CHAPTER - 3

METHODOLOGY

The present study was undertaken entitled 'Health Communication Strategies under National Health Mission in Chhotaudepur district of Gujarat state.'

The study has been intended to draw attention towards Health Communication aspect of mission mode program of health in India. The present investigation is a combination of descriptive and analytical methods to explore and describe the existing situation of Health Communication Strategies under NHM in the selected Tribal district of Chhotaudepur, Gujarat state. Following methodological steps were adopted to conduct the research:

3.1 Feasibility Study

3.2 Selection of Area and Population

(A) Methodology for Survey

3.3 Sampling Unit

3.4 Sampling Frame

3.5 Sample Size and Selection Techniques

3.6 Construction of the Survey Tool

3.7 Validity of the Survey Tool

3.8 Pre-testing of the Survey Tool

3.9 Procedure of Data Collection

3.10 Scoring and Categorisation of the Data

3.11 Plan of Statistical Analysis of the Data

(B) Methodology for Focus Group Discussions and an In-Depth Interview

3.12 Sampling Unit

3.13 Sampling Frame

3.14 Sample size and Selection Technique

3.15 Research Tools for FGDs and In-Depth Interview

3.1 Feasibility Study

Feasibility study refers to checking possibility, viability, practicability and probability of the research subject. The present feasibility study helped the researcher to adopt the direction and dimensions to carry out entire present research work. It provided an insight into practical and ethical aspects *i.e.* administrative structure, seeking permissions, availability and willingness of samples, appropriateness of the tools, methodology *etc.*

3.1.1 Objectives of Feasibility Study

1. To prepare a **Profile** of the ASHAs of the selected districts of Gujarat state.
2. To study **Roles and Responsibilities** performed by the ASHAs by using **Development Communication Approaches** in the selected districts of Gujarat state
3. To find out **Barriers** faced by the ASHAs of the selected districts of Gujarat state concerning the following aspects:
    - Personal
    - Seniors (ANM, Facilitator, Doctor *etc.*)
    - Co-workers (ASHA, AWW *etc.*)
    - Community
    - Usage of Development Communication Approaches *viz.* Activities and IEC /ICT
    - Transportation
4. To study the **Felt Needs** for Development Communication Approaches from the ASHAs of selected districts of Gujarat state
5. To seek **Opinions** of the ASHAs regarding Development Communication Approaches *viz.* Activities and IEC /ICT

3.1.2 Methodology

For the present investigation, a feasibility study was carried out in two districts, which were selected purposively *i.e.* Vadodara and Chhotaudepur. A questionnaire consisting of close and open-ended items was developed. The feasibility study was executed during June-July 2017.

The ASHAs from these districts were approached through purposive and snowball sampling techniques. In total 38 ASHAs were given the Questionnaire from which 30 complete questionnaires were received. Hence the final sample consisted of 12 Urban, 9 Rural and 9 Tribal ASHAs.

3.1.3 Major Findings

Frequency and Percentages were used to analyse the data of close-ended responses. Moreover, for open-ended items, list of responses was prepared, they were given a code for common themes. Then based on the type of responses findings, were enlisted.

3.1.3.1 Profile of the Selected ASHAs.

- Little more than one third *i.e.* 36.7 per cent of the ASHAs belonged to 31-35 years of age group and almost all (96.7%) ASHAs were married, having education up to secondary (46.7%) and Higher secondary (43.3%). Only one ASHA had studied up to Primary level, which is in an extreme condition acceptable under appointment norms prescribed in the Guidelines of National Health mission.
- A very high majority (90%) of the ASHAs were Hindus and the majority (73.3 %) belonged to Other Backward Caste (OBC) category.
- The monthly family income of ASHAs varied from twenty-five hundred to ten thousand.
- A majority (66.7%) of the ASHAs lived in joint family and majority (63.3%) had more than six members in their family.
- Among the household assets, all the ASHAs had electricity supply and a fan at their place and a very high majority of them possessed wall clock, toilet, water

supply/source, mobile, cart, chair, cooker and mattress, 93.3 %, 93.3 %, 90.0 %, 90.0 %, 86.7 %, 83.3 % and 83.3 % respectively.

- A majority (70.00%) and Few (10%) of the ASHAs watched TV and listened to radio respectively for 1-2 hours per day as a source of entertainment, information and news.

However, little less than half (46.7%) and some (16.7%) of the ASHAs read newspaper and magazine respectively for getting information and news in detail.

- A high majority (86.7%) and some (13.3%) ASHAs possessed Cell phone and Smartphone respectively. They used it for calling at the health centre, patients and family members for coordinating activities, appointments and scheduling of meeting as well as assuring their family members about their safety at the field.
- Less than half (43.3%) ASHAs possessed work experience of 7-9 years as a health worker which was before their joining as ASHA under NHM.
- A majority (60%) of the ASHAs belonged to the category of a high level of work experience *i.e.* eight and more than eight years as ASHA.
- A majority (73.3%) of the ASHAs earned on an average less than or equal to four thousand rupees as incentive per month for the last three months for the services extended by them.
- With regard to the knowledge about general health care, the majority (73.3%) of the ASHAs scored higher than the mean score.

3.1.3.2 Roles and Responsibilities Performed Using Development Communication Approaches (*i.e.* Methods and Materials).

- For 'Creating Awareness and providing Information', all the ASHAs reported that they made home visits and nearly one-fourth of them attended Village Health and Nutrition meetings. During these activities, the majority (70.00%) used *Mamta* card and register and nearly half (46.7%) used chart, poster and flipbooks.
- 'ANC and PNC for mother and new-born' aspect was taken care with the help of 'home visit' by all the ASHAs followed by 'Health centre visit' made by forty-four

of the ASHAs. Where in a majority of them (76.7%) used *Mamta* Card or register, 53.3% used chart/poster/flipbooks followed by 43.3 % used personal interaction.

