Original Article

Does membership in women's group advance health and empowerment? Evidence from India

Somen Saha

Indian Institute of Public Health Gandhinagar, Gujarat, India

Abstract

Objectives: Women's self-help groups (SHGs) are actively promoted to advance women's empowerment. SHGs are estimated to cover 112 million households in 2017; more than 90% are women. This article answers if membership in women's group is associated with better health and women's empowerment. **Methods:** Data on district level health and empowerment indicators were obtained from the fourth round of the National Family Health Survey 2015–16. Data on SHG activity, defined as concentration of SHG at district, was obtained from publicly available data. Twelve indicators were clubbed to measure four domains: maternal health, women's empowerment, child health, and health protection. Binary logistic regressions were computed with education and wealth as control in each model to analyze the change in 12 indicators with the presence of SHG. **Results:** Districts with higher concentration of SHG members were associated with higher odds of women delivering their babies in an institution (OR: 1.53), taking iron pills, sprinklers, or syrup (OR: 1.11), using family planning methods (OR: 1.03), having knowledge of ovulatory cycle (OR: 1.10), owning house or land (either alone or jointly) (OR: 1.18) and lower odds of women suffering from anemia (OR: 0.92). The odds improve when districts with higher concentration of SHG members were compared with those with lower concentration. **Conclusion:** Membership in women's group is associated with better health measures as well as asset ownership; higher the concentration of SHG, higher is the impact.

Keywords: Empowerment, health, India, self-help group, women's group

Introduction

Inequity in accessing health care is better addressed through interventions that lie outside the conventional biomedical pattern. With lower income levels and unequal social status, poor women are more likely to be impoverished by health-care costs.[1-5] The group lending model of microfinance reduces health inequities by promoting social capital.[6,7] Microfinance programs that assist members to save money and provide access to capital as a business loan have seen widespread coverage in India. Organized as women's group or self-help groups (SHGs), poor rural women come together voluntarily in groups of 10–20 individuals to save money and to obtain microloan to support livelihoods. These SHGs are promoted extensively through government and nongovernment organizations in India and were estimated to cover 112 million households in 2017; more than 90% are women, impacting over 450 million people in member households.[8]

The National Rural Livelihood Mission (NRLM) is an umbrella program launched in 2011 by the Ministry of Rural Development, aided in part through an investment from the World Bank and other development partners.[9] NRLM aims to improve vocational skills, promote more effective organization of rural poor and create SHG federations from village to national level. Under the NRLM, several states introduced their own large-scale SHG programs: the JEEViKA program in Bihar and the *Mission Managalam* in Gujarat were designed after the success of *Velugu* or *Indira Kranti Patham* program in Andhra Pradesh and the *Kudumbashree*

Address for correspondence: Dr. Somen Saha, Indian Institute of Public Health Gandhinagar, Gujarat - 382 042, India.
E-mail: ssaha@iiphg.org

Received: 08-09-2020 **Revised:** 25-10-2020
Accepted: 28-01-2021 **Published:** 31-05-2021

Access this article online

Quick Response Code:

Website: www.jfmpc.com

DOI: 10.4103/jfmpc.jfmpc_1841_20

How to cite this article: Saha S. Does membership in women's group advance health and empowerment? Evidence from India. J Family Med Prim Care 2021;10:1829-34.

program in Kerala.[10] *Velugu* and *Kudumbashree* programs were hailed as India's largest and most successful poverty alleviation and empowerment programs.[11,12] An evaluation of the program found significant positive changes in debt burden, ownership of assets, women's social empowerment (measured in terms of mobility, decision-making, and collective action), overall per capita consumption households (measured in terms of caloric and protein intake) and decrease in defecation in open fields.[10,13] The SHG structure involves significant face-to-face interaction among members and promotes mutual trust, solidarity, and social capital.

