown that political development is influenced by institutional changes in neighboring countries (Gleditsch & Ward,

Table 1: Summary statistics

Variable	N	Mean	SD	Median	Min	Max
Cumulative deaths from COVID-19 (ln)	209	4.51	2.89	4.28	0	11.94
Political power distributed by gender	169	1.03	1.05	0.97	-2.42	3.72
CSO women's participation	169	1.18	0.81	1.39	-1.23	2.23
Liberal democracy index	169	0.41	0.25	0.37	0.01	0.86
GDP per capita (ln)	184	9.2	1.23	9.3	6.18	11.61
Total population (ln)	208	15.25	2.52	15.75	6.7	21.08
Out-of-pocket spending on health per capita (ln)	184	4.57	1.49	4.61	0	7.97
Prevalence of ischemic heart disease (%)	184	0.02	0.01	0.02	0	0.06
Prevalence of respiratory disease (%)	184	3.29	0.58	3.23	1.54	4.86
Outdoor air pollution	184	27.77	19.03	22.23	5.86	99.73
Gender equality diffusion	169	1.01	0.74	0.97	-0.39	2.46
Oil endowment (ln)	169	1.72	1.12	1.85	0	3.83

2006). Oil endowment is average oil reserves in the region, excluding the country itself (logged) (BP, 2019). Oil wealth has been shown to be negatively associated with gender equality with respect to political representation and individual rights (Ross, 2008; Wigley, 2018). We report robust standard errors for all model specifications. Summary statistics are presented in Table 1.

3. Estimation Results

Table 2 reports the results for all regressions. All the variables have been standardized to facilitate comparison. As we can see, political equality by gender and participation by women in CSOs are both negatively associated with cumulated deaths due to COVID-19 (columns 1 and 2). By contrast, out-of-pocket spending and total population are positively associated with cumulative pandemic deaths. Only the Oceania and Asia regions are currently negatively associated with cumulative deaths.

The first and second stage regressions for the IV 2SLS analysis are reported in columns 3 and 4. As we can see, political equality by gender remains negatively associated with cumulative deaths when this method is employed. The p-value for the Hansen J statistic for over-identifying restrictions indicates that the two instruments are not directly correlated with the dependent variable. In addition, the F-statistic indicates that the instruments are sufficiently correlated with the potentially endogenous regressor. This suggests they are valid and strong instruments for the distribution of political power by gender.

Table 2: *Women's political empowerment and COVID-19 mortality*

	(1)	(2)	(3)	(4)
Estimation strategy	OLS	OLS	IV 2SLS First stage	IV 2SLS Second stage
Dependent variable	Cumulative deaths from COVID-19 (ln)	Cumulative deaths from COVID-19 (ln)	Political power distributed by gender	Cumulative deaths from COVID-19 (ln)
Political power distributed by gender	-0.162*** (0.0581)			-0.534*** (0.198)
CSO women's participation		-0.0755** (0.0357)		
Liberal democracy index	0.0779 (0.0682)	0.0185 (0.0575)	0.498**** (0.0802)	0.306** (0.135)
Out-of-pocket spending on health per capita (ln)	0.270*** (0.0973)	0.278*** (0.0948)	0.0565 (0.150)	0.299*** (0.109)
GDP per capita (ln)	0.0721 (0.0908)	0.0751 (0.0935)	-0.0323 (0.132)	0.0302 (0.103)
Total population (ln)	0.888**** (0.0537)	0.929**** (0.0592)	0.114 (0.0783)	0.970**** (0.0730)

Outdoor air pollution	0.0989*	0.0953*	-0.0815	0.0414
	(0.0501)	(0.0508)	(0.0660)	(0.0559)
Prevalence of respiratory disease (%)	0.0740	0.0515	0.0679	0.0879
	(0.0502)	(0.0499)	(0.0612)	(0.0591)
Prevalence of ischemic heart disease (%)	0.0266	0.0322	0.179	0.0441
	(0.0756)	(0.0752)	(0.114)	(0.0863)
Asia	-0.105*	-0.0997*	-0.122*	-0.157**
	(0.0594)	(0.0585)	(0.0629)	(0.0654)
Europe	0.179**	0.153*	-0.130	0.172*
	(0.0845)	(0.0851)	(0.134)	(0.0922)
Oceania	-0.108****	-0.120****	-0.0828	-0.135****
	(0.0307)	(0.0282)	(0.0639)	(0.0458)
North America	0.172****	0.135**	0.0107	0.168****
	(0.0507)	(0.0549)	(0.0839)	(0.0491)
South America	0.150****	0.146***	-0.0364	0.129***
	(0.0439)	(0.0445)	(0.0593)	(0.0460)
Gender equality diffusion			0.187*	
			(0.0950)	
Oil endowment (ln)			-0.173**	
			(0.0737)	
Countries	168	168	167	167
Effective F statistic				10.767
5% critical value				8.342
Hansen J statistic				0.2159

Notes: All variables are standardized. Cumulative deaths as of August 1 2020. Robust standard errors are reported in parenthesis. F statistic and critical value produced using Montiel-Pflueger robust weak instrument test. **** significant at 0.1%; *** 1%; **5%; *10%

