Original article

Health needs assessment by Participatory Rural Appraisal technique.

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Abstract

Introduction: There are wide disparities in various health needs between urban and rural areas as suggested by large gaps in achievement of diverse health indices. Though different health indices are very useful to identify professionally defined needs but professionally defined needs may not comprise of Perceived needs, and it is always difficult to identify Perceived needs of community. Active community participation is very much essential in recognizing the Perceived needs. Participatory Rural Appraisal (PRA) has been documented as a powerful means of not only involving community in identification and analysis of problems, but also in planning and implementation of programs.

Materials and Methods:

Three PRA methods like social map (with water & sanitation map), life-cycle frame work & village transect were applied. Data were analyzed manually.

Results and Discussions: The primary perceived need found by Social Map is water supply. It was the sole responsibility of women to go & fetch water from water sources. This has direct bearing with the overall development and health of women. There is lack of availability of sanitary facility at most of the houses and lack of utilization of available community toilet. Village transect reveals use of age old cow dung as the principal fuel in their chulas and this may affect women's health on long term. Opportunities for earning a livelihood include either fishing or working in a prawn farm. Health problems in women range from adolescent health problems to health problems of elderly women.

Key Words: Health needs assessment, Participatory Rural Appraisal

Introduction:

In simple words, a need is something that is necessary for organisms to live a healthy life.[1] In more complex form, need has two characteristics. Firstly, need refers to a lack of something. Secondly, need is not an absolute concept. There are gradations of needs, and hence needs are prioritized. Less immediately apparent is the idea that need is a subjective rather than an objective, scientific concept. Perceptions of need will vary depending on the observer.[2]

Health needs may be defined as scientifically(biologicalyl,epidemiologically etc.) determined deficiencies in health that call for preventive, curative and eventually (where appropriate) control or eradication measures.[3]

A more refined classification was proposed by the WHO Expert Committee on Health Statistics in 1971[4]:

a) Perceived need: the need for health services experienced by the individual and which he/she is prepared to acknowledge.

b) Professionally defined need: the need for health services recognized by a health professional from the point of view of the benefit obtainable from advice, preventive measures, management or specific therapy.

c) Scientifically confirmed need: the need confirmed by objective measures of biological, anthropometric or psychological factors, expert opinion or the passage of time. It is generally considered to correspond to those conditions that can be classified in accordance with the International Classification of Diseases.

There are wide disparities in various health needs between urban and rural areas as suggested by large gaps in achievement of diverse health indices for example Neonatal Mortality Rate, Post Neonatal Mortality Rate, Infant Mortality Rate, Child Mortality Rate (1-4 years) and Under 5 Mortality Rate. Water supply, sanitation facilities, availability of electricity are not up to the mark in rural India. RCH indicators like 3 + ANC visits, IFA for 90+ days, Post natal care within 2 days of delivery, Children with anemia, Underweight children are also poor in Rural India. [5]

Though these indices are very useful to identify professionally defined needs but professionally defined needs may not comprise of Perceived needs, and it is always difficult to identify Perceived needs of community. Active community participation is very much essential in recognizing the Perceived needs. Participatory Rural Appraisal (PRA) has been documented as a powerful means of not only involving community in identification and analysis of problems, but also in planning and implementation of programs. Robert Chambers defines PRA as "a semi-structured process of learning from, with and by rural people. It is a community empowering method that generates information on health and social issues for utilization by the communities and service providers for planning, development, implementation and evaluation of the programs."[6] PRA involves visual methods and is considered as one of the best frameworks to understand, analyze and develop programs with communities.[7]

Participatory Rural Appraisal (PRA) describes "a growing family of approaches and methods to enable local people share, enhance and analyze their knowledge of life and conditions, to plan and to act."[8]

In the last two decades, many PRA methods have been developed to inform various aspects of health and social development. The list of reliable and valid methods includes: social maps to identify social & health assets and vulnerable individuals & groups; transact walks for topological or social features; service maps describing design and services available at a facility; and body maps describing illness.[9] Use of combination of many of these methods for program planning, implementation and evaluation cycle has also been successfully tested.[10] Robert Chambers analyzed the 20-year history of the development of PRA and concluded that with appropriate attitude of respect for rural people and interest in what they know and say, professionals could find innovative methods as highly useful for analyzing the health context and for developing programs.[6]

Materials and Methods:

Study design: Qualitative study using Participatory Rural Appraisal (PRA) Techniques (described wide below)

Study setting: Small interior village of South Gujarat region, India

Study population: local people of the same village

Study period: Last week of May, 2011

Consent prior to study: Informed verbal consent was taken from all the participants.

