# Relevance of Community-Based Participatory Research in Community Medicine Training

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## Abstract

Community-based participatory research (CBPR) is an approach in which researchers undertake research in partnership with those affected by the issue being studied, for the purpose of taking action or effecting social change. It can also incorporate those who will use the results to change practice and inform policy. The practice of CBPR is primarily focused on "Knowledge for Change." Most research projects in such CBPR partnerships are funded through the academic partners. In many situations, academic and professional researcher institutions and researchers find it difficult to share the information and resources or to directly engage with local community and other local stakeholders. In practice, finding an intermediary partner who has good rapport with local community and local government can be very effective. While there are good initiatives in selected medical colleges for community orientation of medical undergraduates and postgraduates in community medicine, these are not immersive enough to cause an attitudinal change. It is time that we exposed our graduates and postgraduates to CBPR concepts and practice.

**Keywords:** Community medicine, community-based participatory research, teaching

*"The promotion and protection of the health of the people is essential to sustained economic and social development and contributes to a better quality of life … The people have the right and duty to participate individually and collectively in the planning and implementation of their health care.* [1]*"*

This Alma Ata Declaration of the WHO in 1978 gave the first global legitimacy to primary healthcare which was renewed in October 2018 through the Astana Declaration.[2] In this perspective, individuals and families are seen as masters of their own health, with the support from health professionals.

## What Is Community-Based Participatory Research?

Conventionally, research or generation of knowledge is understood as an act by professionally trained experts certified to be researchers and knowledge is what is published in journals and books, reviewed and accepted by professional peers. However, rural communities survived through generations – by producing and sharing their own ways of creating knowledge through practice and apprenticeship in the family. Acknowledging and valuing such knowledge, practical, local, and indigenous are the first building block of community-based participatory research (CBPR).

*"CBPR is an approach in which researchers undertake research in partnership with those affected by the issue being studied, for the purpose of taking action or effecting social change; it can also incorporate those who will use the results to change practice and inform policy. CBPR is research with communities rather than research on or about communities."*[3]

CBPR is an approach, but not a method, and brings research together with education, co-learning, and action to democratize knowledge production. This thereby amplifies the relevance and authenticity of the knowledge created and its potential of being used for positive change. While degrees and types of participation may vary depending upon the area of research,

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CBPR entails that all stakeholders must participate in decisions related to (a) the identification of the research question; (b) the methodology to be undertaken, data collection, and analysis; (c) the use or sharing of research findings. The phraseology of "co-construction" of knowledge is now commonly used to imply academics and civil society, as well as other stakeholders, produce, disseminate, and use knowledge together. For many of us trained as professional researchers and academics, it is difficult to understand how ordinary, semi-literate farmers, workers, and women can be knowledge producers. This acknowledgment requires an attitudinal and behavioral change.

Recent studies by the UNESCO Chair on Community-Based Research have demonstrated widespread use of such vocabulary though its actual practices are varied and inconsistent.[4]

## Evolution of Community-Based Participatory Research

One of the first "modern" theorizations of such an approach came from a German Scientist Kurt Lewin whose team was trying to persuade German homemakers to cook nutritious food for their families during meat shortage in war-torn country. They discovered that the actions by such homemakers resulted in new knowledge about the nutritive values of various nonmeat ingredients. He called it "action research" and it exemplified how, through discussion, decision, action in a participatory and democratic manner, research becomes meaningful.[5]

Theories and methods of participatory research (PR) began from the field of adult education and practitioners of social change by the mid-1970s.[6] PR emphasizes on the critical understanding of social problems, their structural roots, and the potentials of overcoming them. It necessitates a democratic interaction between the researchers and those who are "researched." Furthermore, it challenges the way knowledge is produced by conventional social science research methods and disseminated by "elite" institutions, maintaining the "monopoly of knowledge."[7] PR is a highly context-sensitive approach. International development agencies of the UN and the World Bank began to take interest in PR by the late 1980s as a method of involving communities in planning, implementing, and monitoring the development projects. In the process, its variant evolved as participatory action research (PAR) which combines the principles of AR with PR. PAR thus became a method of action-oriented strategies and research and inquiry. Another variant that grew out of PR is participatory rural appraisal (PRA) which gained much acceptance for its easy to use tools and methods of data collection in rural settings. By the early 1990s, PRA became a leading methodology for developing local, context-specific projects, facilitating planning, monitoring, and evaluating interventions, and enabling greater participation of the recipients of change themselves. With primary healthcare also popularizing the concept of community participation, this gradually evolved into CBPR.

