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Reproductive rights approach to reproductive health in developing countries

Vijayan K. Pillai[1]* and Rashmi Gupta[2]

[1]School of Social Work, University of Texas at Arlington, Texas, USA; [2]Department of Social Work, San Francisco State University, California, USA

Background: Research on reproductive health in developing countries focuses mostly on the role of economic development on various components of reproductive health. Cross-sectional and empirical research studies in particular on the effects of non-economic factors such as reproductive rights remain few and far between.
Objective: This study investigates the influence of two components of an empowerment strategy, gender equality, and reproductive rights on women's reproductive health in developing countries. The empowerment strategy for improving reproductive health is theoretically situated on a number of background factors such as economic and social development.
Design: Cross-national socioeconomic and demographic data from a number of international organizations on 142 developing countries are used to test a model of reproductive rights and reproductive health.
Results: The findings suggest that both economic and democratic development have significant positive effects on levels of gender equality. The level of social development plays a prominent role in promoting reproductive rights. It is found that reproductive rights channel the influences of social structural factors and gender equality on reproductive health.

Keywords: *globalization*; *reproductive rights*; *gender equality*; *reproductive health*; *millennium development goals*; *social development*; *abortion rights*; *developing countries*

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Economic development brought about by industrialization and modernization is believed to be a prime factor in the overall improvement of quality of life and health in developing countries (1, 2). Decline in fertility, as well as morbidity and mortality, is also expected to accompany economic development (3). In countries such as India, an excessive focus on ways and means to ensure economic development produced some of the most well-recorded violations of human rights in modern history (4). Consequently, economic development policies for improving reproductive health are now subjected to the scrutiny of human rights groups and agencies at the national as well as international levels (5–7). However, rights-based theories of reproductive health have not been adequately tested. World Health Organization (8) defines reproductive rights as a basic right of all couples and individuals to decide freely and responsibly the number, spacing, and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health.

The objective of this article is to test a model of reproductive health in developing countries. First, we provide a theoretical framework for investigating the relationships among economic development, reproductive rights, and reproductive health. Next, we put forth a number of testable propositions contributing to a growing body of research on the structural basis of the reproductive rights–reproductive health relationship.

Theoretical approach

Reproductive health implies that people are able to have a responsible, satisfying, and safe sex life and that they have the capability to reproduce and the freedom to decide if, when, and how often to do so. Literature on reproductive health in developing countries shows a strong positive relationship between economic development and reproductive health (9, 10). Economic development is associated with improvement in public health as well as women's health (11). Currently, a small share of the support for economic development programs and projects in developing countries through the World Bank is

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targeted toward improving general nutritional and health standards (12).

The term 'reproductive rights' is of relatively recent origin. For roughly a decade after its introduction at the International Meeting on Women and Health in Amsterdam 1984, its impact remained limited to state actions in support of women's reproductive well-being. However, almost a decade later, the 1993 World Conference on Human Rights, held in Vienna, and the 1995 Fourth World Conference on Women in Beijing clearly publicized the positive relationship between the level of reproductive rights and reproductive health (13–20). The choices women make, with respect to reproductive health, can be broadened and realized only in the presence of a wide variety of reproductive rights (21–25).

Current theoretical perspectives on reproductive rights place strong emphasis on social structural correlates. Several feminist scholars (26–29) have pointed out that at low levels of social development, women's low socioeconomic status leaves them with few choices for decision making with respect to several aspects of the reproductive process: intercourse, contraception, and gestation.

The unequal distribution of power across gender resulting in gender inequality and undesirable constraints over social and economic opportunities influence the level of reproductive rights (6, 30, 31). Both gender equality and social development are seen as important structural correlates of reproductive rights. Social development tends to facilitate a broad level of participation spanning all levels of social institutions. Citizen participation at all societal levels can take place only when social transactions are bound by values of social justice and equality. To this extent, social development programs are guided by a social justice framework. A broadening set of opportunities for social participation is a function of social development (32).