Sampling technique: All the villagers were informed about the objectives of the study and the voluntary participation was encouraged. Some individuals who came voluntarily for the study were included in the study. Different numbers of individuals were included in different PRA techniques.

PRA techniques:

We used three methods: social map (with water & sanitation map), life-cycle frame work & village transect. Three facilitators participated in the process. One facilitator was asking questions & was discussing with the community, 2nd was copying diagrams on paper sheets & 3rd was taking notes from the discussions. All of the sessions were conducted with the

community at a common place, where villagers usually gather for Gram Sabha, except for village transect (which was conducted by having a walk with some villagers in village).

At the start of the session the facilitator introduced the participatory rural appraisal to initiate participation & explained the purpose & schedule of conducting different methods of PRA. On each of these methods conducted with the community, chalks were used to draw different maps & diagrams on the ground.

Following are the methods that were utilized.

1. **Social map**[11]: Participants of community were asked to draw a map of the village to get information of village layout & infrastructure mainly focusing on social strata, water supply & sanitation. Other aim was to establish a close rapport with the community. Three men & four women participated in drawing the map. There were other people approximately 15 of different age to guide them in drawing the correct map.
2. **Village transect**[11]: An observatory walk was conducted with four informants of the village through the residential area, observing & making notes of layout of the village; examining the social aspects as a whole. We also visited the houses for having a look of livestock management, grain storage, stove used for cooking & other purposes, water supply & storage, sanitation.
3. **Life cycle framework**[12]: Participants of community were asked to draw a line on the ground & divide it into various stages of life from birth to death, and then they were asked to list & discuss various health problems or needs & the reasons for the same, as perceived by them in different life stages. Eleven women of different stages of life participated in this activity.
4. **Data entry & analysis:** Diagrams and notes taken by the facilitators were later analyzed manually.

Results

1. **Social map**: Mendhar faliya is the biggest one (among three faliyas), in which primarily Tandel community stays. Other two faliyas are small. Koliwad is chiefly occupied by Koli Patel community & Bavri is again occupied chiefly by Tandel community.
2. **Water supply:** There are seven open wells in Mendhar village. Two of these seven are used for drinking purpose. One is located in Mendhar faliya & the other located in Koliwad. The other five wells are used for domestic purpose. All of these well are again located in Mendhar faliya. There are no well in Bavri faliya. So the people of Bavri faliya has to mainly rely for drinking water upon the well located in Mendhar faliya, one & half kilometer away.

   In addition to open wells, there are common taps, water of which is again utilized for domestic purpose. Because of no wells (for getting water for domestic purpose) in rest of two faliya, they have to depend on hand pumps. Because there are no wells in Bavri & Koliwad for water for domestic purpose, the people of Bavri & Koliwad have to depend upon common taps located in their areas. But the primary problem is that water in common tap comes at an irregular interval mostly every two or three days. Many people have an arrangement of Boring (Electric Motor well) water, which is also utilized for domestic purpose. There are four lakes, three out of them are small & gets dried in summer. Only one lake which is big located in Mendhar faliya, in which water remains even in summer is also utilized for domestic purpose. There are two RCC water tanks which

Table 1: Health Problems being faced by children & women of Mendhar village and Factors considered by them to be responsible for the same

Age in Years	Health Problems being faced	Factors considered by them to be responsible for their health problems
0(birth)-5	Acute respiratory tract infections (including cough & cold, pneumonia), fever, anemia, diarrhea, chicken pox, malaria, meningitis, asthma.	Dust responsible for cough & cold, asthma; mosquito bite responsible for malaria, dirty water responsible for mosquito breeding, open house water tank for three to four months responsible for mosquito breeding; heat responsible for chicken pox & worship of Mata cures chicken pox; unhygienic food & water responsible for diarrhea; inadequate & improper food intake responsible for anemia
6-12	Early menses	Milk, pickle & methi
13-18	Abdominal pain (dysmenorrhoea), menorrhagia, anemia, fever, reproductive tract infection	Inadequate & improper food intake
19-25	Anemia, leg swelling, eclampsia, joint pain during pregnancy; infertility, jaundice	Adverse drug effects responsible for jaundice; anemia of preceding age
26-45	Watery vaginal discharge, burning micturition, joint pain, early menopause, asthma	Dust responsible for asthma; heat, chili & pickle responsible for burning micturition
46-60	Cataract, joint pain, hypertension, diabetes mellitus, hypermetropia, paralysis	Aging process
61-75(death)	Blindness in addition to above	Aging process

are not in use now. One big RCC tank has been constructed recently, which is destined to be working in near future. It is likely that it will provide water to each house. The underground pipelines & tap in each house have already been established for this.