## Use of Community-Based Participatory Research in Health Research

PRA has often been used in health sector in the context of primary healthcare. It is noted that there is a lack of community needs assessment as well as community participation in the development and implementation of health education programs in India.[8] PRA has been conducted to address health issues such as infant health, HIV/AIDS, and menstrual hygiene [Table 1].[9-12] More examples of use of CBPR exist in diabetes,[13] hypertension,[14] and obesity,[15] among others. Environmental issues by their inherent close links to societal development provide one of the best areas for the demonstration of CBPR approach.[16,17] Some of these examples of CBPR are described in Table 1. The use of CBPR increases the ownership of the program, better utilization, and compliance to advice and better sustainability.

In much of the developing world, research institutions did not get involved in these new methodologies of AR and PR until very recently. However, many universities and professional research institutions in Europe and North America integrated AR and PR methodologies in their mainstream research and launched formal courses for graduate students in the 1990s. It is only in the last 15 years or so that universities and academic researchers have begun to get acquainted with such research methodologies more widely. In its current manifestation, where academics are primary researchers, community-engaged and community-based research methods have begun to gain ascendancy since turn of this century.[18] The recently launched Global Consortium of Knowledge for Change (K4C) by the UNESCO Chairs on Community-Based Research is nurturing hubs of research partnerships which bring university and academia to work together with local community and civil society to generate new knowledge for locally prioritized sustainable development goals.

## Steps of Community-Based Participatory Research

The steps in CBPR methodology are not very different from traditional research. The key steps are the same; however, each step is conducted differently because knowledge is to be co-constructed. Table 2 shows illustrates some of the differences between conventional research and CBPR.[19,20]

## Framing the Research Question

Framing of the research question is rooted in the political economy of knowledge.[21] In standard medical research, the research question is usually determined by experts. However, when community is regarded as a source of knowledge, the research questions emerge from the everyday challenges of life in the community itself.[22] This does not do away with conventional literature review which highlights the existing body of knowledge and gaps on that issue. However, review of literature also needs to take into consideration what people

**Table 1: Some examples of health-related participatory research methods in India and other developing countries**

| Topic addressed | Participants | Study design | Areas of community involvement | Results |
|---|---|---|---|---|
| Menstrual hygiene[13] | Female adolescents and young adults; Wardha district, Maharashtra, India | Quantitative and qualitative: Data collected through surveys and focus groups | Participated in needs assessment<br>Reviewed health education materials<br>Delivered educational program<br>Participated in evaluation | Increased participation in community-based organizations and village-based health programs. Increased awareness of menstruation, use of readymade pads; increase in health-seeking behavior following symptoms of an STI or reproductive infection |
| Infant health[13] | Women, female adolescents, other members of community; Maharashtra, India | Quantitative and qualitative: Data collected through surveys and focus groups | Participated in formative surveys and focus groups; review of health education materials; selection and supervision of CHWs; health education sessions; evaluation of the health education program | Women's participation strengthened their social and health insurance status. Women had more knowledge regarding newborn danger signs. There was an increase in seeking healthcare for a sick newborn |
| HIV/AIDS[14] | Adult women (age 18 or greater) taking antiretroviral therapy; rural areas near Chennai, India | Qualitative: focus groups with women living with HIV/AIDS; healthcare providers, and ASHAs | Participated in Community Advisory Board; assisted in identifying women living with AIDS; participated in focus groups. Refined interview guide; helped shape the intervention program being designed. | Revealed several barriers to ART adherence including illness, financial, traveling long distances, lack of child care, stigma, psychological problems. Found that social support would be beneficial. Women would like to receive care at the primary health centers closer to their homes. |
| ORS use in Nicaragua[12] | Mothers of children with diarrhea | Qualitative | A study in Nicaragua on people's concept of diarrhea and dehydration in children | Mothers were reluctant to use ORS because they were disappointed that its usage did not lead to expected results of stopping diarrhea. The information that was given to the caretakers or mothers placed emphasis on how to use ORS and not on how it works and on its effects |
| Hypertension awareness, prevention, and treatment in Zimbabwe[16] | The CIG included hypertensive patients, VHWs and community leaders | Community hypertension care was established through competence training of VHWs. The CIG members were involved in designing intended themes for outcomes and possible strategies to achieve the outcomes | A "CIG hypertension club" comprising all CIG members was designed to encourage all members to get their blood pressure recorded and publicly share their recordings. Group interpretation of readings would be done, and quantitative output variables such as pill pickup rate, attendance to reviews, compliance to treatment (pill counts), and blood pressure control were measured for PLWHT in the "club." The "clubs" were decentralized to the community revolving around the VHWs to enable community screening, peer support, and health education | This project empowered the community and VHW was established as a key link between the community and the formal health delivery. This was a sustainable form of improving community hypertension health outcomes by positively influencing beliefs and behaviors. It was seen that there was an improvement in knowledge about awareness and primary prevention of hypertension. Pill pickup rate and treatment compliance improved and the community's confidence in VHWs was restored |

