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Health Planning Approach Integrating a Health Literacy Concept and Using Community Health Teams in Tajikistan: 'Work for the Sake of my Health and the Health of the Community'

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Abstract

The Enhancing Primary Health Care Services project supported the Ministry of Health and Social Protection in nine pilot health districts in Tajikistan to strengthen family medicine-oriented primary health care services. The project actively involved the community in this process by implementing a participatory health business planning process and health promotion approach. This study evaluated the degree of communities' involvement in health planning processes and its effect on the population's health literacy regarding risk factors of cardiovascular disease.

The mixed-method longitudinal cross-sectional study design included a repeated community-based survey targeting Community Health Team representatives on their involvement in health business planning and health promotion activities and a health literacy survey on knowledge and behavior related to cardiovascular disease and risk factors among adults. The studies were conducted in four project districts in 2015 (only health literacy survey), 2017 and 2020, whereby rural

communities were selected and then repeatedly visited. In each community, three community health team representatives were interviewed and 20 eligible adult women and men from randomly selected households.

A total of 121 community health team representatives from 40 communities participated in the health business planning and health promotion surveys in 2017, and 154 from 55 communities in 2020. We analyzed complete data from 1,183 adult women and men from 60 communities participating in the health literacy surveys in 2015, 1,418 from 71 communities in 2017, and 1,111 from 55 communities in 2020. We found that the health business planning and promotion approach fostered the collaboration between the primary health care services, community authorities and the population through actively involving community health team representatives in these processes. The population's overall knowledge of cardiovascular risk factors rated as 'good' increased from 31% in the baseline to 46% in the endline. The respondent's belief that changing their lifestyle affects their health increased from 60% to 86%, respectively. The health business planning and health literacy approaches empowered communities to successfully shape health planning by putting forward their health needs. This contributed to increasing people's trust in primary health care services and enhanced the primary health care team's accountability for progress towards the communities.

Keywords: community health planning, community health team, health promotion, health literacy, cardiovascular diseases, primary health care

Approche de planification sanitaire intégrant un concept de littératie en santé et recours aux équipes de santé communautaires au Tadjikistan : « Travailler pour le bien de ma santé et la santé de la communauté »

Résumé

Le projet d'amélioration des services de soins de santé primaires a aidé le ministère de la santé et de la protection sociale à renforcer les services de soins de santé primaires axés sur la médecine familiale, dans neuf districts sanitaires pilotes du Tadjikistan. Le projet a activement impliqué la communauté dans ce processus en mettant en œuvre un processus participatif de planification des activités de santé et une approche de promotion de la santé. Cette étude a évalué le degré de participation des communautés aux processus de planification sanitaire et son effet sur les connaissances de la population en matière de santé en ce qui concerne les facteurs de risque des maladies cardiovasculaires.

La conception de l'étude transversale longitudinale à méthode mixte comprenait une enquête communautaire répétée ciblant les représentants des équipes de santé communautaire sur leur participation à la planification des activités de santé et aux activités de promotion de la santé, ainsi qu'une enquête sur la littératie en matière de santé portant sur les connaissances et les comportements liés aux maladies cardiovasculaires et aux facteurs de risque chez les adultes. Les études ont été menées dans quatre districts du projet en 2015 (uniquement l'enquête sur les connaissances en matière de santé), 2017 et 2020, période au cours de laquelle des communautés rurales ont été sélectionnées, puis visitées à plusieurs reprises. Dans chaque communauté, trois représentants de l'équipe de

santé communautaire ont été interrogés, ainsi que 20 femmes et hommes adultes éligibles et issus de ménages sélectionnés au hasard.

