

The Role of National Rural Health Mission in Improving Quality of Rural Health

Arun Kumar Nayak

Research Scholar, Dept. of Business Administration, Vidyasagar University

Sudin Bag

Assistant Professor, Dept. of Business Administration, Vidyasagar University

Madhumita Setua

Research Scholar, Dept. of History, Vidyasagar University

Pijus Kanti Bhui

Assistant Professor, Department of Management, Brainware University, Kolkata

Abstract

Purpose

The purpose of this present study is to evaluate the role of National Rural Health Mission (NRHM) in improving the quality of rural health in West Bengal, India. The result of study will help the state as well as central government in deciding its future courses of action relating to the improvements of rural health for the overall development of our nation.

Methodology

The study is based on the primary data that are collected by employing structured questionnaire. Data has been collected from the five districts of West Bengal and a total of 484 responses are recorded for this study. Researchers used Exploratory Factor Analysis (EFA) to identify the important roles of NRHM and further Confirmatory Factor analysis has been performed to ensure the validity of the model. And finally, Multiple Linear Regression Analysis has performed to find the effectiveness of NRHM in quality of rural health in West Bengal.

Findings

The study found the evidence supporting the hypotheses that the NRHM has significant importance in improving the quality of rural health especially, West Bengal, India. The study further reveals that Health and Hygiene Care (HHC), Mother and Child Care (MCC), Support and Social Education (SSE) and Nutrition and Child Education are should consider for the future development of rural health in India.

Keywords: NRHM, Confirmatory Factor analysis, Health Quality, Health Effectiveness, Rural Health, West Bengal, India.

Introduction

The National Rural Health Mission (NRHM) began its journey in 2005 having five main approaches which are improving the public health delivery system, public health infrastructure, improving availability of critical manpower, capacity building and community health workers in India. The mission has been brought under the National Health Mission (NHM) w.e.f. April 1, 2017 along with other sub-mission of the National Urban Health Mission (NUHM). The mission, therefore NRHM as well, aims for attainment of universal access to equitable, affordable and quality health care services, accountable and responsive to people's needs, with effective inter-sectoral convergent action to address the wider social determinants of health (Press Information Bureau, Ministry of HFW, GOI, 2017). The NHM is

one of the largest organizations in India. It covers around 6.4 lakhs villages across all the states/UTs with a population of below 50,000 (as per census 2011). As on 31st March, 2016, there were 155069 Sub Centers, 25354 Primary Health Centers (PHCs) and 5510 Community Health Centers (CHCs) functioning in the country. According to NHM Annual Report 2018-19, about 10.33 lakhs ASHA workers and nearly 2.40 lakhs additional health human resources serving the nation. As of 31st March, 2019, total of 16.54 crores pregnant women and 13.95crore children were registered in the tracking System. We may consider NHM and NRHM interchangeably since their function, strategies and approaches are same. The NHM has come with a newer strategic approach called RMNCH+ Services (Reproductive, Maternal, New-born, Child Health and Adolescent) to improve maternal and child health through a continuum of care and the life cycle approach. Table 1 figures out the services provided through the new approach and their respective objectives. To understand the ground reality of the mission, we have taken a community-based approach in identifying the major activities undertaken through the mission. We have listed out 18 major community activities directly experienced by common beneficiaries in last column three of the Table 1. Many activities are intermingled which serves more than one objective of the mission. NRHM policy documents envisage that specific goals for the states will be based on existing levels, capacity and context. State specific innovations would be encouraged. Process and outcome indicators will be developed to reflect equity, quality, efficiency and responsiveness.

Table 1: Identifying Major Community Services under NRHM

Services	Objective	Major Community Activities
Maternal Health	Improving access to comprehensive abortion care, increased coverage and quality of ante-natal and post-natal care, increased access to skilled birth attendance, institutional delivery	1. Regular Antenatal Check-ups 2. Complete Immunization Programs 3. Regular Postnatal Check-ups
Access to safe abortion services	Improving access to comprehensive abortion care, including post abortion contraceptive counselling and services	4. Explain Breast-feeding procedure
Prevention and Management of Reproductive Tract Infections (RTI) and Sexually Transmitted Infections (STI)	Preventing of RTI/STI to be included in Behavioural Change Communication interventions for community health education	5. Explain and supervise new-born care 6. Support prevention of STDs 7. Take protective action on Common disease like-Fever, Diarrhoea, Malaria, Filaria
Gender Based Violence	sensitizing and train frontline workers and clinical service providers to identify and manage gender-based violence	8. Address Vitamin deficiency and Malnutrition issues
New-born and Child Health	strengthening public health facilities and accrediting private providers to manage referrals	9. Train and Support Obstetrics Care
Universal Immunization	Managing vaccination and surveillance of vaccine preventable diseases	10. Train for basic sanitation & Hygiene practices
Child Health Screening and Early Intervention Services	Improving the overall quality of life of children 0-18 years through early detection of birth defects, diseases, deficiencies, development delays	11. Complete support on Hospitalization and Treatment