PLWHT: Persons living with hypertension, VHWs: Village health workers, CIG: Cooperative inquiry group, ORS: Oral rehydration solution, ASHAs: Accredited social health activist, STI=Sexually transmitted infections, HW=Community health workers

already know. Collaborating with the community while framing the research question is the first step to open a process of discussion and reflection together with the population involved.

## Designing Methods for Data collection

The second critical step in knowledge creation is the choice of methods for data collection. CBPR approach emphasizes that community becomes co-facilitators in the process of data collection. CBPR can use number of creative methods for data collection such as arts, music, dance, theater, photography, audio-visuals, and stories. The methods for data collection that use visualization of situations trigger discussions on local knowledge.[23] For example, the use of body mapping tool, in which the local women draw what they thought was their body, can be used to explain the ways in which contraceptives worked.Irrespective of the type of data needed, whether quantitative or qualitative, the idea is to involve the stakeholders themselves in the process. This brings ownership among the community and encourages critical discussions.

## Analysis and Recommendations

Once data are collected and analyzed, it is taken back to the community for validation. A joint analysis of the patterns, causes, and linkages provides more nuanced understanding, for example, whether it would be useful to inform young women sex workers that having unprotected sex can make her at risk of HIV/AIDS. However, if this information is jointly analyzed with the group of women or individuals, it allows them to critically reflect on the consequences of a decision to have or to not have unprotected sex. This process itself is empowering

**Table 2: Comparison between traditional and community-based research**

| | Traditional research | Community-based participatory research |
|---|---|---|
| Research objective | Issues identified based on epidemiologic data and funding opportunities | Identifying issues of greatest importance to the community with their full participation |
| Study design | Design based entirely on scientific rigor and feasibility | Community representative involved with study design |
| Recruitment | Approaches based on scientific issues of random sampling and maintaining high response rate | Community representatives provide guidance on recruitment and retention strategies and aid in recruitment efforts |
| Instrument design | Instruments adopted/adapted from other studies; tested chiefly with psychometric analysis method | Instruments developed with community input and tested in similar populations |
| Needs assessment data collection | Academic institution's responsibility | Academic institution and community's responsibility |
| Intervention design | Researchers design interventions based on literature and theory | Community members help guide intervention development |
| Analysis and interpretation | Researchers own the data, conduct analysis, and interpret the findings | Data are shared; community members and researchers work together to interpret results |
| Sustainability | Usually sustainability plan is not included | Sustainability is a priority the begins at a program's inception |
| Dissemination | Results disseminated in scientific forum, published in peer-reviewed academic journals | Community assists researchers to identify appropriate venues to disseminate results; community members involved in dissemination; results are also published in peer-reviewed journals |

because it provides a space for the girls to talk, discuss, and debate on these issues and to inform her ideas which may or may not comply with the current discourse on sexual practice.[9]