At the individual level, social development is purported to promote quality of life (33). An expansion of choices that people enjoy to improve their own welfare requires vast social institutional development over and above mere economic development. Improvement in social participation increases individual's substantive freedoms or capabilities (34). Lack of democratic freedom, the press, and the absence of agencies that represent people's voices are all characteristic of unfreedom, which citizenship theorists suggest are associated with low levels of social development. At higher levels of social development, social participation is sustained by improving availability and universal access to societal resources necessary to realize a number of social choices that individuals make. With social development, human rights are valued and recognized (35–38). In general, there is a positive relationship between the level of social development and the reproductive rights level.

The gender differences in social power and gender equality influence the extent of rights women have, including reproductive rights (30). The removal of gender inequality through empowerment, in developing countries, is one among the eight Millennium Development Goals. As gender equality improves, the amount of power women exert collectively – to bargain and acquire desired resources – is likely to increase (16, 39, 40) and result in a vast expansion of opportunities for women to make realistic social and personal choices. The active pursuit of these choices involves both the demand for new rights necessary for enjoying reproductive health (41) and the dismantling of existing and emerging discriminatory legal practices limiting the expansion of reproductive choices. Thus, improving gender equality is likely to result in increases in women's rights in general and reproductive rights in particular.

Within the democratic setting, women's agencies are much more likely to develop the capacity to make effective demands on the state to effect gender equality (42–45). It is well known that the development of democratic institutions is associated with economic development and value changes with respect to women's roles in the public sphere. As support for democratic ideals increases, women are more likely to gain political power (46) and in the long term gender equality at the institutional level. Squires (47) suggested that programs and policies to enhance gender equality should 'draw upon the resources developed within democratic theory.' As societies develop strong democratic institutions, the level of gender equality is also likely to improve.

There is a positive relationship between economic development and gender equality (48, 49). Economic development is accompanied by shifts in several values such as transfer of status through inheritance widespread among agricultural communities to achievement orientation among the industrial (50). With modernization, attitudes toward women's roles also tend to become less conservative, enabling women to pursue education and seek outside employment in the wage economy (50). As the economy grows, women are expected to make considerable gains in their collective social status, and the socioeconomic gap between men and women is likely to either disappear or become insignificant. Accordingly, these theories suggest that there is a positive relationship between economic development and gender equality.

Figure 1 presents the theoretical relationships among the various factors in the proposed model of reproductive health and reproductive rights.

Materials and methods

The proposed model of reproductive health contains four latent constructs, social development, gender equality, democracy, reproductive rights, reproductive health, and two variables, economic development and abortion rights.

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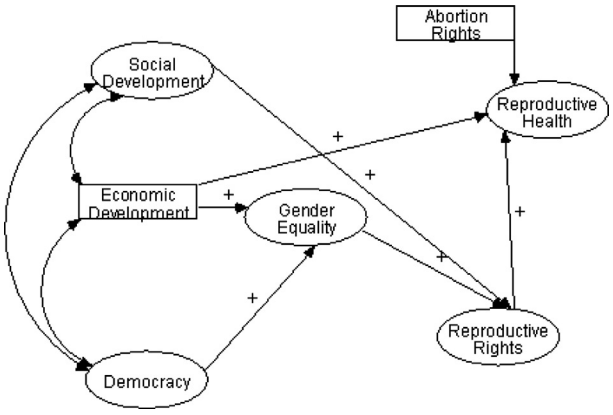

Fig. 1. A rights-based model of reproductive health in developing countries.

The reproductive rights dimension consists of two subdimensions, social rights related to reproduction and abortion rights. Factors influencing social rights appear to be significantly different from the determinants of level of abortion rights (51). No attempt has been made in this study to identify the influences on abortion rights; instead, the focus is on social rights associated with reproductive health. Table 1 presents the definitions of variables used in this study.

The term developing countries in this study includes all nations with a per capita income below 3,600 US Dollars in 2004. One hundred and forty-two countries fall into the category of developing countries in the lower middle income category or lower.

