The Implementation of Social and Behavior Change Communication Intervention to Improve Immunization Demand: A qualitative study in Awabel District, Northwest Ethiopia

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Abstract

Background: Immunization coverage in Ethiopia is low, and dropout rates are high. Social Behavior Change Communication (SBCC) interventions were introduced as a means of combating the 'demand-side' immunization barriers. However, Little research exists in terms of the efficacy of the SBCC intervention, in terms of promoting uptake, and improving the immunization demands in Ethiopia.

Aim: To explore the current implementation status, and perceived effectiveness of SBCC intervention, barriers and facilitators with new strategies aimed at effective implementation of the SBCC intervention in Awabel District, Northwest Ethiopia.

Methods: A phenomenological qualitative study was conducted from January 1- October 31, 2020. In-dept interviews were conducted with fifteen key-informants using a piloted semi-structured interview guide. Participants were purposively selected, which comprised of mangers, Expanded Program of Immunization (EPI) focal personnel, Health Extension Workers (HEWs), Women Development Armies (WDAs), mothers and community representatives. Six vaccination sessions were observed. Coding was done to identify patterns. Thematic analysis was performed using Open Code 4. 02.

Results: Interpersonal communication, community conversation, social mobilization and family modeling were used as SBCC approaches. HEWs were the key source of information. Religious leaders were among the major stakeholders that encourage immunization. SBCC was perceived as an effective measure to improve immunization demand. There were multiple barriers for implementation of SBCC interventions including limited resources, lack of awareness, geographic barriers, traditional beliefs, lack of incentives, and limited EPI staff and health facility operating hours. Engagement of fathers and religious leaders, strengthening the WDA, and allocation of more resources were listed as possible strategies to tackle barriers.

Conclusion: The implementation of SBCC interventions is important to improve immunization demand. Despite its effectiveness, there are several multi-level barriers to its successful implementation. Further, greater investments are required to improve infrastructures, staff employment and capacity building. [*Ethiop. J. Health Dev.* 2021; 35(SI-3):49-55]

Keywords: Immunization, SBCC, Ethiopia

Background

The global vaccination coverage has improved dramatically following the launch of the Expanded Program on Immunization (EPI) in 1974.(1, 2) There are more equitable and cost-effective access to existing vaccines for people in all communities than ever. Globally, an estimated 2-3 million child deaths are averted annually through the provision of quality immunization services.(3) Yet, despite these well-documented benefits and impact, approximately 20 million infants each year have insufficient access to vaccines. More critically, in some countries, progress has stalled or have even been reduced.(4) For example, since 2010, the percentage of children who are fully vaccinated has stalled at 86%.(5)

In Ethiopia, EPI was started in 1980 with six traditional antigens with the progressive introduction of new vaccines to 12 antigens in 2018. Immunization services are routinely provided in most public health facilities as a static and outreach program (6). Despite a tremendous effort, a report from 2019 Ethiopian Mini Demographic and Health Survey (EMDHS 2019) result showed that 19% of children have never received a vaccine for which they are eligible which has increased from the previous report (16%). Similarly, the number of children defaulting from vaccination is high.(7, 8)

Implementation of immunization programs are not without barriers. The barriers can be classified into two domains. These are service utilization (demand side) barriers which are often associated with knowledge and awareness of caregivers, location and schedule of vaccine provision and service access (supply-side) barriers that involve the availability of immunization services.(9) In countries like Ethiopia, the demand side barriers to immunization includes; sociocultural and behavioral factors among mothers/caregivers, fathers

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and community.(10) So, interventions targeting the "demand-side" barriers have an increasingly important role to accelerate progress toward coverage target. The possible intervention strategies to increase immunization uptake may include demand creation, modification of the delivery approaches, and the strengthening of the health system at a different level. (11, 12)

SBCC presents a systematic application of interactive, theory-based and research-driven communication processes and strategies to address change at an individual, community and social level.(13) Community engagement and effective SBCC strategies have proven effective in efforts to address the phenomenon, especially, in reaching out to unvaccinated children. It thus remains a major component of primary health care strategies, which aim to improve immunization services utilization in Ethiopia. Health communication & behavior change interventions are taken as a priority strategy to address most health problems in the country. Many social and behavioral change communication interventions are carried out by the HEWs and health professionals. Social mobilization, advocacy, program communication and behavior change communication are strategies to implement effective SBCC interventions through interpersonal communication, advocacy to higher officials and program communication through media and community engagement. Ministry of health and regional health bureaus worked on public awareness and community mobilizations through immunization spot broadcasting and distributing factsheets and brochures on immunization.(6, 14-16)