3. **Sanitation:** Only about ten percentages of houses have toilet in their houses. Rest of the people goes to open field which is mainly barren land due to presence of sea water in land. There are two community toilets, which are not utilized by the villagers.
4. **Village transect**: The information collected in social map were confirmed in village transect. They mainly store rice in barrel. There are gas stoves in their houses, which are mainly used for making tea; otherwise they mainly use Chula for cooking. Dried cow dung is used as fuel. Most of the houses are either pucca or semi-pucca. There were cattle sheds in some of the houses. They dispose of animal urine in a pit made in land. Most common occupation of people of Mendhar village is fishing. Some of the people work in Prawn farms.

5. **Life cycle framework**: Women in Mendhar village divided the life cycle of a woman in Mendhar village to following groups; 0(birth)-5, 6-12; 13-18, 19-25, 26-45; 46-60 & 61 to 75(death).
6. The women of Mendhar village described following health related problems and the factors responsible the same. (Table 1)

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Age in Years	Health Problems being faced	Factors considered by them to be responsible for their health problems
0(birth)-5	**Acute respiratory tract infections (including cough & cold, pneumonia), fever, anemia, diarrhea, chicken pox, malaria, meningitis, asthma.**	**Dust responsible for cough & cold, asthma; mosquito bite responsible for malaria, dirty water responsible for mosquito breeding, open house water tank for three to four months responsible for mosquito breeding; heat responsible for chicken pox & worship of Mata cures chicken pox; unhygienic food & water responsible for diarrhea; inadequate & improper food intake responsible for anemia**
6-12	**Early menses**	**Milk, pickle & methi**
13-18	**Abdominal pain (dysmenorrhoea), menorrhagia, anemia, fever, reproductive tract infection**	**Inadequate & improper food intake**
19-25	**Anemia, leg swelling, eclampsia, joint pain during pregnancy; infertility, jaundice**	**Adverse drug effects responsible for jaundice; anemia of preceding age**
26-45	**Watery vaginal discharge, burning micturition, joint pain, early menopause, asthma**	**Dust responsible for asthma; heat, chili & pickle responsible for burning micturition**
46-60	**Cataract, joint pain, hypertension, diabetes mellitus, hypermetropia, paralysis**	**Aging process**
61-75(death)	**Blindness in addition to above**	**Aging process**

Social problems faced by women of Mendhar village: Alcoholism is very common among men of Mendhar village. Many times, women of Mendhar village face violence from their family members most commonly from their husbands.

Because of alcoholism, men also don't go for work. So, their wives have to work for family. This leads to extra burden of work to women & indirectly affects women's health.

Discussion:

PRA techniques revealed various issues in relation to the need of the people, resources available, status of the execution of various schemes and acts and the role of the PRI in context of the National Rural Health Mission (NRHM).

Villagers of small village having population of 2500 on western part of India are waiting for safe drinking water supply at their homes along with the drive for domestic and peridomestic sanitation. Although they have started a restricted use of environment friendly LPG at their homes, an act like NREGA for guaranteed employment in rural area and a mission like NRHM have yet to move the things at PRI level for eliminating the gaps between the perceived needs and the professional needs of the people.

Unequal distribution of water resources and erratic water supply in a village of 3 Km diameter has come out as a major concern of the people as reflected in Social map and during village transect.

By definition, although, it is not a 'no-source' village[13] under water supply and sewerage board, women in this village desire such a basic amenity. Currently women have adapted themselves to the situation of drinking water in a village by fetching the water from Mendhar hamlet or waiting in a queue for several hours for uncertain episode of watering from community tap.

One of the few health problems (of the children) identified by women of this village was diarrhea and it may be related to scarcity of water and meager facility of toilets and absence of culture of use of sanitary latrine in this traditional community. Another water related illness emerged out in life cycle framework was malaria, which may be attributed to improper storage of water or Anopheles sundaicus breeding for which coastal area is a natural habitat.[14]

Life cycle framework also reflected occurrence of anemia during adolescent and young adulthood among women. It can be mainly due to dietary deficiency or infections due to poor sanitary condition in addition to increased physiological demand during life-cycle. Although fish is easily available, dietary deficiency can occur among poor people. It also raised an issue of much talked school adolescent anemia control programme in Gujarat[15] under which all adolescent girls are provided with weekly supplementation of iron in the form of iron folic acid tablet.