Analysis

Analysis is conducted in two stages. In the first stage, we address a number of measurement issues related to the proposed model followed by its estimation.

The descriptive statistics for all the variables are provided in Table 2. The average maternal mortality rate is approximately 277 deaths per 100,000 births, a rate at least 16 times higher than that of the United States in 2000. Very few variables have large number of missing cases. One of the techniques for handling missing data is single imputation using Expectation Maximization (EM) algorithm. This method is used to impute missing values. An advantage of this method is that it produces reliable (52)[1] estimates.

Because multivariate methods are essential for the testing models such as the one presented here, we initiate data analysis with a number of procedures for testing some of the basic statistical assumptions of the proposed model. Multivariate techniques assume that variables in the model are normally distributed. To test the assumption of multinormality of the variables in the model, measures of skewness and kurtosis were obtained and compared against the norms for skewness and kurtosis of an ideal normal distribution. None of the indicators in the model were affected by extreme skewness.

The model proposed in this study presented five latent constructs: democracy, social development, gender equality, reproductive rights, and reproductive health. The measurement of each of these constructs involves theoretically justified indicators. The appropriateness of the selected indicators may be examined by assessing the validity and reliability of each of the latent constructs. A preliminary approach toward assessing the construct validities involves the use of factor analysis. Principal component analysis was conducted with varimax rotation.

The principal component analysis of variables in the reproductive rights–reproductive health model did not indicate the presence of factorial validity for social development scale. The variables assigned to the 'social development factor' cross correlated with a number of other indicators of factors such as reproductive health and gender equality. Specifically, social development variables had high loading on the reproductive health factor. That is, three of the hypothesized indicators of social development had strong loading on the reproductive health factor.

The results from factor analysis suggest that reproductive health indicators are correlated with the indicators of social development. It is necessary to establish factorial validity of reproductive health construct, as it is an endogenous factor of crucial importance to the theoretical model in this article. This issue is addressed in the course of analysis that follows.

Confirmatory factor analysis methods (53) provide an array of tests and procedures for assessing the factorial validity of the latent constructs in the model. The confirmatory factor analysis results are reported in Table 3. The table presents the factor loading, scale reliability, and goodness of fit indices. The factor loadings are regressions coefficients (standardized) of the indicators to which they are theoretically related. All the factor loadings are greater than 0.3, except for GINI1 and SEAT. The measurement characteristics of the constructs are further analyzed by deriving the construct (scale) reliabilities. It is assumed that any one indicator alone is insufficient to measure the construct. Nunnaly (54) had argued that scale reliabilities should be approximately 0.6 or above. All scale reliabilities are approximately 0.6 or above except for the reliability value of 'democracy.'

The goodness of fit indicators are useful to assess how well the hypothesized measurement model fits data.

[1]To assess the reliability of this approach, we conducted a sensitivity analysis. We dropped about 10% of the cases for each variable with known values and re-estimated the values using EM algorithm. We then compared the known values with estimated values using EM algorithm. We counted all re-estimated values to be acceptable if the estimated value was less than 20% of the actual value. Using this method, in all instances of single imputation, more than 70% of the cases were accurately predicted.