Recognizing the strength of community-driven initiatives, similar attempts have been made to engage SHGs to enable access to health services and to build bridges between the formal health systems and the communities that they serve. This process has enhanced the relevance and acceptability of the health services, especially with regards to increased health-care seeking by pregnant women, mothers, and new-born. A systematic review (2013) and meta-analysis of randomized controlled trials undertaken in Bangladesh, India, Malawi, and Nepal studied the effects of women's groups practicing participatory learning and action on population-level indicators including maternal mortality, neonatal mortality, and stillbirths. Meta-analyses of all trials showed that engagement of women's groups was associated with a 37% reduction in maternal mortality (odds ratio [OR] 0 ·63, 95% confidence intervals [CI] 0.32–0.94), a 23% reduction in neonatal mortality (0.77, 0.65–0.90), and a 9% nonsignificant reduction in stillbirths (0.91, 0.79–1.03).[14] One of the flagship innovations under reproductive and child health (RCH II) in Maharashtra, India, was the establishment of Mahila Aarogya Samiti (women's health groups) to address the problems of large population size, limited health-care resources, and health-care accessibility. Early evidence from this innovation has generated increased awareness about the importance of antenatal care, immunization, and institutional deliveries and enhanced the Janani Suraksha Yojana uptake among community women.[15] A study in Kerala found that SHG participation can help protect poor women against exclusion from health care and could possibly aid in promoting their mental health.[16] Reshmi *et al.* in their study in three eastern Indian states found that women who were a part of SHGs demonstrated better control over financial resources, better participation in community activities, and higher receipt of antenatal care services when compared to their counterparts.[17] Apart from these, the membership of SHG leads to better knowledge about the public entitlements and also significantly raises the likelihood of availing greater number of public entitlement schemes.[18]

A national level study analyzed the third national District Level Household Survey (2007–08) from 601 districts in India to assess the impact of the presence of SHGs on maternal health service uptake. The study showed respondents from villages with an SHG were 19% (OR: 1.19, CI: 1.13–1.24) more likely to have delivered in an institution, 8% (OR: 1.08, CI: 1.05–1.14) more likely to have fed newborns colostrum, and higher numbers utilized (OR: 1.19, CI 1.11–1.27) family planning products and services.[19] In this article, we repeat and update this analysis using NFHS 4 (2015–16) dataset to see if SHG membership still is a predictor for good health.

Methods

Our study updates the earlier, and first to the best of our knowledge, empirical analysis of impact of concentration of SHG on key indicators of health and women empowerment. We obtained health data from the latest data available from the fourth round of the National Family Health Survey (NFHS-4) during 2015–16. As NFHS-4 dataset did not have any data on SHG activity, the same was obtained from the public MIS data from the NRLM. The MIS data of NRLM is for the period 2018–19. As publically available national survey data were used, approval of institutional ethics committee was not required.

SHG data

NRLM contains the most up-to-date data on SHG membership. We used the district-wise SHG membership data from NRLM dataset and used the projected 2015–16 district-wise population. This enabled us to calculate district-wise proportion of population enrolled in SHG. Out of 640 districts and union territories, 111 districts lie in the first quartile, that is, SHG membership as proportion of total population is less than 0.92%. These districts are primarily from the northern region of India. Intuitively, the southern states have higher concentration of membership in SHG. Gray are the 93 districts and union territories with no data on SHG membership. These districts are excluded from the analysis. About 80% of all SHGs have a group bank account. A total of 147,687 federations (both first level or village organization and second level or cluster level federation) have been promoted under NRLM with 1817,926 SHGS under NRLM. Available from https://nrlm.gov.in/shgOuterReports.do?methodName=showShgreport [Table 1].

Health data

The National Family Health Survey 2015–16 (NFHS-4), the fourth in the NFHS series, provides information on population, health, and nutrition for India and each state/union territory. NFHS-4, for the first time, provides district-level estimates for many important indicators. The main objective of each successive round of the NFHS has been to provide essential data on health and family welfare and emerging issues in this area. Information on the woman's characteristics, marriage, fertility, children's immunizations and childcare, nutrition, contraception, reproductive health, sexual behavior, HIV/AIDS, domestic violence, etc., were canvassed in the Woman's Schedule.[20] For the purpose of this study, indicators were divided into four components, as discussed in Table 2. Indicators that are reported as sensitive to SHG intervention based on available literature and available from NFHS-4 were included in the study.