However, little evidence is available on the current implementation status, barriers, facilitators, and strategies for effective implementation of SBCC interventions targeting utilization of immunization services in Ethiopia. Having an improved knowledge of the effective implementation of social and behavioral change communication will help in adjusting the existing communication and behavioral interventions that can contribute to an increase in demand for immunization. Therefore, this study aimed to investigate the existing SBCC interventions, and its effectiveness in improving immunization demand, while exploring the barriers and enablers for effective implementation in Awabel district, Northwest Ethiopia. It is envisioned, that the findings could serve as a roadmap for other countries, particularly, the low-middle-income countries who presently experience a decline in utilization of immunization services.

Methods

Study Design

In this qualitative study a phenomenological study design was applied.

Study Setting

The study was conducted in Awabel district, Northwest Ethiopia. Awabel district is one of the 18 districts in East Gojjam Zone, located 259 km to the Northwest of the capital city Addis Ababa in Amhara Regional State of Ethiopia. Estimated projected population is 154, 612 with 35,956 households and 20,934 children under-five years of age in 2021. The district has 6 health centers and 28 health posts. (17, 18)

Participant and Recruitment

Fifteen participants were purposively selected based on their improved understanding and prior involvement in vaccination services. Participants included: Woreda (district) Health officers, heads of health centers, EPI focal, HEWs, Women Development Army (WDAs), mothers, religious leaders, and other community representatives. All the individuals who were approached agreed to participate in the study.

Data Collection

Data was collected from Jun 10 through June 15, 2020. Eight key-informant interviews and 7 in-depth interviews were conducted using a piloted semi-structured interview guide. The interview guide was reviewed by experts and refinement was done accordingly. The interview guide included questions that address the current SBCC intervention implementation, factors affecting implementation, effectiveness of immunization serveries and suggested strategies to overcome barriers. Face-to-face interviews were conducted by one of the research teams and two trained male data collectors who had a Masters in Public Health. Interviews were conducted in the local language (Amharic). Interviews were audio-recorded and ended when we realized that no new information was emerging – i.e., when saturation was reached. Interviews lasted from 19 minutes to 65 minutes. We also observed vaccination sessions using checklists designed for this study. The checklist included health workers activities during vaccination, like greeting, explaining the use and adverse side effects of vaccines, asking of questions, and scheduling the next appointment. About 6 vaccination sessions were observed by data collectors in totality.

Data Analysis

Interviews were translated into English by the study team. Transcription was verbatim. Observation data was changed into text data. Data was entered into Open Code 4. 02 and systematically coded. A codebook containing 26 codes was prepared and line by line coding was done to see related patterns. The themes were developed from codes with similar patterns by two of the investigators. Modification to existing codes and themes was made subsequently. Thematic analysis was used to identify major themes.

The Socio- Ecological Model (SEM) was used to guide data interpretation. (19) This model was selected to understand and explore social and behavior determinants of health at any level.

The creditability of the interviews was checked during observation. The study findings may be used for similar contexts.

Results

The findings presented below are divided into four themes. After characterizing the participants, the first part examines the implementation of SBCC intervention for immunization including the approach used, allocated

resources, primary targets, training, planning and monitoring, immunization messages and stakeholder analysis. The second section discusses the perceived effectiveness of SBCC intervention for immunization followed by barriers at the individual, community, facility, and national level for effective SBCC intervention. The last section deals with possible strategies suggested by key informants to reduce these barriers.

Characteristics of study participants

15 participants including district health managers, health center managers, EPI focal personnel, HEWs, WDAs, mothers, religious leaders and other community representatives were interviewed (See Table 1). Seven of the respondents were from the community.