Table 1. Variables and their definitions

Variables related to reproductive health	
Prenacar	Percent pregnant women who received prenatal care.
Daskill	Percent deliveries attended by skilled attendant.
Matmort1	Maternal mortality ratio (per 100,000 live births).
Tfr	Total fertility rate (births per woman)
Stunted	Percentage of children stunted is the percentage of children under 5 years who have a height-for-age below minus two standard deviations of the National Center for Health Statistics (NCHS)/ WHO reference median.
Birthw	Births per 1,000 women aged 15–19.
Infantm	Infant deaths per 1,000 births
Variables related to reproductive rights	
Materind	This is an index composed of two variables. Leave: length of maternal leave (days). Second is the percentage of wages paid in covered period I, both variables were standardized and added to get the index 'Materind.'
Wosoc1	It is extent of social rights. It is coded 0 if there are no social rights for women under law. Coded 1 if there are a few social rights for women under law. Coded 2 if there are some social rights for women under law Finally, it is coded 3, if almost all of women's social rights are guaranteed by law.
Adoptidx	This is an additive index composed of whether they signed or not (signatory or not); the type of agreement and number of authorities score. The type of agreement is scored as 6 for Ratification, 5 for accession, 4 for accession giving rise to an acceptance procedure, 3 for continuation, 2 for succession, 1 for denunciation, and 0 for no agreement.
Contra1	Contraceptive prevalence rate (%)
Variables related to gender equality	
Wenrol	Women's share of third level enrolment in percentage
Agedif	Singulate mean age at marriage, women – singulate mean age at marriage, men
Litdif	
Seat	Seats in parliament held by women (% of total)
Variables related to democracy	
Demindex	This is the economists' intelligence Unit's index of democracy. The index is based on electoral process and pluralism, civil liberties, the functioning of the government, political participation, and political culture
Compete	This is one of the indicators of the well-known Vanhanen scale. It is calculated by subtracting the percentage of votes won by the largest party from 100. If data on the distribution of votes are not available, the value of this variable is calculated on the basis of distribution seats in the parliament (71).
Partici	This is another indicator from the Vanhanen scale. The value of this variable is calculated from the total population, not from the total or enfranchised population.
So4	The Political Terror Scale. Level 1: These countries enjoy secure rule of Law. Level 2: In these countries, there is a limited amount of imprisonment for non-violent political activity. Political murder is rare. Level 3: There is extensive political imprisonment, or a recent history of such imprisonment. Level 4: The practices of level 3 are expanded to larger numbers. Murders, disappearances and torture are a common part of life. Level 5: The terrors of level 4 have been expanded to the whole population.
Variables related to social development	
Gini1	Gini index
Pubexp1	It is the proportion of allocation for public health expenditure percent of GDP
Ecoind1	Average of indicators of land (land diversity and quality indicators), water (use and quality indicators), air (global and national indicators), species and genes (biodiversity indicators), and resource use (energy and materials consumption indicators). A higher score indicates greater ecosystem health.

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Table 1 (*Continued*)

Tele.	It is the average score of two indicators: telephone and Internet users per 10,000 population. A higher value indicates a greater level of communication.
Adultlit:	Adult literacy rate (% ages 15 or above)
Variable related abortion availability	
Abindex	This is an index of three indicators: level of legal support for abortion; level availability of emergency contraception; level of access to EC (Prescri). Level of availability of emergency contraception (EC) is coded as follows. 0: no EC available; 1: [Progestin only] available 2: [Progestin + Estrogen Combined] available. 3: Both available and the variety of services. The level of access to EC is coded as follows: 1 = if no EC available 2 = if doctors' prescription is needed to get EC; 3 = available from the pharmacist; and 4 = available at the counter. Availability of abortion is coded as follows. Available on request, 5; Permitted on broad social and health grounds, 4; Permitted on limited health grounds, 3; Permitted only for special cases (Rape, incest, to save a woman's life), 2; and illegal or permitted only to save a woman's life is coded 1. All three variables are standardized and added.
Variable related to economic development	
Gdpind	GDP per capita (PPP US$)

There are several fit indices available. The current practice is to refrain from using any one single goodness of fit index. Values indicating good fit are expected from all three measures to conclude that the measurement model has the desired level of goodness of fit. The three selected indicators are Comparative Fit Index (CFI), root mean square error of approximation (RMSEA), and Hoelter's Index. The comparative fit index is chi-square based. The desirable values range from 0.90 to 1.00. RMSEA is also chi-square based, with values greater than 0.1 suggesting poor fit. Hoelter's Index asserts the sample size at which chi-square would not be significant. The index is, therefore, used only when the model chi-square is significant. Index values less than 75 indicate very poor fit between the model and data (55). For all measurement models, values from the three goodness of fit indexes provided uniform support, with the exception of 'democracy.' Two indexes suggested good fit, whereas the third, RMSEA, indicated poor fit. In general, it can be stated that most of the constructs in the model are adequately measured.