Adolescent Health	Providing supplementation, facility-based adolescent health services, community-based health promotion activities, information and counselling	12.Nutritional requirements fulfilled 13.NRHM workers are always accessible
Family Planning	To provide contraceptives through provisioning of a range of family planning methods	14.Provide health awareness and Social education on regular basis
Addressing the Declining Sex Ratio	Enforcing of the PCPNDT Act, improved monitoring and sensitization of the medical community, and a greater role for civil society action	15.Pre-school Education provided 16.Quality of child education is taken care of
Cross cutting areas:	addressing social determinants is complementary to all the above strategies	17.All relevant information is shared timely 18.NRHM staff always support and care for your concerns

Source: Services and Objectives: *Compiled from NHM information, Ministry of Health and Family Welfare, Government of India*; Major activities: Authors

In this context, we would like investigate the relative importance of the NRHM activities being served to millions of the people of India in developing their quality of health. We have taken the state of West Bengal as our study ground. Primary survey research determining the relationship between on quality of health and major community activities are done through stratified random sampling technique and regression analysis.

Review of Literature

A short review of relevant literature is made on the progress and performance of NRHM in India. The activities concern for various health-related schemes and progress in health status including the activities of ASHA, ICDS, JSY, AYUSH at the national, state and district level. Examining the present literatures, we have noted that NRHM initially plays a crucial role in developing health status of the vulnerable section of rural people but later it becomes stagnant due to some negative consequences. However, most of the researchers concluded that NRHM is successful in India de facto some major issues need to be addressed. Mukherjee(2010) interviewed 100 doctors those are working in rural areas of Odisha, Assam, Jharkhand, Chhattisgarh for her study "How NRHM is working in India?". She concluded that there is some improvement of rural health-care framework but NRHM is not 100% effective in providing adequate healthcare facilities due to lack of Manpower, Health Infrastructure, Health Insurance and inadequate implementation of ASHA, ANGANWADI, JSY and AYUSH. Mahya et al (2011) conducted a cross sectional study on Knowledge, Attitude and Practice of 130ASHA worker at Sundargarh district of Uttar Pradesh. They found that the attitude of ASHA workers was very good but majority had a lack of knowledge regarding child health. They recommended frequent and quality of training of ASHA workers for strengthening their knowledge base. Srinathetal(2012) conducted a study titled "Indian Public Health Standards in Primary Health Centre". The objective of the study was to examine quality of health care service to the needs of the community. They found PHC was sufficient in number but resources are not available to run efficiently. Medical Officer had efficient knowledge about various activities and program but unaware about IPHS. They concluded, it was necessary to increase awareness of public health facilities and available of services to the need of the common people. Shashanket al (2013) conducted a study of evaluating working profile of ASHA and to access their knowledge about infant health care in Bijapur District of Karnataka. They revealed that ASHA have proper knowledge about infant health care, breast