District-wise SHG concentration data, explained as proportion of members enrolled in SHG over total population in the district,

were matched with NFHS-4 data to analyze health outcome. The hypothesis tested was that districts with higher concentration of members in SHG will have better health indicators.

Statistical models

We computed binary logistic regressions controlled for women's education and wealth index, as reported under NFHS-4. Two models were estimated for each of the outcome variables: Model 1 by overall SHG concentration and model 2 where first quartile districts were compared with higher quartiles, that is, with more than 0.92% population in SHG. All models used survey weights to account for sample design and population weighting and standard errors are adjusted for clustering at the district level. The focus of the analysis was the change in the coefficient of the presence of an SHG. The results are shown as ORs with 95% CIs. The magnitude of the change was interpreted as the (exponentiated coefficient − 1.0) × 100.

Results

To test the hypothesis that districts with higher concentration of members in SHG have better health indicators, results are presented in two parts: one with comparison against overall SHG concentration and second by comparing districts with SHG concentration over the first quartile, that is, with more than 0.92% population part of any SHG, compared to districts which are in the first quartile. Findings are presented in Table 3.

Table 1: SHG concentration

SHG concentration	%
Maximum	22.57
Minimum	0.01
Median value	2.39
First quartile	0-0.92
Second quartile	0.93-2.39
Third quartile	2.40-5.19
Fourth quartile	5.20-22.57

Maternal health

Districts with high concentration of SHG members are associated with higher odds of maternal health outcomes. The odds improve when districts with higher concentration of SHG members (above first quartile) were compared with those with lower concentration. Districts with SHG concentration above 0.92% have 53% higher odds of women delivering in an institution (CI: 1.52–1.55), 8% lower odds of women suffering from anemia (0.92–0.92), 11% higher odds of women taking iron pills, sprinklers, or syrup, and 3% higher odds of women currently using family planning methods.

Women's empowerment

Our findings show that districts with higher concentration of SHG members were at 10% higher odds of women having knowledge of ovulatory cycle (CI: 1.09–1.11), and having control over resources, measured in terms of money that women can decide to spend on her own (OR: 1.15, CI: 1.14–1.16). Further, there is 25% higher likelihood and statistically significant odds of women owing bank or savings account (OR: 1.25, CI: 1.24–1.26) as well as 5–18% significant higher odds, depending on SHG concentration of women owning a house and/or land (alone or jointly with others).

Child health

Districts with higher concentration of SHG members perform better on key child health indicators. This includes 30% higher odds (CI: 1.29–1.30) of women with knowledge and use of oral rehydration solution (ORS). Among deliveries conducted at home, SHG membership is associated with 17% higher odds of using disposable delivery kits and 4% higher odds of baby immediately wiped dry and wrapped without being bathed.

Health coverage

Health insurance at community level is primarily paid by government as part of its social insurance scheme. We, therefore, could not find any major effect of SHG concentration on health insurance uptake (OR: 1.04, CI: 1.04–1.05). However, knowledge of entitlement or utilization of health insurance coverage would be something worthy to further analyze, something we could not for lack of data points in NFHS-4.

Table 2: Indicators to measure health outcome and empowerment

Health areas	Indicators	Reference point
Maternal health	Institutional delivery	Institutional delivery compared to home delivery
	Anemia	Severe, moderate, or mild anemic compared to nonanemic
	Taking iron pills, sprinklers, or syrup	Yes or no
	Currently using any family planning method	Any modern method compared to no method
Women's empowerment	Knowledge of ovulatory cycle	Yes or no
	Has money that respondents alone can decide	Yes or no
	Owns a house or land	Own either alone or jointly compared to does not own
	Has bank or savings account	Yes or no
Child health	Disposable delivery kit used	In case of home delivery, yes or no
	Baby immediately wiped dry and wrapped without being bathed	In case of home delivery, yes or no
	Heard or used ORS	Heard or used compared to never heard or used
Health protection	Covered by any health insurance (including RSBY, state health insurance, through employer, CHI, ESIS, or CGHS)	Covered by health insurance compared to no insurance