Au total, 121 représentants d'équipes de santé communautaire de 40 communautés ont participé aux enquêtes sur la planification des activités de santé et à la promotion de la santé en 2017, et 154 de 55 communautés en 2020. Nous avons analysé les données complètes de 1 183 femmes et hommes adultes de 60 communautés ayant participé aux enquêtes sur la littératie en santé en 2015, de 1 418 personnes de 71 communautés en 2017 et de 1 111 personnes de 55 communautés en 2020. Nous avons constaté que l'approche de la planification et de la promotion des activités de santé favorisait la collaboration entre les services de soins de santé primaires, les autorités communautaires et la population en impliquant activement les représentants de l'équipe de santé communautaire dans ces processus. Les connaissances générales de la population sur les facteurs de risque cardiovasculaire, jugées "bonnes", sont passées de 31 % lors de l'enquête de référence à 46 % lors de l'enquête finale. La conviction des personnes interrogées que le changement de leur mode de vie a une incidence sur leur santé est passée de 60 % à 86 %, respectivement. Les approches de planification des activités de santé et de littératie en matière de santé ont permis aux communautés de façonner avec succès la planification de la santé en mettant en avant leurs besoins dans ce domaine. Cela a contribué à accroître la confiance des gens dans les services de soins de santé primaires et à renforcer la responsabilité de l'équipe de soins de santé primaires à l'égard des progrès réalisés auprès des communautés.

Mots clés : planification de la santé communautaire, équipe de santé communautaire, promotion de la santé, littératie en matière de santé, maladies cardiovasculaires, soins de santé primaires.

1.0 Introduction

1.1 Background on Project

Disease patterns have shifted in Tajikistan since the 1990s, with infectious diseases still being frequent and, at the same time, a rise of non-communicable diseases (Khodjamurodov et al., 2016). A low health literacy coupled with poor environmental and social determinants left the rural population in Tajikistan prone to health risks, such as non-communicable diseases. According to the World Health Organization’s [WHO] latest non-communicable diseases [NCDs] country profile from 2018 (WHO, 2018), 69% of the deaths are estimated on the account of NCDs, whereof 42% are due to cardiovascular diseases [CVDs]. According to the WHO STEPS 2017 report, blood pressure was reportedly never measured in one third of the study population WHO Regional Office for Europe, 2021), which points to a poor awareness of entitlement to quality health care and services as well as a poor knowledge on cardiovascular risk factors amongst both health workers and the population.

With the adoption of the National Health Strategy for 2010–2020, the health system of Tajikistan underwent a reform from a centralized, hierarchical, specialized and resource-intensive Soviet system towards a more generalist system focusing on strengthening primary health care (Khodjamurodov et al., 2016). Part of the reform program was reinforcing the family medicine model with family physicians and family nurses by promoting generalist physicians and nurses with extended clinical responsibilities (Parfitt & Cornish, 2007). Departments of family medicine were established at the Tajik State Medical

University and nursing education centers, and the nursing school curriculum was reformed (Schubiger et al., 2019).

The Enhancing Primary Health Care Services project funded by the Swiss Agency for Development and Cooperation contributed to strengthening primary health care services in the Republic of Tajikistan. Nine pilot districts were supported between 2003 and 2021. The interventions were aligned with the Tajik National Health Strategies of 2010–2020 and 2021–2030, which aim to achieve better health of women, men and children in rural areas through improved and transparent family medicine-oriented primary health care [PHC] services and community involvement into health. The project supported an extended community-based service to improve the health literacy of the population, increase demand for quality PHC services and strengthen community engagement by means of a health business planning approach. Evidence of the impact and effects of the project's support was tracked through repeated quality of care, health literacy and health business planning surveys.

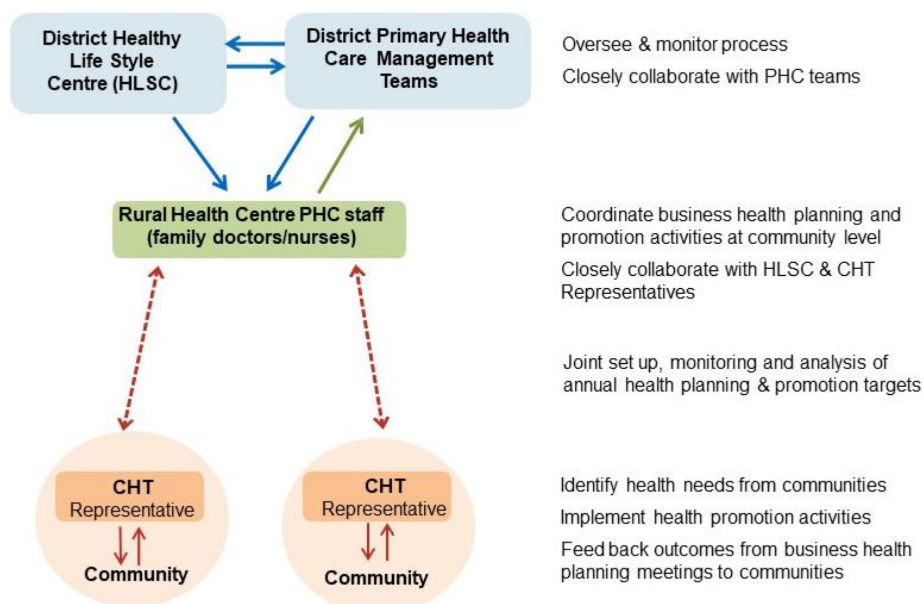
During the project, a health promotion approach was established by actively engaging stakeholders (communities, PHC facilities and district Healthy Lifestyle Centers [HLSC] through health promotion activities, disease prevention and participation in the health planning process to understand the social and environmental determinants of health and to identify and reach vulnerable households (Swiss TPH et al (2021). These activities should encourage behavior change at household and individual levels to increase the population's health literacy and awareness of entitlements to quality health care services.