Table 1. **Characteristics of study participants, 2020**

Id	Role	Age	Educational level
P1	HEW	28	10+1*
P2	Mother of a child on vaccination	22	No formal education
P3	EPI focal	26	BSc
P4	Community leader	66	Primary education
P5	Community representative	54	No formal education
P6	Community representative	50	Primary education
P7	Religious leader	42	Read and write
P8	District health office EPI focal	31	BSc
P9	WDA	35	Read and write
P10	HEW	28	10+1
P11	Mother of a child on vaccination	30	Primary education
P12	District Health Office Manager	40	BSc
P13	HC manager	38	BSc
P14	HEW	27	10+1
P15	HC EPI focal personnel	30	BSc

* 12 months training after completing 10th grade high school.

Theme 1. Implementation of SBCC Intervention for immunization

In this theme questions addressing the current implementation status of SBCC interventions were asked. Sub-themes included: SBCC approaches used, primary target audiences and vaccine messages, training on SBCC, monitoring body and stakeholder involvement.

Existing SBCC approaches

Different communication approaches were used for vaccine education. Interpersonal communication, social mobilization, community conservation and family modeling were implemented as SBCC communication interventions both at health facilities and house-to-house. These interventions were provided separately and integrated with other health services like nutrition and maternal health. Responding to the question what communication activities were implemented to improve immunization services, key informants responded:

> "*There are many communication activities that are being performed to strengthen immunization services. For example, Leaflets are prepared, health extension workers provide health information during house-to-house visits, and community conversation is held by HEWs at the kebele level. "*(P8 District health office manager)

> *"[We did] social mobilization, we got mothers and children during food preparation demonstration and growth monitoring and promotion service…we thought [them] about mothers health, child health during mother-to-mother conference session*" (P15, EPI focal)

Vaccination session observations showed interpersonal commination practice by HEWs was not consistent. The HEW welcomed all mothers, provided the date, time and place of the next vaccination and the number of visits needed for full immunization in all sessions. But she did not explain the type, use and adverse events of vaccine for 4 mothers. She did not ask mothers the level of satisfaction and did not allow the mothers to ask questions in all six observation sessions.

Primary Target Audiences

Pregnant women and mothers with children were mentioned as primary target audiences for EPI SBCC strategies followed by husbands.

> *"…Pregnant mothers and under-five children are the major targeted group"* (P15, EPI focal)

Source of Information about immunization and messages about vaccine

Qualitative interviews revealed that HEWs were mentioned by the community representatives as the main source of information about immunization followed by WDAs. But, printed media such as leaflets, broachers and posters or electronic media were rarely mentioned.

> *"[we get information] From Tiru[name of the HEW]… She comes monthly on senbetes[Weekends] meetings…She teaches us about children and mothers…" (P4, Community leader)*

Benefits of vaccine, vaccine schedules and adverse events were the key messages included in vaccine education.

"*The main and key messages delivered to the community are children should get vaccination starting from birth to one year of life, vaccines can protect children from different diseases in their entire life journey …. vaccines have no long-term harm on children's' growth but there may be temporary side effects that occurred after vaccines like fever and others …. Therefore, fever and other possible side effects are common during children vaccination, vaccinated children are protected from diseases and outbreaks like measles…"* (Health office manager)

Training on SBCC

Four out of eight health professionals interviewed mentioned that they have received training on SBCC for immunization.

One HEW claimed that even if she did not receive any special training on SBCC but it was included in her basic training module:

"No, we are not trained but our education [basic training] includes this" (P14, HEW)

Planning and monitoring body

Respondents highlighted that SBCC was included in the annual plan and microplanning in all levels of the health system. There was a monitoring body to evaluate, monitor and provide feedback. But this information was not universal as one respondent claimed that SBCC was not included in the planning.

"…The health post prepared the annual plan to increase the coverage of the vaccination but not behavior change communication activities. " (P 10, HEW)

Stakeholder engagements

Religious and community leaders were the major stakeholders that encourage immunization practices. Traditional healers were perceived as having less of an influence in immunization programs. A health officer stressed the importance of involving religious leaders to deliver messages to the community.

'*In every pregnant women conference, religious leaders are invited and attend to deliver key messages. It is common to invite religious leaders to any traditional ceremony and all traditional ceremonies are accompanied by religious leaders. We respect this community culture and religious leaders are invited to deliver a key message on immunization and other maternal and child health services. Religious leaders are highly credible in the community and they advise the community to use health services and health information forwarded by health professionals'* (P8, Health office manager)

Theme 2. Perceived effectiveness of SBCC interventions to improve immunization services

Respondents agreed that SBCC interventions are effective in improving immunization demand and vaccines are an effective way to prevent the child from getting a disease. They acknowledged that SBCC interventions increased immunization awareness, attitude, and practices in the community. It has also reduced vaccine hesitation and the number of defaulters.