feeding, practice of umbilical cord but they have lack of knowledge about family planning & immunization. They found that ASHA workers preferred their duties which help them for financial incentive rather than rendering services on Education, Nutrition, and Sanitation & Family Planning. Daset al (2014) conducted their study titled “Maternal Mortality at a Teaching Hospital of Rural India” Malda Medical College Hospital, West Bengal for a period of 5 years from 2008 to 2012 in the Department of Obstetrics & Gynecology. They found that MMR was higher at Malda than the National average. They also found that Eclampsia, Hemorrhage, Sepsis were the main causes of maternal death. They suggested implementing basic & comprehensive emergency obstetrics care to prevent maternal mortality. Karoletal (2015) conducted a standardized knowledge test & motivation of ASHA workers in Rajasthan. ASHA workers were more knowledgeable and successful about reproductive and child health services but their knowledge score was very less in case of family planning and HIV. Sarinet et al (2016) conducted a study “Identification of challenges and needs to improve community health worker performance.” At conclusion they told that sufficient material, timely incentive, training at periodic interval, greater support will enhance their legitimacy and credibility to do work within health system & community which will improve effectiveness and performance to serve the community efficiently. Hazarika(2017) found in her study entitled “Janani Suraksha Yojana and its impact on maternal health condition at Assam” poor illiteracy rate, high poverty level and rigid cultural background of the people of Assam were the main reasons for rapid increases of maternal mortalities. It is concluded that poor infrastructure, sanitation and drinking water facilities, very low standard of living and also lack of awareness about various government schemes were the main cause of maternal mortality. Pandey and Mohan (2018) conducted a study on role of national rural health mission in reducing infant mortality rate in India and found that the rural Infant Mortality Rate (IMR) declined at steeper rate in the post period of NRHM implementation (2005-2015).

Research Gap: The review of present literatures indicates that NRHM has certainly made a positive impact upon the quality of health of the rural people. However, we could not identify any specific study to evaluate the relative importance of the major activities carried out through the mission in improving quality of health as perceived by the common people concerned. Moreover, there is a dearth of literature on activity induced improvement measure in perceived health quality of rural people belonging to the state West Bengal. Our present study looks for the answer.

Objectives of the study

1. To explore the factors of NRHM activities relating to service provided carried out by ASHA, ICDS Workers, AYUSH, & other bodies.
2. To examine the impact of the factors in improving the health quality of rural people.

Research Method

Hypothesis: Hypothesis against the objective 2 is written as -

H₁: There is significant impact of the factors of NRHM activities in improving the Health Quality of rural people.

Population and Sample: The population of our study is the people of the state West Bengal living in rural areas and accessing any of the NRHM services. We know when the population

size is infinitely large or greater than 10,000 then, according to Cochran's formula the sample size should be greater than 384. But we tried to collect the data from 500 respondents. However, while collected questionnaires are screened and tabulated, 16 of them are found inadequate and incomplete. Removing these 16 responses we have carried the research work having a sample size of 484.

Sampling design: Multistage cluster sampling technique is applied in the present study. The state of West Bengal is divided into four distinct clusters on the basis of different socio-cultural-economic qualifications, viz., - the North Bengal, the Middle Bengal, the South-East Bengal and the South-West Bengal. In the Stage - I of sampling, five districts are considered to represent each stratum – district Jalpaiguri represents the North Bengal, district Murshidabad represents the Middle Bengal, two districts, namely, Howrah and South 24 Parganas represents the South-East Bengal and finally, district Paschim Medinipur represent the South-West Bengal stratum.

Table 2 exhibits the sampling frame for the current study. In the stage II and III of clustering, two blocks from each district and two villages from each block are taken respectively. In stage III, we chose twenty villages from the selected blocks and in the final stage of our sampling (Stage – IV), we selected 25 respondents from each village randomly during our field survey. Coding of the blocks and villages are done by using the serial numbers recorded by West Bengal Land and Land Reform Department (website: www.banglarbhumi.com). Two random numbers 2 and 7 are taken as selection code for the blocks and another two random numbers 21 and 51 are considered for the selection codes of the villages from each block.

Table 2: Sampling Frame of Multi stage Cluster Sampling

Stage -I	Stage -II		Stage -III		Stage -IV
Cluster Name (District)	Code	Block Name	Code	Village Name	Sample Units
North Bengal (Jalpaiguri)	2	JalpaguriSadar	21	Belakoba	25
			51	Patkata	25
	7	Nagra Kata	21	Tandu	25
			38*	DakhinPanjhora	25
Middle Bengal (Murshidabad)	2	Beldanga -2	21	Gholla	25
			51	Sadhukhali	25
	7	Bharatpur-2	21	Kuluri	25
			51	Ramnabarkhori	25
South- East Bengal (Howrah)	2	Jagatballavpur	21	Senkrahati	25
			51	Bargachia	25
	7	Amta - 2	21	Madhya Joypur	25
			51	Saoria	25
South- East Bengal (South 24 Parganas)	2	Bhangar -1	21	Sundia	25
			51	Pitashimulia	25
	7	Budge Budge-2	21	Nodakhali	25
			51	ChakHimmatkhan	25
South- West Bengal (Paschim Medinipur)	2	Kharagpur-2	21	Nagra	25
			51	Banspukhuria	25
	7	Mohanpur	21	Agar Ara	25
			51	Shankarara	25
Total					500
Note: Only 38 Villages are available at Nagra Kata Block of Jalpaiguri District. Therefore Code 38 is considered here.					