The starting point for community engagement towards participatory social services were community groups (Molesworth et al., 2017). These groups were later extended to Community Health Teams [CHTs] to increase the transparency and accountability of health care service delivery to the whole community and enhance the learning experience of PHC services from community work (Hamidova et al., 2015). The CHTs are set up by community elected volunteers among active people in each community. They nominate three CHT representatives to participate in the health business planning sessions.

Core activities of the health business planning approach are the annual health business plan that is elaborated jointly by the PHC team and CHT representatives. The latter identify health priorities within their communities to be considered for inclusion. A monitoring meeting is held once a year to ensure that activities and actions agreed upon are followed up. The PHC head doctors held quarterly analysis meetings at the health district to analyze the performance. The annual business plan analysis meeting with all CHT representatives at the end of the year aims to review progress and achievements and to set new priorities for the next year (Hamidova et al., 2015).

At the community level, CHT representatives conduct health promotion activities (dissemination of information on priority health issues identified by the communities, such as anemia, helminthiasis, diabetes, hypertension, tuberculosis and goiter, and lifestyle-related health determinants) and raise awareness of the people about their right to quality health care (Matthys, 2017). They debrief the community on the outcomes from the health planning meetings held with the PHC staff and transmit the identified health needs to be integrated into the health business plan (Park et al., 2018).

Figure 1. Community health business approach elaborated and implemented by the project.



Source: Park et al., 2018.

1.2 Terms and Definitions

According to the Ottawa Charter in 1986, "Health promotion is the process of enabling people to increase control over the determinants of health, and thereby to improve their health. Participation is essential to sustain health promotion action" (WHO, 1998).

Empowerment "refers to the process by which people gain control over determinants and decisions that shape their lives" (WHO, 2014). In this process, people's assets and capacities to gain access to networks or a voice are enhanced.

A community groups individuals spatially, such as in a village or in terms of common interests, such as women's groups. In this project, CHTs were organized around geographical areas (villages) as well as interest-related community groups.

A household included all family members residing at the household and directly relating to the head of household (i.e., spouse, siblings, children and parents). Moreover, a person living at least half of every week for a minimum of six months per year was considered a household member.

Health Literacy [HL] is defined as "the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health". HL critically links to empowerment by accessing and using health information (WHO, 2014). Improved access to and effective use of health information by people empower their health decision-making (WHO, 2021). For example, self-management of chronic conditions presupposes health knowledge and health empowerment (Camerini et al., 2012). We used the framework defined by Nutbeam et al. (2008), which places HL as an asset enhancing the people's capacity to comprehend and take action upon health information.

The aim of the Health Business Planning [HBP] and HL studies was to evaluate the degree of communities' involvement in the health business planning

approach established by the project, as well as the level of people's health literacy over the course of the project. We assume that the health business planning and health literacy approaches using CHTs contribute to increasing people's health literacy on specific health topics (cardiovascular disease) over the project period and enhance their awareness of and responsibility towards their health.

2.0 Methods

2.1 Study Framework

We used a mixed-method longitudinal cross-sectional study design to measure the achievements of interventions linked to the project indicators.

The study framework included three types of surveys summarized in Table 1: (i) a health facility-based survey on the quality of health care provided, (ii) a health literacy survey among the adult population, and (iii) a survey on the involvement of the community into health business planning through community health teams (CHTs). This article focuses on community-based health business planning and, to a lesser extent, on health literacy surveys.