Existence of reproductive tract infection, vaginal discharge, burning micturition, infertility and menopause exhibits professional need of an obstetrics and gynecological services by a state government who claims to have started working for the first time for the people residing in the coastal area under 'Saagar Khedu' yojana.

In addition to acute conditions, a list of chronic diseases like osteoarthritis, diabetes mellitus, hypertension, cataract (resulting in blindness) and stroke (resulting in paralysis) seems to be a challenge for policy makers of NRHM. Encroachment by such secondary and tertiary care issues in such a village suggests increase in life expectancy as well as increased burden of diseases on a rural area.

Various aspects in adolescent health and geriatric age group have been mentioned by women of middle age group (in addition to fewer representatives of extremes of age groups) reflecting growing need of attention to a neglected span of life frame namely adolescence and geriatrics. Currently trainings of adolescent friendly health services[16] have been initiated in public health sector domain to generate awareness among providers rather than users due to unavailability of organized structure in government setup.

Surprisingly It was found that the list of health issues did not mention about cancer, AIDS, or even pulmonary tuberculosis. This might indicate role of Social stigma because of which even though the cases are present in the

community but hidden or it might be the true condition of this village. Days of occurrence of vaccine preventable diseases (VPDs) and skin infections might have been replaced by alcoholism and health related issues of aging.

Nonetheless, information technology is yet to change the false belief and misconceptions about the occurrence of diseases and the dynamics of transmission. Health issues by and large were related to external physical environment, food and drugs, aging process and to some extent with superstition. Basic knowledge among women of this village suggests the scopes of execution of different National Health Programmes in a meaningful manner. It also indicated the need of preventive, promotive, curative and rehabilitative care at village level but failure to perceive it at village level by respondents.

NRHM is optimistic about the VHSC in reference to decentralization and the ownership about health and sanitation needs in villages. Efforts of VHSC have not been visible in any of the method applied for exploration.

During Village transect, caste wise distribution of people was seen and was confirmed from the names of the hamlets. But there Were not many cultural barriers and differences with reference to the perceived needs and settlements for needs. Similarly, health related conditions narrated by people pinpointed mainly to age groups involved and other epidemiological factors were not identified. On the contrary, conditions related to physical environment, dietary factors and a few superstitious dynamics have been thought for such disease conditions.

Social implications of alcoholism among men have been a major concern for women of Mendhar village as it resulted not only into overburden of work for women but also in domestic violence.

Conclusion:

The most important perceived need of villagers was regular house to house drinking water supply, which will reduce physical burden on women of Mendhar village to a great extent, and will also relieve them from huge mental stress of obtaining water for their family. Lack of availability of basic sanitary facility at most of the houses and lack of utilization of available community toilet reveals lack of knowledge, lack of importance given to hygiene and sanitation, and inability of health system to convert their needs into their health demand. One more important reason of non utilization of community toilet is irregular water supply, indicating the linkage of water supply and sanitation facilities, both of which should always go side by side. Village transect revealed that the lack of availability of other sources of income can threaten the social security of this rural people. This requires organization of self help groups which does not only help women to start small business, providing the alternative method of income generation but it also empowers women of this village. Life cycle framework discloses that the health problems of women are just not limited to pregnancy and delivery but also extends from adolescents to elderly women in the form of Non Communicable Diseases, which are not wholly covered under the idea of primary health care. For different diseases, they had many misbelieves, which need to be considered and to be dealt with before planning to provide any health services to them. Initiation of self help group & strengthening of VHSC can go a long way to sort out the above issues.

Recommendations:

1. Training is required to facilitate peripheral health staff in executing PRA techniques to know Perceived needs of community. PRA will take into account the community participation. This will ensure active involvement of local community not

only in identifying their problems but also in finding the solution of the same by themselves.

2. Incorporating self help groups and VHSC in solving the issues related to the basic amenities like water supply within their reach along with the sanitation facility with due weight on increasing the awareness of community about the importance of utilization of the same for the benefit of that community.
3. Strengthening VHSC in increasing the community awareness about the causes of various conditions in health & disease and taking appropriate actions at village level.

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