Research tools: Primary data are collected by doing field survey using self-structured questionnaire. The aim of the research questionnaire was to measure the satisfaction level of the rural people regarding the health services activities provided by the related bodies and schemes under the NRHM System. The questionnaire comprises of two parts. The first part is to know about the demographic profile of the respondents; second part captures opinion of respondents about the activities which are carried out by the bodies and schemes under NRHM system. We have considered 18 independent variables as activities under different services provided through the NRHM (rationale of the model is explained in the introduction part, see Table 5 for the variable list). Our dependent variable, i.e., improvement in Quality of Health (QH) has been captured through the following five items:

- (a) Improvement in Life Expectancy
- (b) Improvement in average Health Status
- (c) Decline in Child death rate
- (d) Improvement of Health Service Access
- (e) Overall improvement in Quality of Health

The response of both the dependent and independent variables are captured through five-point Likert Scale [Strongly Agree (5 points), Agree (4 points), Neither Agree nor disagree (3 points), Disagree (2 points) Strongly Disagree (1 points)]. The QH scores are calculated on a summated scale encompassing all the individual scores of the five items.

Analysis Tools: Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) are applied to determine the factors of NRHM activities relating to services provided by the NRHM personnel - ASHA, ICDS Workers, AYUSH, & other bodies. We have applied Multiple Regression Analysis to examine the impact of the factors in improving the health quality of rural people. EFA and multiple regression analysis are conducted by IBM SPSS 23 and CFA is done using IBM AMOS 23 version.

Analysis and Discussions

Demographic Profiles of the Respondents:

Demographic profiles of the respondents are captured by their age, education qualification, income, occupation, and the preference of health institutions. Table 3 shows the frequency distribution of the demographic profile with respect to Age, Educational Qualifications, Income, occupation and Preference for Health institutions.

Table 3: Descriptive Statistics of Respondents

Age			Educational Qualification		
	Frequency	Percent		Frequency	Percent
Below 18	21	4.3	Illiterate	67	13.8
18 to 25	335	69.2	Primary	137	28.3
25 to 35	76	15.7	Upto Secondary	182	37.6
35 to 45	44	9.1	Upto Higher Secondary	67	13.8
Above 45	8	1.7	Above Higher Secondary	31	6.4
Total	484	100	Total	484	100
Income			Occupation		
	Frequency	Percent		Frequency	Percent
Less than 10000	134	27.7	Daily Worker	42	8.7
10001-20000	182	37.6	Home Worker	358	74
20001-30000	137	28.3	Business	58	12

30001-40000	24	5	Private Employee	22	4.5
More than 40000	7	1.4	Public Employee	4	0.8
Total	484	100	Total	484	100

Exploratory Factor analysis (EFA):

Exploratory Factor Analysis has been conducted on the above said 18 variables to identify the factors in the following steps:

Step 1: KMO value is 0.832 which is higher than the threshold of 0.7 ((Malhotra & Dash, 2010; Bag, et al, 2020) and Bartlett's Test of Sphericity ($P < 0.01$) (Bartlett, 1950) confirms that sample adequacy is satisfied (See Table-4).

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.832
Bartlett's Test of Sphericity	Approx. Chi-Square	12396.09
	Df	153
	Sig.	0

Step 2: Communalities obtained in Principal Component Analysis (Table 5) are very high (>0.75) for all variables except 'Food Quality'. The variable is considered since it is higher than minimum acceptable communality of 0.3.

Step 3: 84% of Total variance explained by the model which computes 4 components having more than 1 Eigen value Total variance explained is satisfactory.

Step 4: Using Varimax rotation and principal component analysis extraction method, we get the following rotated component matrix (Table 6).