The construct 'social development' has a good fit indicating the presence of construct validity. However, during the course of principal component analysis, it was noted that 'social development' variables loaded on the 'reproductive health' component. This raises issues with respect to the factorial validity of reproductive health, which is a crucial variable in this study. To ascertain the extent of influence of reproductive health factors on social development, it is appropriate to further investigate the factor structure of social development and reproductive health.

If social development variables are also valid indicators of reproductive health, a single construct model, with all the social development variables coupled with reproductive health indicators, is likely to yield high goodness of fit. An alternate explanation is that reproductive health and social development are separate constructs with moderate covariation. Confirmatory factor analysis is used to test these two competing hypotheses. The results of the test of the two hypotheses are presented in Table 4. When social development variables are added to reproductive health variables in a one-construct hypothesis, the model fit is poor. The RMSEA is 0.116. The test of the alternate hypothesis also yields poor goodness of fit values. These results suggest that including social development variables with reproductive health indicators diminishes the construct validity of reproductive health. Consequently, it appears more appropriate to treat the two constructs, reproductive health and social development, as independent.

A common issue that plagues cross-national data is the presence of outliers. They are problematic when they influence regression parameters. To test if there are outliers, Cook's test was conducted. The test utilizes the Cook's distance measure, which is an index of change in the parameter estimates when one observation at a time is dropped from the analysis. The Cook's distance values $D_i > F(1-\alpha,\ p,\ n-p)$, where p is the number of independent variable in the model and n is the number of cases that are marked as outliers. The Cook's Statistics (D_i) is compared with percentiles from an F distribution. The level of confidence is often fixed as high as 0.8 or 0.9. In this study, it was fixed at 0.8. Cook's test was conducted using two independent variables, reproductive rights and economic development, which directly influence the level of reproductive health. We found one country, Equatorial Guinea, with a high Cook's value. To examine which of the two independent variables had an outlying case that significantly influenced the slope parameter; we looked at the DFBETA for the two variables that influence reproductive health. It was

Table 2. Descriptive statistics for all variables in the reproductive rights–reproductive health model[a]

Variable	Mean	SD	N of cases
Prenacar	77.5588	21.31176	106
Daskill	66.4952	29.63568	113
Birthwo	−77.4634	51.23799	134
Tfr	3.5410	1.71329	134
Matmort1	277.7637	262.44864	117
Infantm	49.2702	36.88324	134
Stunted	25.1874	12.74087	140
Materind	60.5652	16.44313	136
Wosoc1	1.1901	0.89072	125
Adoptidx	1.6456	3.38268	140
Contra1	45.7880	21.72629	104
Wenrol	43.5608	12.33713	82
Litdif	10.24456	−6.5735	130
Agedif	−3.7548	1.71475	130
Seat	14.1449	8.83272	133
Demindex	5.0264	1.89037	131
Compete	35.4573	19.12024	121
Partici	34.3521	12.09552	121
So4	−2.7324	1.02394	136
Gini1	42.4956	8.97022	98
Ecoind1	−46.7255	12.38403	140
Pubexp1	54.5964	19.41691	123
Adultlit	77.1853	20.84435	137
Tele	19.0451	20.61147	140
Abindex	01.7613	0.45790	142
Gdpind	0.5930	0.1476	0.142
Valid *N* (142)			

[a]These statistics are for all variables in the model before imputation for missing values.

discovered that one case, Equatorial Guinea, had significantly influenced the slope of the GDP per capita (GDPIND) variable.

To investigate the relationships among proposed concepts taking into account measurement errors in the model, a structural equation analysis is conducted. Because there is an indication that 'Equatorial Guinea' may be an outlier case, in the analysis that follows two types of models will be examined; one including Equatorial Guinea and another excluding it. The direction and strength of the parameter estimates derived from the two models will be examined to assess if there are significant differences.