- To mobilise and facilitate villagers for accessing health facilities, a majority (86.7%) ASHAs used 'Home visit' followed by 23.3 % use 'Visit to Health Centre' method. Nearly half of the ASHAs reported about the unavailability of material/media to facilitate their task of mobilising and facilitating people in accessing health facilities.
- All the selected ASHAs made 'Home visit' to coordinate and facilitate in Village Health plan and Village Health and Nutrition Day (VHND- *Mamta* Day) However, materials used to perform this responsibility were mobile phone/smartphone and landline by 82.6 and 52.2 % of ASHAs respectively to coordinate with officials involved therein.
- Out of 30, only 18 ASHAs adopted method and material 'to encourage beneficiaries (*i.e.* pregnant and lactating mothers with their children, adolescents *etc.*) to seek benefits' under NHM. They all visited door to door and majority (73.3%) having a personal conversation with beneficiaries to encourage and avail benefits on *Mamta* day.
- Majority *i.e.* 24 ASHAs, arranged for an escort or they accompany pregnant women and children for the treatment or admission required by them. However, they did not have any materials for this work, nearly half of them (*i.e.*12 ASHAs) used a mobile phone/smartphone to arrange an escort or taking an appointment at the health centre.
- A majority (75.00 %) ASHAs performed the duty of 'Providing primary medical care for minor ailments and DOTS' wherein high majority (84.00 %) visited home and used *Mamta* Card or register for explaining and recording the primary medical care provided by them.
- ASHAs acted as a 'Depot holder' for the local community people for this they used personal interaction (81.8%) and *Mamta* Card and register (72.7%).
- A majority (21 ASHAs) perform their responsibility of 'providing service to new-born and children for minor ailments' through Home visit (90.5%) and at *Mamta*

Day (76.2%) by using personal interaction (85.7%) and chart, poster, flipbook, mobile phone and smartphone by 23.8 % of ASHAs.

- For 'Providing first-hand information of Birth/Death and an outbreak of diseases', 24 ASHAs used methods like; home visit, health centre visit and attending VHND 79.2%, 58.3% and 37.5 % respectively. For this work they used register, Mobile phone/ smartphone, leaflet/booklet distribution and chart/posters/flipbook by 70.8%, 62.3%, 38.3% and 12.00% respectively.

3.1.3.3 Provision of Development Communication Materials to ASHAs by Government and Non-Government Organisations.

- It was found that all the ASHAs were provided with CUG (Corporate User Group) card and *Mamta* Card.
- A majority (76.7%) had register provided under NHM and sixty per cent had posters on health-related issues.
- But chart, leaflets, flipbooks and video films were provided to only 53.3%, 46.7%, 43.3% and 10.0% respectively.

3.1.3.4 Need Expressed for Development Communication Materials by ASHAs.

Out of 30 respondents, 24 ASHAs expressed their need for a smartphone, followed by video projection facilities, Flipbook and posters by 19, 16 and 15 ASHAs respectively.

3.1.3.5 Barriers Faced by the ASHAs. Barriers reported by ASHAs were qualitatively analyzed and classified under three categories *viz.* Barriers related to 'Salary and facilities','Beneficiaries and Communities' and 'Authorities/Seniors and co-worker'. Which further revealed that majority of the ASHAs faced problems related to 'Salary and facilities' to the great extent which are listed as below:

- *'Smartphone is not given'*
- *'Delayed payment of salary/incentives'*
- *'Salary/incentive is less compared to workload'*

- *'Medicines/drugs are not available on time'*
- *'ASHA diary is not given on time'*
- *'Identity card is not given by Government'*
- *'Uniform is not given to us; we face identity crises'*
- *'We do not get transportation for visiting interior places'*
- *'Laptop is not given'*

The ASHAs also expressed barriers related to 'Beneficiaries' which they faced to a great extent. They reported that,

'We face difficulty to convince people for adapting better practices/availing benefits'

Further, it was found that barriers related to 'Authorities/seniors and co-workers' were faced to less extent, in their own words they said,

- *'Anganwadi Workers are not cooperative'*
- *'ANM is not recruited/ not available'*

3.1.3.6 Opinions of ASHAs regarding Use of Development Communication Approaches (*i.e.* IEC and ICT) under NHM.

- It was opined by the selected ASHA that IEC approaches helped in the easy explanation of health-related concepts which can be remembered for a longer period.
- Moreover, it was reported that ICTs fasten the delivery time and a large number of masses could be reached easily in times of emergencies and outbreak of disease. Because of the emergence and usage of new media like mobile phones, computer and internet arousal of interest in beneficiaries could be observed.

3.1.3.7 Conclusion. The feasibility study provided an insight into the subject and findings highlighted the scope and relevance of the present study. Its major findings helped the researcher to uncover and understand present availability, use, need, problems and opinions for Development Communication Approaches

expressed by the selected ASHAs working in Vadodara and Chhotaudepur districts of Gujarat State.

The findings highlighted that ASHAs were performing their roles and responsibilities using limited communication materials/IEC strategies available with them. These IEC materials (*i.e. Mamta* card, *Mamta* diary and register) were provided by Government under NHM. ASHAs would be able to perform in a better way if provided with the most suitable and appropriate Development Communication Materials to them for different content on health. This implies that ASHAs should be studied in depth for the training received, provision, use, perceived benefits and barriers regarding Health Communication Strategies. The ASHAs and other Health Care providers (ASHA Facilitators, Female Health Workers, Medical Officers, Block Health Officers *etc.*) should be approached for their need and expectations for the type and variety of IEC materials.