Table 5: Communalities of Independent variables

List of Variables	Initial	Extraction
1. Antenatal check-up	1	0.84
2. Immunization	1	0.874
3. Postnatal check-up	1	0.912
4. Newborn care	1	0.87
5. Breast feeding	1	0.764
6. Prevention of STD	1	0.876
7. Common Disease-Fever, Diarrhoea, Malaria, etc.	1	0.95
8. Vitamin & Malnutrition deficiency	1	0.973
9. Obstetrics care	1	0.968
10. Sanitation & hygiene practices	1	0.897
11. Hospitalization and Care	1	0.861
12. Information Sharing	1	0.845
13. NRHM Staff Support and accessibility	1	0.775
14. Nutritional requirement	1	0.946
15. Awareness and Social Education	1	0.827
16. Pre-school Education	1	0.763
17. Quality of child education	1	0.849
18. Food Quality	1	0.433
Extraction Method: Principal Component Analysis		

Table 6: Rotated Component Matrix

List of Variables	Components			
	1	2	3	4
8.Vitamin & Malnutrition deficiency	0.945			
9.Obstratics care	0.941			
7.Common Disease-Diarrhoea, Malaria, etc.	0.934			
10.Sanitation& hygiene practices	0.915			
6.Prevation of STD	0.863			
3.Postnatal check-up		0.918		
4.Newborn care		0.896		
2.Immunization		0.890		
1.Antenatal check-up		0.873		
5.Breast feeding		0.820		
11.Hospitalization and Care			0.926	
12.Information Sharing			0.918	
14.Awareness and Social Education			0.906	
13.NRHM Staff Support and accessibility			0.875	
15. Nutritional requirement				0.972
17.Quality of child education				0.921
16.Pre-school Education				0.871
18.Food Quality				0.649

From the Exploratory Factor analysis, we have extracted four factors. Factor 1 which have taken five items (Sl. 6, 7, 8, 9 and 10) is named as '**Health and Hygiene Care(HHC)**'; Factor 2 which have taken five items (Sl. 1, 2, 3, 4 and 5) is named as **Mother and Child Care (MCC)**; Factor 3 which have taken four items (Sl.11, 12, 13 and 14) is named as '**Support and Social Education (SSE)**';Factor 4 which have taken four items (Sl. 15, 16, 17 and18) is named as '**Nutrition and Child Education**. The four factors extracted through exploratory factor analysis are validated through Confirmatory factor analysis.

Confirmatory Factor Analysis is conducted on the results obtained in EFA. Final structural Model is given in Figure 1.

Validity Test: The Validity of The Model is tested through Table 7. Construct Reliability (CR) estimates s greater than .85 and higher than AVE. All the AVEs are greater than 0.5. Therefore, convergent validity is satisfied. Discriminant validity is also satisfied since AVE of all the factors are greater than the inter construct correlation estimate. For example, for factor 1, as we see in the Fig 1, AVE 0.756 is greater than square of 0.52 (correlation between F1 and F2), square of 0.02 (correlation between F1 and F3) and square of - 0.01 (correlation between F1 and F4). Likewise, we can show that for all the factors AVE is greater than the square of all inter-construct correlations.

Table 7: Model Validity Measures

Factors	CR	AVE	MSV	F1	F2	F3	F4
F1	0.939	0.756	0.283	0.87			
F2	0.981	0.911	0.283	0.532***	0.955		
F3	0.911	0.724	0	0.016	0.005	0.851	
F4	0.935	0.828	0	-0.009	0.021	0.017	0.91