Table 5 presents the results of Structural equation analysis of the proposed model, and Fig. 2 presents the hypothesized model to be tested using Structural Equation Modeling (SEM).

The effect of economic development on reproductive health is insignificant, and the coefficient is negative. A positive effect was expected. As expected, the relationship between economic development and gender equality is positive and significant at 0.5 level. The democracy factor has a substantial positive effect on gender equality. Social development has a positive and significant effect on reproductive rights. The hypothesized positive relationship between reproductive health and reproductive rights is also supported. Availability of abortion measured by the variable 'Abortion index' has a positive and significant effect on reproductive health. The goodness of fit indicators suggest a moderate fit. In particular, the RMSEA value is nearly 0.06. Values above 0.10 suggest poor fit. The results provide partial support to the proposed theory of reproductive rights and reproductive health.

The effects of background factors, such as democracy, social development, and gender equality, influence reproductive health through reproductive rights. Thus, reproductive rights play a monumental role in translating several aspects of broad-based sociopolitical changes into gains in women's reproductive health in developing countries. The role of reproductive rights as a mediating variable in the SEM model was further explored as follows. The direct effect between gender equality and reproductive health is nearly 0.156, significant at the 0.05 level. When reproductive rights are introduced in the model along with gender equality, the relationship between gender equality and reproductive health disappears, suggesting that reproductive rights explain the relationship between gender equality and reproductive health (see Fig. 3).[2]

Discussion and conclusion

The findings in this study support an emerging set of results from investigations on the relationship between reproductive rights and reproductive health. Several studies have revealed that reproductive rights are significantly related to reproductive health at the cross-national level (56, 30, 57–59, 31, 60).

It is shown that social development plays a prominent role in promoting reproductive rights. At a theoretical level, discussion on the structural determinants of reproductive rights has focused on the influence of political and economic development (58, 31). This popular thesis that economic development cultivates reproductive health did not receive adequate statistical support. Instead, we found that social development programs, such as those targeted toward lessening social inequality and improving telecommunication, are likely to promote levels of reproductive rights in developing countries. Thus, social developmental projects and pro-

[2]We repeated the test of the SEM model with Equatorial Guinea dropped from the study. The magnitudes of the relationships among variables in the model changed only very slightly. The level of significance of all the paths remained the same across the two models with and without Equatorial Guinea.

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Table 3. Factor loadings, reliability, and goodness of fit of variables from measurement models for the latent constructs in the reproductive rights–reproductive health model

Latent variable	Observed	Slope	Scale reliability	Goodness of fit
Social	Tele	0.786	0.791	CFI = 1.00
Development	Adultlit	0.986		Rmsea = 0.00
	Pubexp1	0.332		Hoelter = 21,512
	Ecoind1	0.458		
	Gini1	−0.217		
Democracy	So4	0.702	0.482	CFI = 1.00
	Partici	0.411		Rmsea = 0.102
	Compete	0.462		Hoeter = 236
	Demindex	0.922		
Gender	Seat	0.190	0.762	CFI = 1.00
Equality	Agedif	0.880		Rmsea = 0.06
	Litdif	0.868		Hoelter = 256
	Wenrol	0.809		
Reproductive rights	Materind	0.449	0.559	CFI = 1.00
	Wosoc1	0.553		Rmsea = 0.00
	Adoptidx	0.546		Hoelter = 473
	Contra1	0.508		
Reproductive health	Prenacar	0.665	0.892	CFI = 1.00
	Tfr	−0.917		Rmsea = 0.00
	Marmort1	−0.891		Hoelter = 375
	Infantm	−0.889		
	Stunted	−0.766		
	Birthwo	−0.789		
	Daskill	0.860		

Table 4. Validating hypothesis that reproductive health–social developmentis a two factor model versus it is one factor model