Hence a need was felt for an in-depth research to understand the status of Health Communication Strategies in Chhotaudepur district in general and ASHAs in particular. Therefore, present research with its specific objectives (Refer to Page no.70-74) is well justified.

3.2 Selection of Area and Population

Chhotaudepur is one of the 14 tribal districts; situated in the middle-east part of Gujarat. The selected tribal district is divided into six blocks namely Chhotaudepur, Pavi Jetpur, Kavant, Bodeli, Nasvadi and Sankheda, here Chhotaudepur block acts as the district headquarter.

ASHAs, ASHA facilitators, Female Health Workers (FHWs) and Chief District Health Officer from Chhotaudepur district of Gujarat state, comprised the Population of the study.

(A) Methodology for Survey

3.3 Sampling Unit

ASHAs were identified as a primary sampling unit for the survey.

3.4 Sampling Frame

In total 1102 ASHAs from six Blocks of Chhotaudepur district constitute the sampling frame.

3.5 Sample and Sample Selection Techniques

For the present research, Multi-Stage sampling technique was planned to draw the required sample.

At Stage-1, it was decided to take all six blocks to have a complete overview of the tribal district of Chhotaudepur. The block-wise list of total 45 PHCs along with 1102 appointed ASHAs was collected from District Panchayat Office, Chhotaudepur by the researcher herself in February 2019.

Using Simple Random Sampling method, 22 PHCs were selected from each block at stage-2. The researcher had followed ethical aspects of both means, those of health department, the government of Gujarat and the Maharaja Sayajirao University of Baroda, Vadodara. Therefore, permission was taken from Family and Health care department, Government of Gujarat, Gandhinagar, Chief District Health officer, Chhotaudepur, and respective Block Health Officers for conducting the present study.

Further, at Stage-3 ASHAs, were selected randomly until the desired sample size was achieved.

Finally, in total 326 ASHAs were selected across the six blocks namely Chhotaudepur, Pavi Jetpur, Kavant, Bodeli, Nasvadi and Sankheda of Chhotaudepur District of Gujarat state. It is graphically described in figure 19. (p. 144)

3.6 Construction of the Survey Tool

A questionnaire was designed to survey ASHAs. The tool consisted of five sections in line with the specific objectives of the present research (Appendix-4). It was primarily developed in English and then translated in Gujarati. Table 4 (p. 145) describes in detail the questionnaire used for the ASHAs.