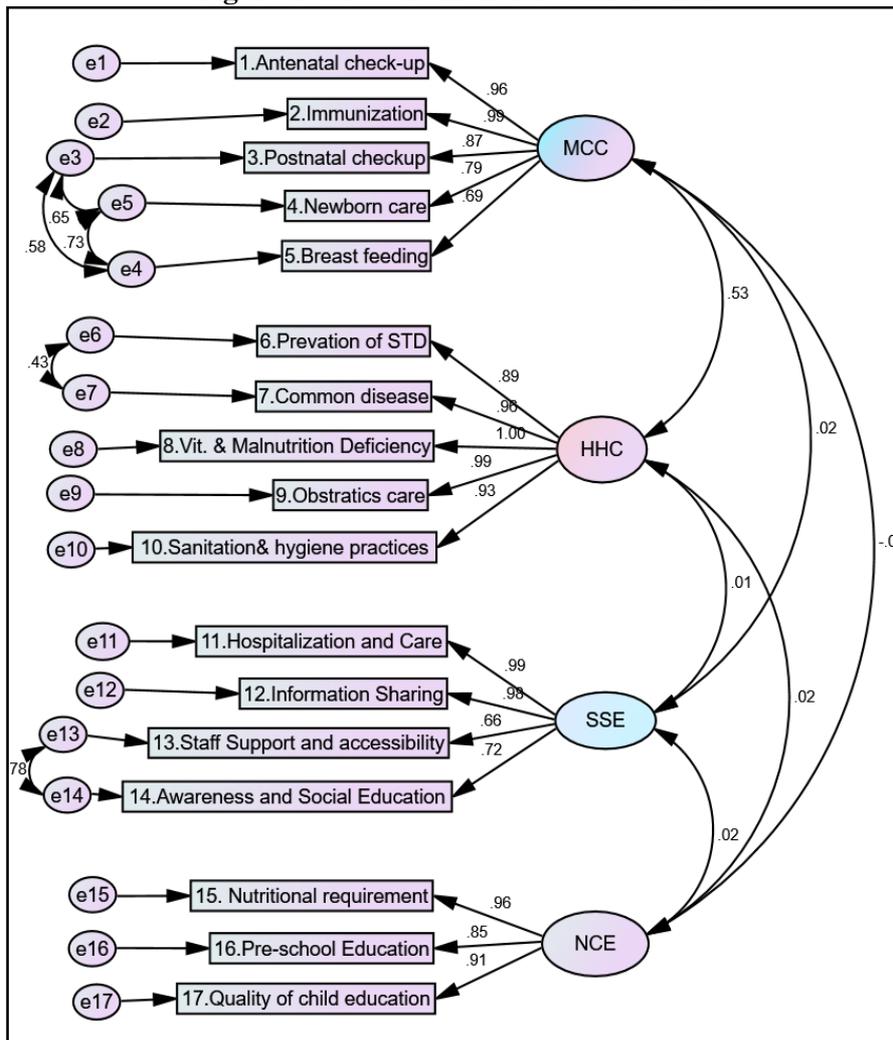
Reliability Test: The most popular test of inter-item consistency i.e., reliability is measured with Cronbach’s Alpha Coefficient (Cronbach, 1951) which is used for multipoint scaled items. The higher the coefficients, the better the measuring instrument. In this study, the researcher has calculated the alpha value for each separated dimension as well as overall reliability statistics.

Table 8: Reliability Test

Scale/Factor	Cronbach’s Alpha	No of Items
Scale of Activities	0.864	18
F1: Mother and Child Care	0.952	5
F2: Health and Hygiene Care	0.981	5
F3: Support and Social Education	0.778	4
F4: Nutrition and Child Care	0.708	4
Quality of Health	0.839	5

The table 8 of reliability test entails us about the value of the Cronbach’s alpha for the research scale as well as the extracted factors from the scale are above 0.7 ((Shuttleworth, 2015; Ray, et al 2020) i.e., greater than 60 % which is the above range of acceptance. So, it can be said that the inter item consistency i.e., reliability of the scale and the factors are good enough.

Figure 1: Measurement Model for CFA



CMIN= 305.917; DF= 108; CMIN/DF =2.833; CFI = 0.984; SRMS= 0.491 RMSEA 0.062; PClose = 0.010

Factor analysis helps to identify four factors of NRHM activities relating to the services rendered to the rural communities through its machineries, namely, Health and Hygiene Care (HHC), Mother and Child Care (MCC), Support and Social Education (SSE) and Nutrition and Child Education (NCE). Let us move to our second objective where we would like to see how these factors are influencing the improvement of quality of health quality with the help of multiple regression analysis.

Multiple Linear Regression Analysis

The model adopted for the multiple regressions is:

$$Y = \beta_1 + \beta_2 X_{1i} + \beta_3 X_{2i} + \beta_4 X_{3i} + \beta_5 X_{4i} + u_i$$

Where, *Y* is the dependent variable and *X*₁*X*₂*X*₃*X*₄ are four explanatory variables (or regressors), *u* the stochastic disturbance term, and *I* stands for *i*th observation. $\beta_1, \beta_2, \beta_3, \dots$ are unknown but fixed parameters known as the regression coefficients.

As specified in the model, we consider-

$Y = QH, X_1 = MMC, X_2 = HHC, X_3 = SSE, \text{ and } X_4 = NCE.$

Hence, to above satisfy the hypothesis, we have designed four sub-hypotheses which are:

H_{0a}: There is no significant impact of Mother and Child Care on Health Quality.

H_{0b}: There is no significant impact of Hygiene and Health Care on Health Quality.

H_{0c}: There is no significant impact of Support and Social Education on Health Quality.