Table 1. *Summary of Types of Surveys Conducted During the Enhancing Primary Health Care Services Project*

Name of survey	**Quality of care**	**Health literacy**	**Health business planning and promotion**
Setting	Health-facility	Community	Community
Sample, target group	District and rural health centres, health care providers	Adults from selected households	Community Health Team representatives
Objective, description	Assess the quality of health care provided in facilities, relating to structural (infrastructure, equipment and facility management) and procedural (provider-client interactions, provider's skills and technical capability) aspects	Assess the level of health literacy among the adult population relating to knowledge and behavior, specifically on cardiovascular disease and associated risk factors	Assess the degree of involvement of the community into health business planning through community health teams
Included health districts	Shakhrinav, Tursunzoda, Vose, Hamadoni, Rudaki, Faizobod, Konibodom	Vose, Hamadoni, Rudaki, Faizobod, Konibodom	Vose, Hamadoni, Rudaki, Faizobod, Konibodom

Table 1 continued

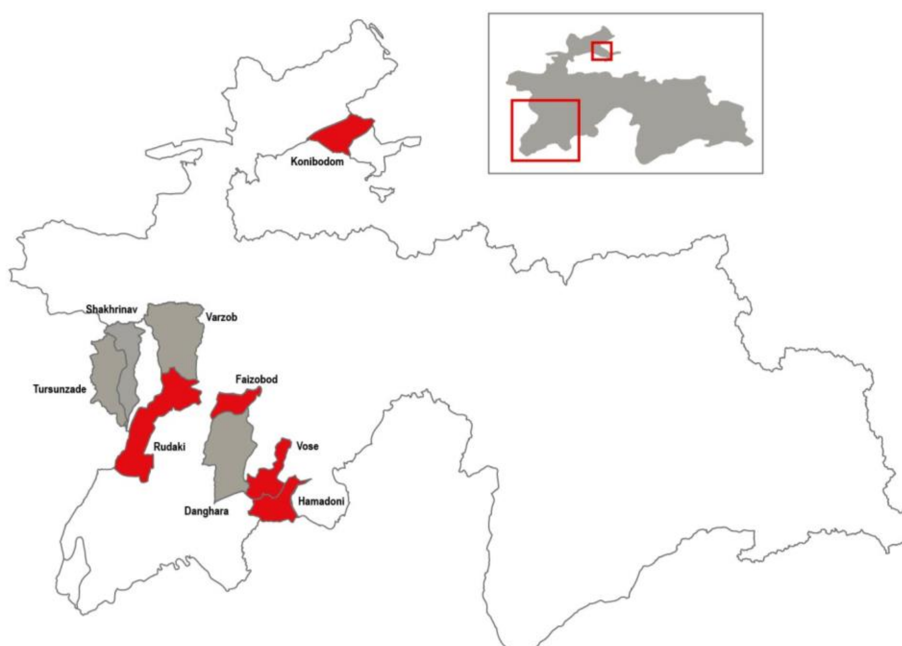
Year of survey and study sample	2012: 20 rural health centres, 2 district health centres 2016: 40 rural health centres, 4 district health centres 2020: 50 rural health centres, 5 rayon health centres	2015: 1,197 adults from 60 communities 2017: 1,418 adults from 71 communities 2020: 1,111 adults from 55 communities	2017: 121 CHT representatives from 40 communities 2020: 154 CHT representatives from 55 communities

2.2 Study Area and Population

Tajikistan is the smallest country in Central Asia, with an estimated 9.538 million inhabitants with a male population of 50.39% in 2020 (UN, 2019). Almost three-thirds of the population (72.5%) live in rural areas (UN, 2018). A small part (4.1%) of the population is living below the income poverty line of a purchasing power parity of 1.9 US$ a day (UNDP, 2022). The administrative political divisions cover four provinces that are subdivided into 58 districts.

Error! Reference source not found. displays the study area with the project i ntervention districts of the 'Enhanced Primary Health Care Services project in the Republic of Tajikistan.' Red colored districts were covered until the end of the project, grey colored districts had an earlier phasing out.

Figure 2. Study area with the project intervention districts of the 'Enhanced Primary Health Care Services project in the Republic of Tajikistan.'



Source: Author B. Matthys, 2022.