Figure 19

Description of the Final Sample of the Survey

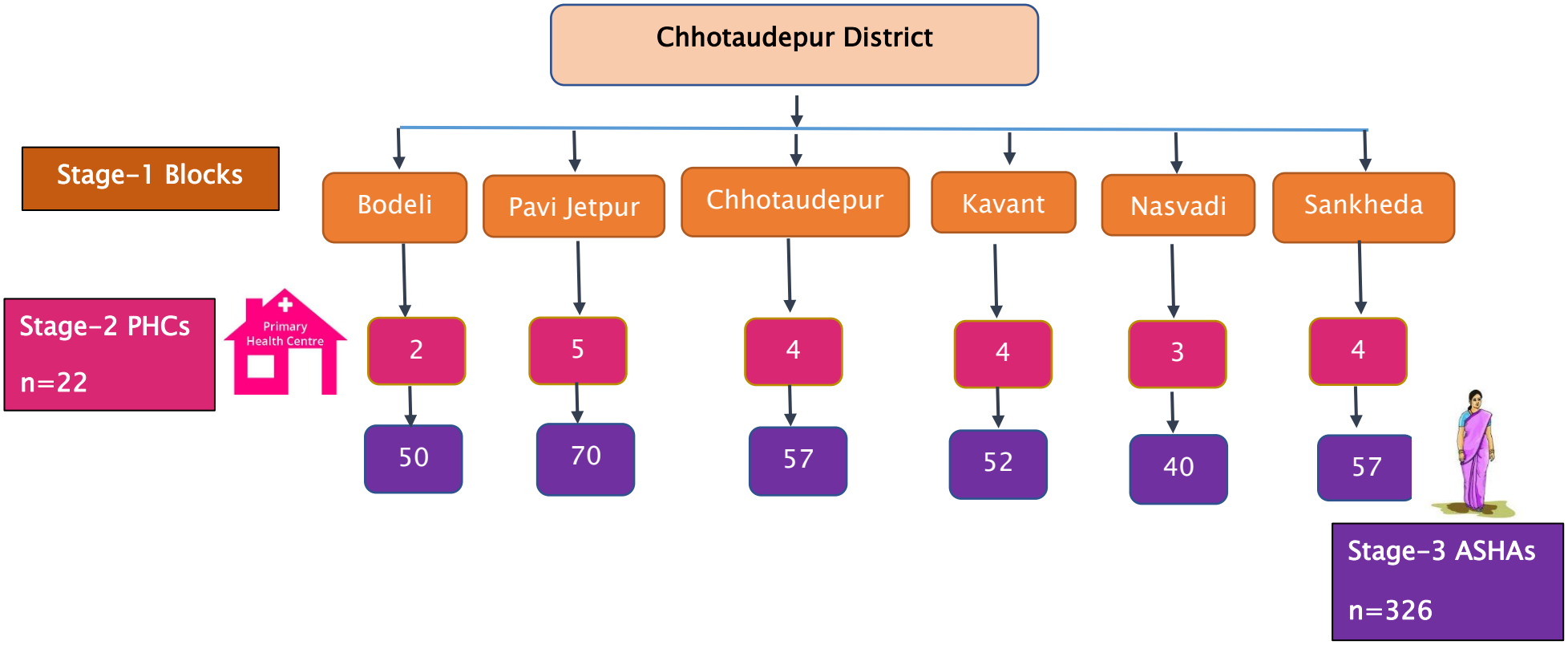

Table 4

Objective wise Description of the Tools Used for Survey

Part	Objective	Content	Tool
A.	To prepare Profile of the selected ASHAs	Personal information, Work-related information, Media Use Occupational Skills Training received under NHM Knowledge regarding Health Communication Strategies	Questionnaire & Information Schedule Rating scale Checklist Knowledge Test
B.	To find out Provision of Health Communication Strategies	Sources of Information Provision of Health Communication Strategies under NHM	Checklist Checklist
	To find out Use of Health Communication Strategies	Use of Health Communication Strategies during; Home visit, Planning and celebrating VHND (*Mamta* day), Visit to Health Facilitates, Village Health & Sanitation Committee Meeting, Keeping and informing about records	Checklist
C.	To study the Perceived Benefits of Health Communication Strategies	Perceived benefits of Health Communication Strategies	Rating Scale
D.	To find out Barriers Related to Health Communication Strategies	Barriers Related to Health Communication Strategies	Rating Scale
E.	To study the Need of Additional Health Communication Strategies	Special Training received related to Health Communication Strategies Need for additional Health Communication Strategies for; Home visit, Planning and celebrating VHND, Visit Health Facilitates, VHSNC Meeting, Keeping and informing about records	Checklist Checklist

Part A aimed at preparing a profile of the ASHAs and hence it consisted of a questionnaire, information schedule, rating scale, checklist and knowledge test. The section focused on following dimensions of profile;

- Personal information
- Work-related information,
- Media Use
- Occupational Skills
- Training received under NHM
- Knowledge regarding Health Communication Strategies

Part B of the survey tool was designed as a checklist to find out Provision of Health Communication Strategies by the ASHAs. Following aspects were included;

- Sources of Information
- Provision of Health Communication Strategies under NHM

Further Part B also aimed to find out the Use of Health Communication Strategies by the ASHAs. A checklist of 31 Health Communication media was prepared to study the Use of Health Communication Strategies for each of the following activities;

- Home visit
- Planning and celebrating VHND (*Mamta* day)
- Visit Health Facilitates
- Village Health Sanitation and Nutrition Committee Meeting
- Keeping and informing about records.

Part C focused to study the perceived benefits of Health Communication Strategies by the ASHAs under study. To elicit responses of ASHAs, a five-point rating scale was prepared having 23 statements focusing on the benefits of Health Communication Strategies.

Part D consisted of Barriers related to Health Communication Strategies. A five-point rating scale was planned to study barriers related to the following aspects;

- Features of Health Communication Strategies
- Availability and accessibility of Health Communication Strategies
- support from Authorities (Doctors, ANM, AWW *etc.*) for use of Health Communication strategies
- Characteristics of Beneficiaries for use of Health Communication strategies
- Personal (ASHA) characteristics for use of Health Communication Strategies

Part E aimed at to find out Need of additional Health Communication Strategies by the ASHAs and training received related to Health Communication. To fulfil the objective, a checklist of 31 Health Communication media was prepared to study Need for additional Health Communication Strategies for each of the following activities;

- Home visit
- Planning and celebrating VHND (*Mamta* day)
- Visit Health Facilitates
- Village Health Sanitation and Nutrition Committee Meeting
- Keeping and informing about records.

3.7 Validity of the Survey Tool

The questionnaire was validated by the selected experts from allied fields. (Appendix-3). The validators were requested to review and give their comments as well as critical remarks for the content, framing of questions/statements, clarity of language and response system used in the questionnaire. The researcher incorporated suggestion in the research tool. However, no major suggestions were received.

3.8 Pre-testing of the Survey Tool

The questionnaire was pretested with the ASHAs to check the clarity of language (Gujarati), response system and time taken for filling up the tool. A brief note was included and a few difficult terms were replaced in the tool after pretesting.

3.9 Procedure of Data Collection

Block Health Officers and then Medical Officers were contacted for permission and to fix up meetings with ASHAs at the selected PHCs. ASHAs and ASHA Facilitators were contacted for deciding time. The ASHAs were informed about the objectives of the research and the importance of their participation and the consent form. The questionnaire was filled up by the ASHAs in a group meeting with the assistance/help of the researcher. It took almost two hours on an average to fill up the tool. Data collection was done personally by the researcher from 326 ASHAs during January-April months of 2019.

3.9.1 Problems Faced during Data Collection

During the data collection period, many challenges and hurdles came in the way of the researcher. Although Staff of Health department was very much cooperative by giving permission for data collection and for facilitating in arranging meetings with the ASHAs; from District Panchayat Office to PHCs at the grass-root level, the data collection work was delayed. It was due to many official and festival-related factors which are listed as follow:

- Strike of State transport buses during 11.2.2019-13.2.2019
- Strike of Health department staff during 14.2.2019 to 27.2.2019
- Launch of Pension Scheme for BPLs by the Hon. PM Mr. Narendra Modi on 24.2.2019, ASHAs were busy in self-enrolment and mobilising people from their assigned areas to enrol for the same
- National level Joint Review Committee visit at each block and PHC during 12.3.2019 to 16.3.2019
- Polio campaign on 10.3.2019 to 12.3.2019
- Holi-Dhuleti celebration during 18.3.2019 to 6.4.2019

Moreover, length of the tool increased time required to fill up the questionnaires; which acted as a barrier in the smooth rollout of data collection plan.