H_{0d}: There is no significant impact of Nutrition and Child Education on Health Quality.

Before we conduct the regression analysis, we have tested the normality property of our dependent variable (QH) using Shapiro-Wilk Test. Skewness and Kurtosis values of HQ scores reflects that it is approximately normal [Mean = 19.15, SD = 1.768, Skewness = -0.853, Kurtosis = -0.158]. Shapiro-Wilk statistic (Table 10) shows that Health Quality scores are distributed normally [*p* < 0.01] at 1% level of significance.

Table 10: Normality Test of HQ Score

	Shapiro-Wilk		
	Statistic	df	Sig.
Quality of Health (QH)	.883	484	.000

The results on regression model generated in SPSS considering all the independent variables at a time are explained below. Table 11 depicts that the coefficient of determination is (R-square) is strong (0.74). Therefore, the model explains 74% of the variability of the dependent variables with respect to the four independent variables. Moreover, Durbin-Watson statistic is 1.66 which falls within the range 1.5 to 2.5 where no autocorrelation problem exists.

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	SE of the Estimate	Durbin-Watson
1	.861 ^a	0.742	0.74	0.902	1.662
a. Predictors: (Constant), Nutrition and Child Education, Hygiene and Health Care, Support and Social Education, Mother and Child Care					
b. Dependent Variable: Quality of Health					

The ANOVA table presented in Table 12 shows that the regression model is statically significant.

Table 12: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1120.59	4	280.147	344.607	0
	Residual	389.401	479	0.813		
	Total	1509.99	483			
a. Dependent Variable: Quality of Health						
b. Predictors: (Constant), Mother and Child Care, Hygiene and Health Care, Support and Social Education, Nutrition and Child Education						

The collinearity statistics depicted in Table13 shows that all the VIFs are below 3. Therefore, no multicollinearity problem exists here.

Table 13: Co-linearity Statistics

Model		Co-linearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Mother and Child Care	0.673	1.485
	Hygiene and Health Care	0.673	1.485
	Support and Social Education	0.997	1.003
	Nutrition and Child Education	0.998	1.002

From the Table 14, we get the Regression coefficients for all the independent variables. Therefore, we can fit a regression line as -

$$HealthQuality = 1.901 + 0.264 MCC + 0.275 HHC + 0.231 SSE + 0.323 NCE$$

Table 14: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Hypotheses	Decision
	B	Std. Error	Beta			
(Constant)	1.901*	0.512		3.712		
Mother and Child Care	0.264*	0.018	0.425	15.026	H _{0a}	Reject H _{0a}
Hygiene and Health Care	0.275*	0.018	0.424	15.011	H _{0b}	Reject H _{0a}
Support and Social Education	0.231*	0.023	0.235	10.101	H _{0c}	Reject H _{0a}
Nutrition and Child Education	0.323*	0.022	0.334	14.389	H _{0d}	Reject H _{0a}
Dependent Variable: Health Quality; *p(significant) value is less than 0.01.						

The standardized regression coefficients (Table 14) shows that the framed four null hypotheses are rejected as the significant value is less than 0.01. Therefore, the null hypotheses we framed at designing our Research Method is rejected. Our present multiple regression analysis proves there is a significant relationship between factors of NRHM service activities and the quality of health of rural people of West Bengal.

Conclusion

We wanted to explore the relative importance of the NRHM activities in improving the quality of health on perceptual scales. We defined two objectives for the study, namely, exploring the factors of NRHM activities relating to service provided carried out by ASHA, ICDS Workers, AYUSH, & other bodies, and examining the impact of the factors in improving the Health Quality of rural people. Factor analysis results show us that we can reclassify all the major activities into four factors - Health and Hygiene Care (HHC), Mother and Child Care (MCC), Support and Social Education (SSE) and Nutrition and Child Education. Our investigation on measuring relative importance of NRHM activities brings out an interesting result. People perceive that all the four factors have significant impact but Nutrition and Child Education has more impact in developing the health quality followed by Hygiene and Health Care, Mother and Child Care and Support and Social Education. The result is indicative to the policy maker that we need more attention in terms of resource and management of nutrition and child education. However, *Mother and Child Care* is the next most priority sector served through regular antenatal check-ups, complete immunization programs, regular postnatal check-ups, explain breast-feeding procedure and explain and supervise new-born care.