## Sharing Findings, Knowledge Mobilization

Conventional dissemination of knowledge takes place through journals, books, conferences, policy briefs, and dialogs. However, in CBPR, in addition to other forms of dissemination, the new knowledge generated is primarily used within the community through creative ways such that the community understands what is being talked about. Some of the methods could be holding a photo-exhibition that tells a story of the real situation, displaying of posters, dissemination of digital infographics, videos, etc. It is a two-way process wherein the results should be analyzed in health institutions to change the negative attitudes of the health personnel, to improve skills, and to establish better communication and cooperation with the community.

## What Is the Value Addition of Adopting Community-Based Participatory Research in Community Medicine Training?

The goal of community medicine is to introduce the understanding of social determinants of health in the population and complex interactions between these factors in the causation and mitigation of diseases to move away from a medical model of disease to a social model of health. Krishnan recently argued that the community medicine training should aim at graduates being able to make a community diagnosis and involve community and local governments in addressing them.[24]

Currently, in India, departments of community medicine use the platforms of urban and rural health and training centers to provide a community orientation to students. Curative services are provided to an underserved community, while in turn the community serves as the "laboratory" of departments of community medicine wherein research activities are carried out. There are three major set of educational activities that take place in the community context – conducting an epidemiological study with the focus on data collection and management; allotment of families or index cases to conduct a detailed study to understand social factors in disease causation and management; and finally exposure to community level healthcare providers (about accredited social health activists, anganwadi workers, auxiliary nurse midwives, etc.). These activities expose students to patients within the community to understand the family, social, and community contexts of disease causation and coping. However, largely, these experiences are not immersive enough to cause an attitudinal change in students. While there have been some laudable initiatives in some medical colleges, these have not been picked up by other medical colleges. Apart from lack of interest, the key logistical challenges have been in selection of an appropriate community (distance, transport, hostels); lack of social sciences capacities in the department to undertake CBPR; and finally challenges at community level in terms of readiness and participation.

The recent introduction of competency-based curriculum by the Medical Council of India in 2018[25] provides us an opportunity to revisit this issue. Inclusion of the competency to work with communities and identifying their health problems at undergraduate level and working with communities to resolve the problems by designing, instituting corrective steps and evaluating outcome of such measures at postgraduate level could be a starting point. However, doing so would need strengthening of the department of community medicine to carry out community-based activities. They either need to enlarge the staff pool with community networking abilities or identify NGOs which can facilitate their interaction with the communities.

Another model that can be adapted is the Community Action Research Track (CART) model developed by the University of

Texas to integrate population medicine, health promotion/disease prevention, and social determinants of health into the medical school curriculum through CBPR and service–learning experiences. CART is an optional 4-year service–learning experience for medical students interested in community health. The curriculum includes a coordinated longitudinal program of electives, community service–learning experience, and lecture-based instruction. Significant improvements in mean knowledge were found when measuring the principles of CBPR and levels of prevention and determining health literacy and patient communication strategies. CART can be replicated by other medical schools interested in offering a longitudinal CBPR and service–learning track in an urban metropolitan setting.[26] Lessons can also be drawn from the Advancing Environmental Health Science Research and Translation in India through CBPR Workshop jointly organized by PR in Asia, India, and College of Public Health, University of Iowa, USA. Several sessions of this important workshop stressed on understanding history, methodology, and impact on CBPR and its application to environment health research.

## Conclusion

CBPR approach in health research requires the researcher to develop a collaborative framework to articulate a relevant research question. The process of collaboration with the community in framing the research question entails building trust, fostering partnership, and acknowledging community's knowledge as significant to the process of knowing. Despite its name, community medicine practitioners are not the practitioners of CBPR. There is a substantial need for department of community medicine to strengthen their community-based teaching to be able to effectively transmit the concept of CBPR to its students.

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### Conflicts of interest

There are no conflicts of interest.

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