3.10 Scoring and Categorisation of the Data

3.10.1 Scoring and Categorisation of the Variables

Table 5

Categorisation of selected Variables of the ASHAs

Variable	Basis	Range	Categories
Block	–	–	Chhotaudepur
	–	–	Sankheda
	–	–	Bodeli
	–	–	Nasvadi
	–	–	Pavi Jetpur
	–	–	Kavant
Age	Mean and Above Mean	35 to 62 years	Older
	Below Mean	21 to 34 years	Young
Educational	–	–	Primary
Qualification	–	–	Secondary
	–	–	Higher Secondary
	–	–	Graduation
Work Experience	Mean and Above	7 .1 to 15 years	More Work Experience
	Below Mean	7 years and below	Less Work Experience
Media Use	Above Mean	2.10 and above	High
	Mean	1.05-2.00 hrs	Average
	Below Mean	1.00 and below	Low
Occupational Skills	Above Mean	112 and above	Excellent
	Mean	98-111	Moderate
	Below Mean	97 and below	Poor
Training received	Completely trained for all modules with a refresher course	–	Completely trained
	Not received training for anyone/more modules or refresher course	–	Partially trained
Knowledge regarding HCS	Above Mean	13 to 20	High
	Mean	7 to 12	Medium
	Below Mean	1 to 6	Low

3.10.2 Scoring and Categorisation of the other Variables

Table 6

Categorisation of the Other Variables of the ASHAs

Variable	Basis	Categories
Marital status	–	Married
	–	Widow
	–	Divorcee
	–	Separated
	–	Unmarried
Caste	–	General
	–	SC
	–	ST
	–	OBC
	–	Others
Total Monthly Family income	5001 and above	High Monthly Family Income
	500 to 5000	Low Monthly Family Income
Number of Family members	6 and above	More number of Family members
	5 and below	Less number of Family members
Type of Family	–	Nuclear family
	–	Joint family
	–	Extended family
Number of assigned Villages	One (1)	One (1) village
	Two (2) and more	Two (2) and more villages
Population covered	1032 and above	Large population to be covered
	1031 and below	Small population to be covered
Number of Households in the assigned area	177 and above	More number of Households in assigned area
	176 and below	Less number of Households in assigned area
Number of Working hours	181 hours and above	More number of working hours
	180 hours and below	Less number of working hours

3.10.3 Provision and Use of Health Communication Strategies

3.10.3.1 Sources of Information. To measure the sources of information used by the ASHAs, a classified checklist was developed, wherein total 31 Health Communication Strategies were given in four categories viz, 14- Print and graphic media, 13- Electronic and new media, 3-Folk media and 1-others. Based on the number of Sources of Information used by the ASHAs, categorisation was done as shown in table 7.

Table 7

Categorisation of Sources of Information

Variable	Basis	Range	Categorisation
Sources of Information	Mean and Above	6 and above	More sources of Information
	Below Mean	5 and below	Less sources of Information

3.10.3.2 Provision of Health Communication Strategies Under NHM. The same classified checklist was used to find out a provision of Health Communication Strategies for selected work, wherein total 31 Health Communication Strategies were given in four categories viz, 14- Print and graphic media, 13- Electronic and new media, 3-Folk media and 1-others. Based on the number provision of Health Communication Strategies by the ASHAs, categorisation was done as follows in table 8:

Table 8

Categorisation of Provision of Health Communication Strategies

Variable	Basis	Range	Categorisation
Provision of Health Communication Strategies	Mean and Above	11 and above	More provision
	Below Mean	10 and below	Less provision

3.10.3.3 Use of Health Communication Strategies. To study the use of Health Communication Strategies by the ASHAs, a classified checklist was prepared, wherein total 31 Health Communication Strategies were listed in four categories viz, 14- Print and graphic media, 13- Electronic and new media, 3-Folk media and 1-others.

The checklist was useful in assessing the overall and activity-wise use of Health Communication Strategies. Following table describes the total number of items under each sub-section with minimum and maximum obtainable scores for their overall as well as activity-wise use of Health Communication Strategies.

Table 9

Minimum and Maximum Obtainable Scores of Overall and activity-wise Use of Health Communication Strategies

Use of Health Communication Strategies	No. of Items	Minimum obtainable score	Maximum obtainable score
Overall	155	0	155
Home visit	31	0	31
Planning and celebrating VHND (*Mamta day*)	31	0	31
Visit Health Facilitates	31	0	31
Village Health and Sanitation Committee Meeting	31	0	31
Keeping and informing about records	31	0	31

The maximum obtainable scores for overall use was 155 and for activity wise use was 31, whereas for overall and activity wise use, minimum obtainable scores was zero (table 9). Based on the overall and activity-wise scores obtained for the use of Health Communication Strategies by the ASHAs, they were categorised as follows as given in table 10:

Table 10

Categorisation of Overall and activity-wise Use of Health Communication Strategies

Variables	Basis	Range	Categorisation
Overall Use	Mean and Above	38 and above	More overall use
	Below Mean	37 and below	Less overall use
Home visit	Mean and Above	9 and above	More use
	Below Mean	8 and below	Less use
Planning and celebrating VHND (*Mamta* day)	Mean and Above	9 and above	More use
	Below Mean	8 and below	Less use
Visit Health Facilitates	Mean and above	8 and above	More use
	Below Mean	7 and below	Less use
Village Health and Sanitation Committee Meeting	Mean and above	7 and above	More use
	Below Mean	6 and below	Less use
Keeping and informing about records	Mean and above	6 and above	More use
	Below Mean	5 and below	Less use