References

- Adhikari, Tulsi, et al. (2016), Factors associated with utilization of antenatal care services among tribal women: A study of selected States. *The Indian journal of medical research*, 144 (1), 58-69.
- Bag, S., Ray, N. & Roy, B. (2020). Determinants of Investment Decision in Residential Property - An Empirical Analysis: Evidence from Kolkata, India, *Our Heritage*, 68 (1), 4882-4896.
- Bartlett M. S. (1950). Tests of Significance in Factor Analysis. *British Journal of Statistical Psychology*, 3(2), 77-85.
- Chauhan, R., Mazta, S. R., Dhadwal, D. S., & Sandhu, S. (2016). Indian public health standards in primary health centers and community health centers in Shimla District of Himachal Pradesh: A descriptive evaluation. *CHRISMED Journal of Health and Research*, 3(1), 22.
- Das, R. (2014). Maternal mortality at a teaching hospital of rural India: a retrospective study. *Age*, 19(79), 30-85.
- Hazarika. P, (2017). Janani Suraksha Yojana and its impact on maternal health condition *EPRA, International Journal of economic & Business Review*, 5(8), 32-43.
- Karol, G. S., & Pattanaik, B. K. (2014). Community health workers and reproductive and child health care: an evaluative study on knowledge and motivation of ASHA (Accredited social health activist) Workers in Rajasthan, India. *International Journal of Humanities and Social Science*, 4(9), 137-150.
- Mahyavanshi, D. K., Patel, M. G., Kartha, G., Purani, S. K., & Nagar, S. S. (2011). A cross sectional study of the knowledge, attitude and practice of ASHA workers regarding child health (under five years of age) in Surendranagar district. *Infection*, 72, 55-68.
- Malhotra, N. K., & Dash, S. (2010). *Marketing Research: An Applied Orientation* (6th ed.). Pearson Education, India.
- Mukherjee, S. (2010). A study on effectiveness of NRHM in terms of reach and social marketing initiatives in rural India. *European journal on scientific research*, 42(4), 587-603.

- Mukhopadhyay, D. K., Mukhopadhyay, S., Mallik, S., Nayak, S., Biswas, A. K., & Biswas, A. B. (2016). A study on utilization of Janani Suraksha Yojana and its association with institutional delivery in the state of West Bengal, India. *Indian journal of public health*, 60(2), 118.
- Patil, S. B., & Doibale, M. K. (2013). Study of profile, knowledge and problems of anganwadi workers in ICDS blocks: a cross sectional study. *Online Journal of Health and Allied Sciences*, 12(2 (1)).
- Ray, N., Mukherjee, T. & Bag, S. (2020). A Study on Online Shopping Behavior in Kolkata, West Bengal, *Our Heritage*, 68 (1), 7738-7751.
- Sandhyarani, M. C., & Rao, C. U. (2013), Role and responsibilities of Anganwadi workers, with special reference to Mysore district. *International Journal of Science, Environment and Technology*, 2(6), 1277-96.
- Sarin, E., Sooden, A., Kole, S. K., & Lunsford, S. S. (2016), Identification of challenges and needs to improve community health workers performance: Narratives of Accredited Social Health Activists (ASHA) from two Indian districts. *Journal of Public Health in Developing Countries*, 2(2), 173-182.
- Sharma, R. K. et al. (2010), Utilization of maternal & child health services is very poor among the tribes of central India. *Social Change*, 40(2), Pp-117-137.
- Shashank, K. J., Angadi, M. M., Masali, K. A., Wajantri, P., Bhat, S., & Jose, A. P. (2013). A study to evaluate working profile of accredited social health activist (ASHA) and to assess their knowledge about infant health care. *International Journal of Current Research and Review*, 5(12), 97-103.
- Shuttleworth, M. (2015). Internal Consistency Reliability. Retrieved from <http://ebn.bmj.com/>
- Srinath, V. et.al, (2012). Indian Public health standards in primary Health Centre. *International Journal of Pharma Medicine & Biological Science*, 1(2).
- Varghese, R., Swamy, P. G. N., & Chaudhari, J. (2018). Community Health Nursing-A Study to assess the Level of job Satisfaction among Asha workers of Waghodia Taluka. *Asian Journal of Nursing Education and Research*, 8(2), 209-212.
- Pandey, A. and Mohan, A. (2018), The role of national rural health mission in reducing infant mortality rate in India, *International Journal of Health Governance*, Vol. 24 (1), 56-65.