Table 3: Odds of key observed indicators in model 1 and model 2

Key indicators	India	SHG concentration more than first quartile (0.92%)
Institutional deliveries		
SHG (proportion of population with SHG)	1.06 (1.06-1.07)	1.53 (1.52-1.55)
Wealth index	1.54 (1.53-1.56)	1.53 (1.51-1.54)
Women's education	1.52 (1.50-1.54)	1.37 (1.34-1.41)
n		258,838 (Y: 78.9%)
Anemia (severe, moderate, or mild anemic compared to nonanemic)		
SHG (proportion of population with SHG)	1.01 (1.01-1.01)	0.92 (0.92-0.92)
Wealth index	0.92 (0.92-0.93)	0.95 (0.95-0.96)
Women's education	0.95 (0.94-0.95)	1.00 (0.99-1.00)
n		1293,953 (Y: 53.0%)
Taking iron pills, sprinklers, or syrup		
SHG (proportion of population with SHG)	1.06 (1.05-1.06)	1.11 (1.10-1.12)
Wealth index	1.11 (1.10-1.12)	1.08 (1.07-1.10)
Women's education	1.08 (1.07-1.09)	1.43 (1.39-1.46)
n		245,820 (Y: 23.1%)
Using any FP method		
SHG (proportion of population with SHG)	0.96 (0.96-0.96)	1.03 (1.03-1.04)
Wealth index	1.03 (1.02-1.04)	1.12 (1.11-1.13)
Women's education	1.13 (1.12-1.14)	0.79 (0.78-0.81)
n		341,698 (Y: 53.5%)
Knowledge of ovulatory cycle		
SHG (proportion of population with SHG)	0.92 (0.92-0.93)	1.10 (1.09-1.11)
Wealth index	1.12 (1.11-1.12)	1.20 (1.19-1.21)
Women's education	1.19 (1.18-1.20)	0.47 (0.46-0.47)
n		1315,303 (Y: 89.8%)
Money that respondent alone can decide		
SHG (proportion of population with SHG)	1.15 (1.14-1.16)	1.15 (1.14-1.16)
Wealth index	1.11 (1.09-1.12)	1.10 (1.09-1.11)
Women's education	0.97 (0.96-0.97)	0.83 (0.82-0.85)
n		228,319 (Y: 42.9%)
Having bank or savings account that women uses		
SHG (proportion of population with SHG)	1.25 (1.24-1.26)	1.24 (1.23-1.25)
Wealth index	1.25 (1.24-1.26)	1.26 (1.25-1.27)
Women's education	1.01 (1.00-1.01)	0.90 (0.88-0.92)
n		228,319 (Y: 52.2%)
Women owning a house and/or land (alone or jointly with others)		
SHG (proportion of population with SHG)	1.05 (1.04-1.05)	1.18 (1.15-1.20)
Wealth index	0.92 (0.91-0.92)	0.91 (0.90-0.92)
Women's education	0.97 (0.96-0.98)	0.98 (0.97-0.99)
n		228,319 (Y: 46.2%)
Hearing or using ORS		
SHG (proportion of population with SHG)	1.31 (1.30-1.32)	1.30 (1.29-1.30)
Wealth index	1.64 (1.63-1.66)	1.66 (1.65-1.67)
Women's education	1.02 (1.01-1.02)	0.95 (0.94-0.96)
n		1315,617 (Y: 82.8%)
Using disposable delivery kit		
SHG (proportion of population with SHG)	1.17 (1.15-1.20)	1.17 (1.14-1.19)
Wealth index	1.15 (1.13-1.18)	1.14 (1.11-1.17)
Women's education	1.07 (1.07-1.08)	1.55 (1.47-1.63)
n		42,612 (Y: 43.7%)
Baby immediately wiped dry and wrapped without being bathed		
SHG (proportion of population with SHG)	1.05 (1.02-1.08)	1.04 (1.02-1.07)
Wealth index	1.06 (1.03-1.10)	1.05 (1.02-1.09)
Women's education	1.06 (1.05-1.07)	1.40 (1.32-1.48)
n		42,612 (Y: 79.3%)

Contd...