3.10.4 Perceived Benefits of Health Communication Strategies

To check the Perceived Benefits of Health Communication Strategies by ASHAs, a rating scale was developed. Review of related literature, findings of the feasibility study and researcher's personal on field observations helped in the framing of statements under this section. The Five-point scoring pattern was used for the rating of the total 23 statements, which is described in the following table 11:

Table 11

Minimum and Maximum Obtainable Scores of Perceived Benefits of Health Communication Strategies

The extent of Perceived Benefits	Score	No. of Items	Minimum obtainable score	Maximum obtainable score
Least beneficial	1	23	23	115
Somewhat beneficial	2			
Beneficial	3			
More beneficial	4			
Extremely beneficial	5			

The Maximum Obtainable score was 115 and Minimum obtainable score was 23 in the section namely 'Perceived benefits of Health Communication Strategies'. Therefore, categorisation was done by considering the range and basis given in the table 12.

Table 12

Categorisation of scores of Perceived Benefits of Health Communication Strategies

Variable	Range	Categorisation
Perceived Benefits of Health Communication Strategies	96 and above	Extremely beneficial
	76-95	Moderately beneficial
	75 and below	Least beneficial

Further, to find out the overall and item-wise perceived benefits by ASHAs, intensity indices were also measured. The table 13 shows the categorisation of Intensity Indices for perceived benefits of Health Communication Strategies.

Table 13

Range of Intensity Indices for Perceived Benefits of Health Communication Strategies

The extent of Perceived Benefits	Range of Intensity Indices
Extremely beneficial	4.2-4.7
Moderately beneficial	3.6-4.1
Least beneficial	3.0-3.5

3.10.5 Barriers related to Health Communication Strategies

A five-point rating scale was developed to measure the barriers related to Health Communication Strategies expressed by the ASHAs. For this rigorous review of literature and findings of the feasibility study were used as a reference for preparing tool covering five aspects of Health Communication Strategies *viz.* their Features, availability and accessibility, characteristics of authorities, beneficiaries and personal. In total 29 statements were prepared for which following five-point scoring pattern was used as presented in table 14:

Table 14

Minimum and Maximum Obtainable Scores of Barriers Related to Health Communication Strategies

Extent of Barriers	Score	No. of Items	Minimum Obtainable Score	Maximum Obtainable Score
Least barrier	1	29	29	145
Somewhat barrier	2			
Barrier	3			
More barrier	4			
Extreme barrier	5			

In this section, the maximum obtainable score was 145 and minimum obtainable score was 29. The following table 15 guided the researcher for

categorisation of barriers expressed by the ASHAs for Health Communication Strategies.

Table 15

Categorisation of Scores of Barriers Related to Health Communication Strategies

Variable	Range	Categorisation
Barriers of Health Communication Strategies concerning selected aspects	118 and above	Extreme level of barrier
	71-117	Moderate level of barrier
	70 and below	Least level of barrier

To find out the overall and item-wise Barriers faced by the ASHAs, intensity indices were measured. Following table 16 shows the categorisation of Intensity Indices:

Table 16

Range of Intensity Indices for Barriers Related to Health Communication Strategies

Extent of Barriers	Range of Intensity Indices
Extreme level of barrier	2.9-4.0
Moderate level of barrier	1.7-2.8
Least level of barrier	0.5-1.6

3.10.6 Need of Additional Health Communication Strategies

A classified checklist of Health Communication Strategies was used to assess the need of additional Health Communication Strategies for selected work, wherein total 31 Health Communication Strategies were given in four categories viz,, 14- Print and graphic media, 13- Electronic and new media, 3-Folk media and 1-others.

Through the checklist, it was possible to find out the overall and activity-wise need for additional Health Communication Strategies. The following table 17 shows the number of items under each activity performed by the ASHAs, minimum and maximum possible scores expressing their overall and activity-wise need of additional Health Communication Strategies under NHM.

Table 17

Minimum and Maximum Obtainable Scores of Need of Additional Health Communication Strategies

Need for Additional Health Communication Strategies	No. of Items	Minimum Obtainable Score	Maximum Obtainable Score
Overall	155	0	155
Home visit	31	0	31
Planning and celebrating VHND (*Mamta day*)	31	0	31
Visit Health Facilitates	31	0	31
Village Health and Sanitation Committee Meeting	31	0	31
Keeping and informing about records	31	0	31

Based on the scores of the need of additional Health Communication Strategies expressed by the respondents for each work, they were categorised as follows in table18:

Table 18

Categorisation of Overall and activity-wise Need of Additional Health Communication Strategies

Variables	Basis	Range	Categorisation
Overall need	Mean and Above	44 and above	More need
	Below Mean	43 and below	Less need
Home visit	Mean and above	10 and above	More need
	Below Mean	9 and below	Less need
Planning and celebrating VHND (*Mamta day*)	Mean and above	10 and above	More need
	Below Mean	9 and below	Less need
Visit Health Facilitates	Mean and above	8 and above	More need
	Below Mean	7 and below	Less need
Village Health and Sanitation Committee Meeting	Mean and above	9 and above	More need
	Below Mean	8 and below	Less need
Keeping and informing about records	Mean and above	8 and above	More need
	Below Mean	7 and below	Less need

3.11 Plan of Statistical Analyses of the Data

Various appropriate and meaningful statistical measures were planned in consultation with a statistician for comprehension, clarity, comparison and interpretation of the data (table 19). For validation and consistency of survey data, the data entry was done in CSPro 6.1 and SPSS 20.0 was used for data analysis.