"*Currently the community has a high demand for vaccination services because of the HEWs efforts through house-to-house health information delivery and the impacts of immunization services on child health. People identified the advantage of immunization services because of the reduction of diseases burden and child mortality"* (P6, community representative)

However, one among other respondents claimed that vaccine education is no longer important because the community already has enough awareness about vaccination.

"*Most of the community [members] do not need vaccine education unless to inform them vaccine schedules… The awareness is the community is not low. We need only to inform them the schedules. They want it [vaccination] by themselves…"(P14, HEW)*

Theme 3. Barriers of SBCC Interventions

Using SEM, this study categorized the barriers into mothers/caregiver's level, community level, facility level and national level.

Mother's/Caregiver's level barriers

Barriers for effective SBCC implementation at mother's /caregiver's level were wide-ranging including lack of awareness and time schedule. Respondents mentioned about lack of awareness among mothers/caregivers related to the benefits of vaccines as a key barrier. Mothers also did not have enough time due to other responsibilities.

"The main problem on vaccination services is lack of awareness on the importance of vaccination. The health facilities are always ready to give the vaccination services and health extension workers supported us to work on behavior change communication interventions. " (P9, WDA)

"…mothers are also eager to finish vaccination and go home immediately. They don't want to wait. " (P13, Health center head)

Community level barriers

Geographic barriers, traditional beliefs and home delivery were mentioned as possible barriers to access immunization services at the community level. Both community representatives and HEWs acknowledged that mothers had to travel a long distance to get their children vaccinated.

"There are some remote areas that cannot be easily accessed to give immunization services. Now the summer season is coming, and flooding is also common in remote areas. As the topography of the area is up and down (cliff) people are not coming to health posts easily…" (P1, HEW

Home delivery is also mentioned as a possible barrier.

". … These mothers who delivered at home did not go to a health facility for vaccination

services at the earliest possible because they are unaware of where and when the vaccination services are provided" (P12, Health office manager).

Facility level barriers

Limited facility resources, lack of EPI staff, poor incentives for the health professional, high workload and health facility operating hours were mentioned as facility level barriers.

"First of all, we have not enough buildings. The EPI room is very small. EPI room has to be spacious and well aerated…we need more building" (P13, Health office manager)

"*The main challenges that mentioned from the development army leaders were there are no incentives for their tasks*" (P12, District office manager)

A community representative shared a concern that the health facilities were not open during working hours occasionally. A mother explained this:

"*Maybe due to their social problem they [HEWS] may close the health posts" (P2, Mother)*

District level barriers

In addition to previously mentioned barriers, there was a lack of banners and posters. A respondent discussed.

"The preparation and distribution of banners and posters are important for behavior change communication…. The shortage of banners and posters are the main challenges in our cluster health center" (P3, EPI focal)

Theme 4. Strategies suggested by key informants to address barriers

Strategies to reduce barriers on mother's/Caregiver's Levels:

Engagement of fathers during vaccine education was recommended as a strategy to reduce barriers at the individual level. A father who brought his child for vaccination explained:

"*To maintain sustainable behavior, change on immunization and health services utilization, I recommended that males should engage during health education sessions with mothers/caretakers…*" (P6, Community Representative)

Strategies to reduce barriers at the community Level

Engaging religious leaders and taking advantage of traditional community structures like 'Equb' and 'Idir' were suggested by key informants to reduce barriers to immunization services in the community.

"*Engaging religious leaders on behavior change communication is also another important task. Most of the people are free of work on Sunday and go to religious places. The religious leaders are more influential and people are easily convinced by the message*" (P1, HEW)

"There are many opportunities that we used for behavior change communication interventions. Idir is one of the big opportunities to deliver immunization messages and other health information to targeted people. Currently, Idir is strengthened in the community and health extension workers deliver health education activities to the community during meetings… "(P12, District Officer)

Strategies to reduce barriers at the facility Level

Strengthening WDAs and allocating more resources for SBCC services were suggested by key informants. Moreover, adequate infrastructure with availability of essential logistics were highlighted as key to tackle facility level barriers.