One-factor model	Two-factor model		
Indicators	Reproductive health factor loading	Reproductive health factor loading	Social development factor loading
Prenacar	0.701	0.701	
Tfr	−0.911	−0.903	
Matmort1	−0.917	−0.926	
Infantm	−0.879	−0.877	
Stunted	−0.750	−0.752	
Birthwo	0.767	0.758	
Daskill	0.904	0.907	
Gini1	−0.333		−0.345
Ecoind1	0.594		0.581
Pubexp1	0.325		0.407
Adultlit	0.811		0.806
Tele	0.681		0.642
CFI = 0.919			CFI = 0.962
RMSEA = 0.116			RMSEA = 0.098

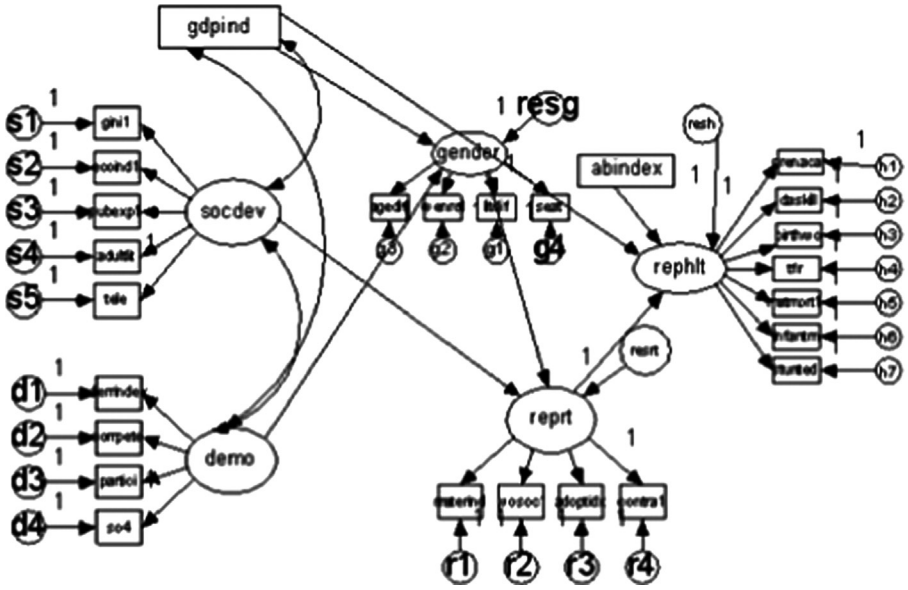

Fig. 2. Structural equation model of reproductive rights and reproductive health.[3] See Table 3 for variable names of latent constructs.

grams are vital for supporting a rights-based approach toward improving reproductive health.

The empirical support for the relationship between gender equality and growth of democratic institutions is indeed useful for the development of a theory of gender equality. Sen (61) suggested that emergence of democracy as a valued system of good governance has increased opportunities for the socially and economically marginalized to access valuable scarce resources and also benefit from them. He further argued (61) that cooperative strategies often supported through the development of democratic institutions tend to reduce gender inequality and promote women's reproductive choices (62). Improving women's representation in government through democratic processes and ensuring attention to women's risks, issues, and concerns pave the way for gender equality.

The role of gender equality in improving women's reproductive health has been widely recognized both at the theoretical and the policy level. Among the eight Millennium Development Goals, the third Millennium Development Goal is to 'Promote gender equality and empower women.' Improving reproductive rights is an aspect of empowerment. The Millennium Development Goal aims to achieve gender equality and reproductive rights, even though the term 'reproductive rights' is not explicitly used. Gains in reproductive rights are sought through empowerment. Improving gender equality and lessening power imbalances with men is an integral part of achieving reproductive rights (16), a relationship recognized by the Millennium Development Goals. To draw on reproductive rights, a number of social conditions that enable women to exercise their reproductive choices must be present. They must be presented with realistic opportunities to gain access to social and economic resources. We found that gender equality has a positive and significant effect on reproductive rights. Even though the Millennium Development Goals do not discriminate between the concepts of gender equality and reproductive rights, our finding suggests that gender equality is not only associated with empowerment but also has an effect on reproductive rights.