Table 19

Plan of Statistical Analyses

Purpose	Statistical Measures
Personal Information	Frequencies and Percentages
Work-Related information	Frequencies and Percentages
Media Use	Frequencies and Percentages
Occupational skills	Frequencies and Percentages
Training Received	Frequencies and Percentages
Knowledge about Health Communication strategies	Frequencies and Percentages
Provision of Health Communication Strategies	Frequencies and Percentages
Use of Health Communication Strategies	Frequencies and Percentages T-test, ANOVA, Tukey's HSD
Perceived Benefits of Health Communication Strategies	Frequencies and Percentages T-test, ANOVA, Tukey's HSD Intensity Indices
Barriers related to Health Communication Strategies	Frequencies and Percentages T-test, ANOVA, Tukey's HSD Intensity Indices
Need of Additional Health Communication Strategies	Frequencies and Percentages T-test, ANOVA, Tukey's HSD

The formula used:

- **For calculating Sample size**

$$SS = \frac{Z^2 * (p) * (1-p)}{c^2}$$

Where,

Z = Z value (e.g. 1.96 for 95% confidence level)
p = percentage picking a choice, expressed as decimal (.5 used for sample size needed)
c = confidence interval, expressed as decimal
(e.g., .05 = ±5)

- **The formula used for t-test**

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}}$$

- **The formula used for ANOVA:**

$$= \frac{\text{Between Group Variance}}{\text{Within Group Variance}}$$

Where,

Between Group Variance=Variance in the mean of each group from the total mean of all variance group

Within Group Variance=Average variance of scores within groups

- **The Formula used for Tukey's HSD test:**

$$HSD = \frac{M_1 - M_2}{\sqrt{MS_w\left[\frac{1}{n}\right]}}$$

Where,

HSD = Honestly Significant Difference

M_1 and M_2 = mean values

MS_w =Mean Square Width

n = number per mean

- **The formula used for calculating Intensity Indices:**

$$= \frac{\text{Total Score for an Item}}{\text{Total number of respondents}}$$

B) Methodology for Focus Group Discussions and an In-Depth Interview

Focus Group Discussions and In-Depth Interview facilitated researcher to gather in-depth, comprehensive and descriptive responses from the groups of respondents. These helped in consolidating the complete scenario of the phenomena under study. Qualitative data enhance research finding as they can be used in triangulation.

Focus Group Discussions with ASHAs, ASHA Facilitators and Female Health Workers helped in studying provision, use, perceived benefits, barriers and needs for additional Health Communication Strategies. Further In-Depth Interview was planned with the CDHO to study the process involved in planning, executing and monitoring of Health Communication Strategies.

3.12 Sampling Unit

To fulfil requirements of FGDs; ASHAs, ASHA Facilitators and Female Health Workers and for In-Depth Interview, Chief District Health Officer were identified as Sampling units.

3.13 Sampling Frame

In the present investigation 1102 ASHAs, 118 ASHA Facilitators, 306 Female Health Workers constitute the sampling frame for FGDs. Each district has one CDHO, so the officer became sample cum sample frame.

3.14 Sample Size and Selection Technique

From each sample frames, the selection of the sample was done purposively based on the permission and appointment given by the respective Block Health Officer and Chief District Health Officer. The BHOs helped the researcher in the process of sample selection. To fulfil the requirements of present research data, following criteria were shared with the respective BHO in advance:

- Those who are vocal and able to communicate their ideas, viewpoints and actively participate in the FGD.
- Those having an understanding of Village Healthcare system and therefore can express health concerns for the same.
- Those who can deliberate and discuss selected aspects of Health Communication Strategies *viz.* provision, use, benefits, barriers and needs.
- Those with personal willingness and interest in participation in FGD.

The total 74 ASHAs, 31 ASHA Facilitators and 34 FHWs participated in the Focus Group Discussions held across the district, the blocks wise sample is presented in the table 20.

Table 20

Distribution of Participants in Focus Group Discussions

Samples	Chhotaudepur	Bodeli	Kavant	Nasvadi	Pavijetpur	Sankheda	Total
ASHAs	10	15	8	9	12	20	74
ASHA Facilitators	5	3	5	5	3	10	31
Female Health Workers	5	4	4	5	6	10	34

Besides these, one In-Depth Interview was conducted with Chief District Health Officer.

3.15 Research Tools for Focus Group Discussions and In-Depth Interview

Separate tools (table 21) were developed by the researcher for specific participant groups to efficiently elicit qualitative data.

Table 21

Objective wise Description of the Tools

Objective	Participants	Tools
Profile, Provision, Use, Perceived benefits, Barriers, Need of Additional HCS	ASHAs	FGD theme guide (Appendix-5)
Provision, Use, Perceived benefits, Barriers, Need of Additional HCS	ASHA Facilitators and Female Health Workers	FGD theme guide (Appendix-6)
Existing health facilities, Process of Health Communication (Planning, executing, monitoring and recommendation for future HCS)	Chief District Health Officer	Proforma & In-Depth Interview Schedule (Appendix-7)

3.15.1 FGD Theme Guides

3.15.1.1 FGD Theme Guide for ASHAs. A set of questions/themes were prepared separately for discussing with the participant ASHAs. Researcher facilitated in total six FGDs, one in each block, in which following questions/themes were discussed.