The sample size calculation for the surveys followed sampling standards employed in representative population-based surveys and the WHO STEPS manual (WHO, 2008). For the baseline, we randomly selected 10 rural PHC facilities and 1 district health centre and the respective communities in each project district. The communities were visited again in the follow-up surveys.

The health business planning and health literacy surveys were conducted simultaneously. For the health business planning survey, in each community all 3 CHT representatives involved in health business planning activities in 2016 and 2019 were interviewed.

For the HL survey, in each community, 20 households were randomly selected, and within each household, one eligible adult person was invited for an interview. The Expanded Program on Immunization survey approach by Lemeshow & Robinson (1985) was followed for the household selection by conducting a random walk with a starting point being a cross-section in the village center. The first household was visited, and three other ones were skipped, while household four visited again. The choice of the study participant followed gendered and generational criteria. The households and study participants were selected independently for each survey.

2.3 Survey Instruments

The community-based surveys consisted of interviews with the CHT representatives on their involvement in community health business planning and interviews with the adult population from the villages on cardiovascular risk factors, health beliefs and behavior; entitlements to quality health care and the perceived degree of involvement of the community in health business planning through CHTs.

We developed a paper-based questionnaire with mainly open-ended questions to assess the CHTs' experience of community involvement in health business planning. The questions, to some extent, were built on established internal guidelines for involving community groups in primary health care business planning (Hamidova et al., 2015).

The HL questionnaire was designed from selected HL studies and on cardiovascular risk factors, including diabetes and hypertension (Ahadi et al., 2014; Al Sayah et al., 2013; Erkoc et al., 2012; Fitzgerald et al., 1998; Garcia et al., 2001; Rosneck et al., 2014; Schapira et al., 2012; Sichert-Hellert et al., 2011; Vaidya et al., 2013)) which were suggested by key stakeholders from the community and PHC facilities as priority health issues. The draft questionnaire was subject to a review and validation process by a committee of national experts in the area of healthy lifestyle, family medicine, community-based organizations, and health education and a pretest. The final pretested and validated questionnaire included one introduction question on knowledge about risk factors for cardiovascular diseases followed by 26 questions on health knowledge pertaining to 12 questions on diabetes, 10 on cardiovascular diseases, and four questions on obesity. The questionnaire contained five questions on health beliefs, six on health behavior, four on health information, and 14 questions on demographic and socioeconomic information. In the follow-up surveys, another 11 questions on awareness about entitlements to free medical services and three on the perceived involvement of the community in health business planning were added.

Both questionnaires were translated from English into Tajik and Uzbek languages, and the HL questionnaire was programmed in the open-source software Open Data Kit [ODK] for tablet-based electronic data collection.

2.4 Data Collection Procedures

Data collection and external supervision were conducted by experienced national survey companies in close collaboration with the project team to train the data collectors and external supervisors and pretest the questionnaires and data collection procedures. One data collection team per district was deployed. This setup allowed us to complete one community within a day.

The health district managers, community authorities and leaders of women's and community groups were informed in advance by the project survey specialist on the upcoming surveys to obtain approval and to clarify organizational and logistic aspects.

Study participants were selected by PHC facilitators prior to the day of the visit. Each participant received an appointment for the interview, which was held in a separate room in the PHC facility. For the HL questionnaire, data collectors entered the data directly into an electronic tablet during the interview and then transferred the completed questionnaires to the ODK server at the end of the working day. The completed paper-based questionnaires on health business planning were subject to quality control by the project survey specialist before being transmitted to the survey company for data entry.

2.5 Data Processing and Analysis

The completed paper-based questionnaires on health business planning were entered in the exact words into an Excel database and then translated into English by the survey company. The project survey specialist then performed a systematic quality check by comparing the original paper-based questionnaires, the data entered in Tajik, and the data translated verbatim into English in the Excel database. The selected quotes were revisited and edited by a native English speaker, keeping them close to the original wording. For analysis, we examined the text-based answers and grouped them into different key thematic areas. We then elaborated a synthesis of these areas as reflected in the findings chapter.