Table 3: Contd...

Key indicators	India	SHG concentration more than first quartile (0.92%)
Covered by any health insurance (including RSBY, state health insurance, through employer, CHI, ESIS, or CGHS)		
SHG (proportion of population with SHG)	1.06 (1.05-1.06)	1.04 (1.04-1.05)
Wealth index	1.01 (1.00-1.02)	1.03 (1.02-1.04)
Women's education	1.18 (1.18-1.03)	2.20 (2.17-2.23)
n		1315,617 (Y: 28.7%)

Discussion

Placing women's empowerment in the form of education, participation in economic activity, and constitutional guarantee of equal rights in the forefront of public policy is considered to be the most powerful strategy for the health achievements made in countries such as Bangladesh.[21] Programs that work with women's groups to encourage empowerment and gender equity in utilization of health services are a potential solution to address health needs of poor women and their children.[5,14,22,23] It is within this context that we analyzed whether districts with higher concentration of SHG membership performed any better on key empowerment indicators.

Through the mechanism of microfinance-based SHGs, poor women and their families are provided not only with access to finance to improve livelihoods but also in many cases with a range of basic health services. With 112 million people organized nationally, the SHGs provide an established population base that can potentially be used to extend health coverage. Our findings clearly suggest that districts with high concentration of SHG members are associated with higher odds of key maternal, child health, empowerment, and health coverage indicators. The odds improve when districts with higher concentration of SHG members (above first quartile) were compared with the lower ones. This suggests that a minimum level of saturation is required for effects to materialize. Primary health care (PHC) depends on the contributions of women, particularly in the area of health education; it increases their self-esteem and empowers them to serve their communities in a number of ways.[24]

Our findings confirm the findings reported by Saha *et al.* using data from district level household survey Phase III from India. In addition, the major strength of analyzing a national-level dataset, such as NFHS-4, is that it enables drawing a more general conclusion about the relationship between membership in SHG and changes in population health behaviors. In addition, our study found that higher the concentration of SHG, the better is the impact on key variables. More federations in certain regions indicate that these districts have more matured SHGs and could influence health and empowerment outcomes.

Limitations

Despite the strength of drawing a general conclusion, a limitation of this national analysis remains. It masks any regional patterns in SHG presence and health outcomes. There is a higher concentration of villages with an SHG in southern and northeastern regions of India than in other regions. Further, the relationship between membership in SHG and improved outcome may not be deemed as causation. This would remain an area of future research.

Conclusion

By triangulating and combining SHG membership data from NRLM report and health outcome data from national survey, this study makes the findings more credible than analyzing any single data source would have produced. In our opinion, these findings further reinforce the need for more resolute interest and investment in strengthening the SHG movement, not only for livelihood generation and financial inclusion among poor women and their families, but also systematically leverage on the social capital created out of the women's group to better target health programs among the difficult-to-reach population, particularly poor women and their families. In particular, SHGs can play a critical role in improving awareness of critical health issues, facilitating frontline health workers in early detection and screening of noncommunicable conditions, and make progress in relation to financial coverage and utilization of publicly financed national health protection schemes.

Ethics approval and consent to participate

Since the study is based on analysis of de-identified secondary data available from public domain (NFHS and NRLM MIS), no ethics approval was sought.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Haussmann R, Tyson LD, Zahidi S. The global gender gap report 2010. World Economic Forum, Geneva, 2010.
2. Walia M, Irani L, Chaudhuri I, Atmavilas Y, Saggurti N. Effect of sharing health messages on antenatal care behavior among women involved in microfinance-based self-help groups in Bihar India. Glob Health Res Policy 2020;5:3.
3. Saggurti N, Atmavilas Y, Porwal A, Schooley J, Das R,

Kande N, *et al*. Effect of health intervention integration within women's self-help groups on collectivization and healthy practices around reproductive, maternal, neonatal and child health in rural India. PLoS One 2018;13:e0202562.