3. Discussion

Our results suggest that greater gender equality in the political sphere has helped to reduce mortality arising from the ongoing pandemic. One explanation for this finding is that women might be more exposed to COVID-19 because they are more likely to be employed in jobs that render them vulnerable to the virus (service and health care sectors) and to be reliant on public transport. Thus, greater political influence via CSOs and political office enables them to more effectively lobby for policies that reduce their exposure to the virus. Those policies include the core set of policies recommended by the World Health Organization (e.g. mandated mask wearing and physical distancing, rigorous implementation of testing and contact tracing) (WHO, 2020a), as well as policies that lower the risk for service sector workers (e.g. government subsidized leave, mandated spacing on public transport) and especially health care workers (e.g. adequate personal protective equipment (PPE), regular testing of patients and staff).

An alternative explanation is that women are more likely to place an emphasis on the health of others because of the influence of socialized roles. The assumption here is that

women are more likely to behave altruistically when it comes to health care because they are more often engaged in caregiving tasks. However, it is likely that growing equality in the distribution of political power is associated with the gradual erosion of traditional gender roles in the family and beyond. Thus, it is more likely that our results reflect the fact that women are simply acting in their own interests in those contexts where political power is more equally distributed. Even in those settings where women are expected to bear the bulk of (paid and unpaid) caregiving work it is in their interests to push for greater protection against exposure to the contagion.

It is noteworthy that democracy is not negatively associated with cumulative deaths (see also, Bosancianu et al., 2020). This appears to be at odds with a number of previous studies that have found that democracy is associated with improvements in population health (e.g. Gerring et al., 2012; McGuire, 2020; Wang et al., 2019; Wigley & Akkoyunlu-Wigley, 2017; Wigley & Akkoyunlu, 2011; Besley & Kudamatsu, 2006; Kudamatsu, 2012; Bollyky et al., 2019). However, it should be noted that rapidly spreading contagions are unique in the sense that the whole population is vulnerable, including autocratic leaders and their backers. Thus, they have an incentive to intervene even when their political survival is not dependent on gaining the support of the wider population. In other words, we would not expect there to be an incentive difference between democratic and autocratic leaders in those cases where the population is exposed to a rapidly spreading contagion.

Autocratic governments are also more likely to get away with under-reporting COVID-19 cases and deaths simply because they are not exposed to independent media, CSOs, or political opposition. Existing research indicates that availability of credible policy-relevant data is correlated with regime type (Hollyer et al., 2011). If that is the case for COVID-19 then the inclusion of liberal democracy in our regression analysis, at least in part, serves as a control for under-reporting.

Out-of-pocket spending captures the share of health costs that are borne by the household at the point of care (i.e. health costs over and above those covered by the government, pre-paid private insurance, and foreign aid). Our results suggest that countries that have failed to adequately invest in public health for all citizens, irrespective of income group, have experienced more pandemic deaths. This may be because the health system is not sufficiently developed to handle health crises in those countries. In addition, the risk of financial hardship due to current or future health costs may be encouraging lower income citizens to continue working during the pandemic. In developing economies women are more likely to be employed in the informal sector (ILO, 2018), meaning their health costs are less likely to be covered by social health insurance or tax-funded health care.

4. Limitations and further research

Our findings should be treated with caution because the pandemic is still an emerging phenomenon, with many low- and middle-income countries experiencing the first wave and already affected countries experiencing fresh outbreaks. Moreover, causality is difficult

to ascertain in this context due to the potential presence of unmeasured confounders. We have included control variables and run a separate analysis using instrumental variables to address this issue, but it remains possible that other factors explain the association between cumulative deaths and women's political empowerment.

In this study, we have focused on the deaths directly resulting from the pandemic. Future research may look at the indirect effects of the pandemic resulting from the decline in the number of people visiting clinics and hospitals for non-epidemic related ailments or to receive routine immunizations. In developing countries, the reassignment of scarce health resources to the pandemic response will make it even more difficult to provide essential services for all (Mukaigawara, 2020). The emerging evidence suggests that the indirect deaths caused by the pandemic will significantly outweigh the deaths caused by the pandemic itself (Abbas et al., 2020; Kumari et al., 2020; Roberton et al., 2020; WHO, 2020b). This indirect burden may have a greater adverse effect on women in those contexts where political power is unequally distributed by gender. In such cases resources may be disproportionately diverted away from the essential health care services for women in order to combat the pandemic (MSF, 2020).

5. Conclusion

The distribution of political power in the formal sense (equal right to vote, assemble, stand for public office, etc.), ignores inequality of political influence in practice at all levels (from of civil society organizations and local government through to the national legislature and executive branch). The absence of de facto political equality is particularly worrisome when effective power is weighted against those who are more likely to be exposed to contagious diseases such as COVID-19. Women constitute roughly half the population of each country and yet their level of actual political influence rarely comes close to parity with men. The results of this study suggest that overall population health is better served in those countries where political power between men and women is more equally shared.

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