- Feeling about status in family and village/community after the appointment as an ASHA
- Change/improvement in personal and occupational skills after attending ASHA training(module)
- Views regarding the provision, Use, Perceived Benefits and Barriers of the Health Communication Strategies under NHM

- Felt need for additional Health Communication Strategies while dealing with beneficiaries and their types
- Opinion about the involvement of the local ASHAs during the making of new Health Communication strategies specifically for Tribal area.
- Describing the most significant effect/impact of Health Communication Strategies while dealing with beneficiaries.

3.15.1.2 FGD Theme Guide for ASHA Facilitators and FHWs. The researcher conducted in a total of six FGDs across the tribal district. In each FGD, the group comprised of ASHA Facilitators and FHWs of the selected block. Following themes/ questions were asked by the facilitators and participants deliberated on the same.

- Provision of Health Communication Strategies under NHM.
- Highlighting the use of Health Communication Strategies while performing duties.
- Views regarding most beneficial Health Communication Strategies for the following;
    - Creating Awareness
    - Counselling
    - Coordinating and Monitoring
    - Reporting
- Barriers related to Health Communication Strategies concerning the job.
- Suggestion on innovative type of Health Communication Strategies to strengthen NHM in Chotaudepur district, Gujarat state.
- View on field testing of Health Communication Strategies.
- Opinion on the involvement of the local ASHA, FHWs and ASHA facilitators in any phase (planning, designing and production, executing/delivering) of Health Communication Strategies

3.15.1.3 Proforma and an In-Depth Interview Schedule for CDHO. A Proforma and an interview schedule were used to prepare a profile of existing Health Facilities and also to study the process involved in planning, executing and monitoring of Health Communication Strategies in Chhotaudepur district of Gujarat state.

3.15.1.3.1 Proforma. It was used to prepare a profile of existing health facilities on the following items,

- Healthcare facilities
- Human resources and their capacity building for Health Communication
- Facilities at PHCs for Health Communication

3.15.1.3.2 In-Depth Interview Schedule. The CDHO was interviewed using the schedule which consisted of following questions,

- Process of planning, designing and production of Health Communication Strategies under NHM
- Process of receiving Health Communication Strategies at District level under NHM
- Distribution and monitoring of Health Communication Strategies in the District
- Opinion on the involvement of grass-root level functionaries in the planning of Health Communication Strategies
- Benefits of Graphic/print, electronic/new media and folk media in the context of Chhotaudepur district
- Barriers related to Health Communication Strategies
- Recommendation for future Health Communication Strategies

3.16 Process of Conducting FGDs and an In-Depth Interview

3.16.1 Conducting FGDs

As per the appointment given by the Block Health Officer, investigator coordinated with the group members. The BHOs were kind enough to facilitate in fixing up the time and venue to conduct the Focus Group Discussions.

In each from six blocks, two FGDs were conducted *i.e.* one with the group of ASHAs and one with the combined groups of ASHA Facilitators and Female Health Workers. Therefore, in sum 12 FGDs were conducted in the whole of the District.

The BHOs of Chhotaudepur, Kavant and Nasvadi felt it convenient to hold FGDs at their respective Block Health Offices for all groups. In two blocks namely Bodeli and Pavi Jetpur the FGDs were organised at Tadkachala and Bar PHCs respectively for all groups (ASHAS, ASHA Facilitators and FHWs). Whereas Sankheda BHO planned FGD with ASHAs at Bhatpur PHC and with ASHA Facilitators and FHWs it was held at Jalaram Mandir, Sankheda. Holding and facilitating the FGD was an enriching experience. Proper sitting, light, ventilation; documentation facilities like video camera, audio recorder and consent cum attendance sheet were arranged at the venue beforehand. The researcher herself facilitated the group discussion.

All the groups were familiarized properly to the subject of research and the purpose of holding focus group discussion. They were also explained about the basic rules/decorum of FGD like everyone has an equal chance to speak/share, respecting one another's viewpoints/feelings/ideas, not to cut/interrupt while any participant is speaking *etc.* Consent was sought from the interested Group members. Interestingly there was not a single person who did not give her consent there were more members who were enthusiastically present than expected by the Investigator. Therefore, they all were involved in FGDs. Then facilitator, initiated the discussion by putting up questions/points of discussion referring to the Theme-guides prepared for each set of groups. FGDs with ASHAs took almost 35-55 minutes, whereas FGD with the combined group of ASHA Facilitators and FHWs lasted for 20-35 minutes.

3.16.2 Conducting an In-Depth Interview

An appointment was taken well in advance for arranging an In-Depth interview with the Chief District Health Officer. It took almost 1 hour and 10 minutes to elicit all the answers as planned under the interview schedule. The interview was documented electronically as well as manually to keep record and reference for data

analysis. FGDs and In-depth Interview were done personally by the researcher during March 2019-April 2019.

3.17 Content Analysis and Interpretation of the Data

As the first step of analysis of FGDs and in-depth interview, the researcher prepared transcripts from recordings and running notes. Verbatims were read-reread for enlisting trending sub-themes under themes based on the objectives of the study. Then after, comparative tables of sub-themes under each theme were prepared. Responses of the participants are reported in the finding and discussion chapter in the boxes containing verbatims according to themes and sub-themes derived.

3.18 Ethical Aspects of the Study

During the study, the investigator had considered and followed the necessary ethical measures. First and foremost, important permission for data collection was taken from the State Health and Family Welfare Department, Gandhinagar and Chief District Health Officer, Chhotaudepur.

Moreover, all the tools used under both qualitative and quantitative approaches were validated by in total of 13 subject experts in their field of knowledge.

The investigator had taken written consent from all respondents before executing questionnaire, Focus-Group Discussion and Interview.

Figure 20

Methodology (Objectives, Tools and Analysis) – At a Glance