Two broad social structural factors influence the level of gender equality. Economic development and democracy have significant positive effects on levels of gender equality.

Table 5. Structural equation analysis of reproductive rights–reproductive health model: structural parameter estimates (standardized)

Economic development	→	Gender equality = 0.397*
Democracy	→	Gender equality = 0.986*
Gender equality	→	Reproductive rights = 0.174*
Social development	→	Reproductive rights = 0.984*
Gender equality	→	Reproductive rights = 0.174*
Economic development	→	Reproductive health = −.180
Reproductive rights	→	Reproductive health = 0.934*
Abortion rights	→	Reproductive health = 0.082*
Goodness of fit		CFI = 0.944; RMSEA = 0.060; Hoelter = 105

* = $p < 0.05$.

[3]The structural equation model estimated allowed for a number of covariations among the error terms. These paths are not presented in the figure.

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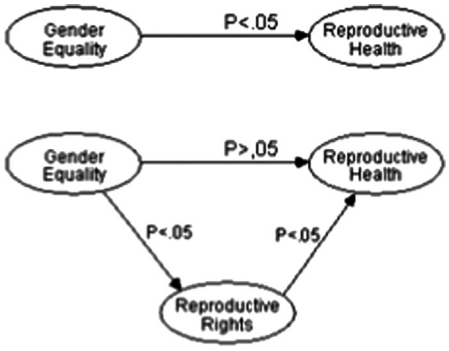

Fig. 3. Reproductive rights as a mediating variable.

Equality is not possible until women are empowered to recognize their needs as democratic citizens. One of the most important preconditions for the growth of gender equality is the emergence of democracy (63). Democratic societies are more likely to seek reproductive health goals through cooperative strategies (61). Research on Africa and Latin America indicates that the democratization process generally facilitates a broad-based gender equality agenda (64–66, 43) and opens avenues for women to negotiate for independence and pursue initiatives for social change (67, 68).

A surprising finding was that economic development had no effect on reproductive health. Economic development, however, had an indirect effect on reproductive health through gender equality. Gender equality is an important outcome as it is mediates the relation between economic development and economic rights. Improvement in economic opportunities through economic development improves women's access to jobs. As women acquire a large share of the jobs, parents are more likely to invest in girls education (69). Economic development is also likely to improve basic infrastructure such as availability of water, transportation, and electricity, which increases the time available for girls' schooling (70). It improves people's attitudes toward gender equality as well. As economic development increases, the proportion of the population that considers gender inequality as undesirable also increases (46).

The results of this study suggest that both social development and democratic institution building are crucial to improving gender equality. Feminists (72) for long have argued that macrosocial structures that limit social well-being among women will empower patriarchal institutions to maintain power over women. Women's social well-being is often compromised through restraints on accessibility and availability of basic social goods and services along with women's limited participation in democratic institutions. The impact of the power differential between the two genders results in inequalities in several aspects of resources such as education and income available to women. Policies to correct gender inequalities as a necessary condition is essential for improving rights. These policies have to enable women preserve their privacy, increase their perceived choices, and also improve personal freedom with regard to reproductive processes.

The results of this study indicate a few considerations for reproductive health policy development. First, reproductive health policies should include safeguards against the violation of reproductive rights. Second, gender equality programs should be seen as essential for building sustainable reproductive rights and reproductive health policies. Gender equality approach has been recognized in the European Union as essential for facilitating a conducive environment for women's reproductive health through eradicating poverty and promoting women's employment. Finally, broad-based policies strengthening democratic institutions as well as agencies and organizations at the governmental and non-governmental levels for promoting social development are essential for achieving reproductive health through improvements in gender equality.

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***Vijayan K Pillai**
School of Social Work
University of Texas at Arlington
Arlington, Tx 76019, USA
Tel: +817 272 5353
Email: pillai@uta.edu