4. Marmot M, Friel S, Bell R, Houweling TA, Taylor S. Closing the gap in a generation: Health equity through action on the social determinants of health. Lancet 2008;372:1661-9.
5. Hazra A, Atmavilas Y, Hay K, Saggurti N, Verma RK, Ahmad J, *et al*. Effects of health behaviour change intervention through women's self-help groups on maternal and newborn health practices and related inequalities in rural India: A quasi-experimental study. EClin Med 2020;18:100198.
6. Blas E, Sommerfeld J, Kurup AS. Social determinants approaches to public health: From concept to practice. World Health Organization, Geneva, 2011.
7. A. Schurmann. Microcredit, inclusion and exclusion in Bangladesh. Background Paper for the Social Exclusion Knowledge Network on the Social Determinants of Health." World Health Organization, Geneva, 2007.
8. Sa-Dhan. The Bharat Microfinance Report 2017 – 2018. Sa-Dhan, New Delhi, 2018.
9. NRLM. Framework of partnership between State Rural Livelihood Mission, Community Federation and NGO for Field Implementation of NRLM Activities. 2011.
10. Datta U. Socio-Economic Impacts of JEEViKA: A large-scale self-help group project in Bihar, India. World Dev 2015;68:1-18.
11. Mahajan V. (2009). Scaling up social innovation. In available at http//www. india-seminar. com/2009/593_vijay_ mahajan. html.
12. Ramesh J. Self-Help groups revolution: What Next? Econ Political Wkly 2007;42:3621-4.
13. Deininger K, Liu Y. Economic and social impacts of self-help groups in India. World Bank Policy Research Working Papers, New Delhi, 2009.
14. Prost A, Colbourn T, Seward N, Azad K, Coomarasamy A, Copas A, *et al*. Women's groups practicing participatory learning and action to improve maternal and newborn health in low-resource settings: A systematic review and meta-analysis. Lancet 2013;381:1736-46.
15. Baru R, Surekha D. Mahila Samakhya's Approaches to Health, in Cartographies of Empowerment: The Mahila Samakhya Story. New Delhi: Zubaan; Kandpal, Eeshani, Kathy Baylis and Mary; 2012.
16. Mohindra K, Haddad S, Narayana D. Can microcredit help improve the health of poor women? Some findings from a cross-sectional study in Kerala, India. Int J Equity Health 2008;7:2.
17. Reshmi RS, Dinachandra K, Bhanot A, Unisa S, Menon GT, Agrawal N, *et al*. Context for layering women's nutrition interventions on a large scale poverty alleviation program: Evidence from three eastern Indian states. PLoS One 2019;14:e0210836.
18. Kumar N, Raghunathan K, Arrieta A, Jilani A, Chakrabarti S, Menon P, *et al*. Social networks, mobility, and political participation: The potential for women's self-help groups to improve access and use of public entitlement schemes in India. World Dev 2019;114:28-41.
19. Saha S, Annear PL, Pathak S. The effect of Self-Help Groups on access to maternal health services: Evidence from rural India. Int J Equity Health 2013;12:36.
20. IIPS. NFHS-4, National Family Health Survey-4. International Institute of Population Studies, Mumbai, 2017.
21. Chowdhury AM, Bhuiya A, Chowdhury ME, Rasheed S, Hussain Z, Chen LC. The Bangladesh paradox: Exceptional health achievement despite economic poverty. Lancet 2013;382:1734-45.
22. Raj A. Gender equity and universal health coverage in India. Lancet 2011;377:618-9.
23. Gilson L, Loewenson R, Francis V. Challenging inequity through health systems. Knowledge network on health systems. World Health Organization, Geneva, 2007.
24. Panchani M. Role of primary health care in the empowerment of women and concern about health issues. Int J Res Stud Biosci (IJRSB) 2014;2:21-7.