"*The strengthening of women development army highly helped in addressing gaps on immunization and other health services. It is successful approach in reaching health education and information to the community…. "*(P1, HEW)

Support needed from National

Basic and refresher training on SBCC and increasing budget allocation were mentioned as measures needed from MOH to improve SBCC activity.

Awabel health office manager explained this:

"*..Refresher training on immunization and cold chain are important for health extension workers and immunization focal persons at health centers every quarter or every six months. We need budget support for organizing this kind of refresher training health to health posts and health centers."* (P12, Health office manager

Discussion

This study explored the implementation of SBCC intervention, its effectiveness, barriers, as well as the strategies for effective implementation of SBCC interventions for immunization. The study found that SBCC interventions were implemented to improve immunization services. Interpersonal communication targeting pregnant women and mothers with children, to educate them about the benefit, schedule and adverse events of vaccines were major aspects of SBCC interventions. HEWs were the key source of information about immunization to the community. Few respondents considered printed media such as posters, leaflets, and banners, and electronic media as source of information about immunization. This finding is similar to the Behavioral, Socio-economic and Health Services Determinants (BSDH 2012) study which also revealed HEWs as the main source of immunization information.(15) Reasons for these similarities, however, can be attributed to the fact that SBCC immunization interventions in both settings are primarily done by health extension workers and health professionals who are stationed at the health posts and health centers respectively.

Multiple barriers were discovered which impact the effective implementation of SBCC interventions which include lack of resources, lack of awareness, fear of adverse events of vaccines, geographic barriers to access, traditional beliefs, lack of incentives for EPI staff, high workload, lack of EPI staff, facility operating hours. These findings are similar to the Namibian 2011-2015 report on SBCC intervention for EPI.(20) Knowledge gaps were reasons listed for low compliance with vaccination schedules. Studies in Ethiopia showed that mothers/caretakers' knowledge, approval of immunization messages and level of intention for immunization are important components for better utilization of immunization services.(15) Although, increased knowledge only, is not sufficient to create demand, however, poor knowledge has been identified as a predictor for poor compliance.

Several challenges can be addressed by better allocation of adequate resources for SBCC intervention in immunization services. Despite the proven successes of communication programs to improve uptake of health services, often, these do not receive adequate funding.(21) If communication programs are provided with the necessary resources, they will be able to contribute significantly to increasing and maintaining the demand for immunization. It is therefore encouraged that governments provide adequate budget allocation to support public health interventions like immunization.

Limitation of the study

Although, we aimed to conduct focus group discussions and house to house observations, we could not, due to the COVID-19 pandemic. It was then decided to conduct in-depth interviews. We did not use the stages of change model to understand the change process at different stages. National level barriers are not well addressed in our study. The findings cannot be generalized in other settings in Ethiopia as data was collected from only one district (Awabel district).

Conclusion

SBCC intervention is essentially important in efforts to improve immunization interventions. Despite its effectiveness, there are several multi-level barriers to successful implementation of SBCC for EPI. There are multi-channel communication strategies targeting individuals, households, religious bodies, and communities which have great potential to increase utilization of SBCC immunization services. Further, greater investments (particularly in the form of financial commitments) are required to improve infrastructures, EPI staff employment and capacity building – thereby improving delivery of immunization services in totality.

Abbreviations

DHS: Demographic Health Survey; **EPI:** Expanded Program on Immunization; **SBCC:** Social Behavior Change Communication; **HEW:** Health Extension Worker; **WDA:** Women Development Army; **GAVI:** Global Alliance for Vaccines and Immunization; **WHO:** World Health Organization; **UNICEF:** United Nations Children's Fund; **SEM**: Socio-Economic Model; **MOH:** Ministry of Health; **HEP:** Health Extension Program; **HC:** Health Centre

Declarations

Ethical approval and consent to participate: First, we obtained ethical approval from University of Gondar Institutional Ethical Review of Board. We also obtained permission from Amhara Regional Health Bureau, and written consent from interviewees before we commenced data collection. Again, we assured participants of privacy and confidentiality of any information they may provide.

Availability of data and materials

Data will be available upon reasonable request from the corresponding author.

Competing interests

All authors have indicated that they have no conflict of interest

Author Contributions

All authors made substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; agreed to submit to the current Journal; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

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