After data cleaning and processing the electronic data from the HL survey, a descriptive analysis was performed in Stata Statistical Software (Stata Corporation; College Station, TX, USA, version 16). Responses were stratified along the key variables of age and gender. Age was grouped into 'younger generation' aged 20 to 45 years and 'older generation' of 46 years and older. We categorized the study participant's overall level of knowledge into 'good' for >75% of correct answers provided by the interviewees; 'fair' (51-75% of correct answers provided); 'poor' (26-50% of correct answers provided); and 'very poor' (≤ 25% of correct answers provided).

2.6 Ethics Considerations

The studies were embedded into the project's implementation research activities, which were endorsed in the project's annual work plans. A Memorandum of Understanding was signed between the Ministry of Health and Social Protection [MoHSP] and the Swiss Agency for Development and Cooperation. It defines the activities and authorizes the project to conduct evaluation studies and surveys on project activities. The study protocol and data collection tools were submitted to the MoHSP for ethical clearance, as well as to the Ministry of Foreign Affairs, with a written request to ensure transparency on the surveys and full collaboration with the national and local authorities. The study request stipulated that the findings could be used for publication in an international journal and thus requested approval for this point as well. The MoHSP approved the

different study requests in March 2015 (Letter Nr. 16/1099-1002), February 2017 (Letter Nr. 1-6/1044-950) and March 2020 (Letter Nr. 1-4 / 1484-1304).

Notifying letters were sent to the district PHC managers. Study participants of all surveys received full information on their right to withdraw from the interview at any time without any further consequence. They were also assured of a guarantee of confidentiality of information collected (anonymization of data). Oral consent was sought from the CHT representatives participating in the health business planning survey, and written consent through a signature on the electronic tablet was obtained from the HL survey participants before starting any interviews.

3.0 Findings

3.1 Health Business Planning Surveys

A total of 121 CHT representatives from 40 communities participated in the health business planning and health promotion surveys in 2017, and 154 from 55 communities in 2020.

3.1.1. Profile of community health team representatives. The CHT representatives were between 20 and 75 years old, two-thirds (68%) of the ‘older generation’ and one-third (32%) of the ‘younger generation’, and largely women (89%). Male CHT representatives (11%) were between 30 and 75 years old, and their ratio increased from 2% in 2017 to 11% in 2020. Men were represented in all districts but not in all Community Health Teams. Most of the interviewees started their engagement one or two years prior to the survey. More than every fifth person (22%) was active since the launch of the initiative in 2014.

3.1.2. Election process and understanding of role as CHT member. Potential CHT candidates were invited by the PHC team, village authorities or women’s groups or visited at home and then competitively elected. The chosen candidates were active, self-initiative and engaged personalities (‘activists’) often already involved in community work before, such as members of local councils, volunteers, community-based organizations and women’s groups. As one woman noted, “I frequently engage with community; they consider me as an activist and were the ones that selected me to this role” [personal communication, female CHT representative, age 48, district of Hamadoni, March 2017].

CHT representatives understood their role as to bridge the community with the PHC team, to assist with awareness raising of the population on common health issues, risk factors for and prevention of specific diseases, and promote changes for a healthier lifestyle behavior in daily life. They actively participated in joint meetings with the PHC staff and promoted feedback from these meetings to their community. On the other side, they identify people’s health concerns and needs and bring them in during the joint meetings. A study participant explained, “My duty is to represent the community. I was selected to this role by members of the community” [personal communication, female CHT representative, age 54, Hamadoni, March 2017]. Another person said, “I participate in the meetings of health workers and receive information about different diseases. Lately those diseases are also being explained to community members and discussed” [personal communication, female CHT representative, age 43, Vose, March 2017].

3.1.3. Health business planning meetings. More than 4 out of 5 CHT representatives participated in joint health business planning meetings with the PHC team at the beginning of the calendar year and actively contributed to shaping the content of the health business plan. A consultative approach was adopted by jointly defining the targets, and at least one suggestion from the CHC representatives was finally integrated into the health business plan. Smooth cooperation seemed to depend rather on the team composition than on a generational and gendered balance.

3.1.5. Identification of priority health needs. Priority health needs were identified by actively involving people from the community, such as during women's group meetings, gatherings in public places, or by talking with people on an everyday basis and learning about their health concerns. A CHT representative described, "…women meet and talk about relevant health problems and then identify the necessary topics" [personal communication, female CHT representative, age 28, Koniodom, March 2020]. Another respondent explained, "From the heads of the households and from mothers-in-law, we find out the main problems and then choose the most important ones to discuss in-depth" [personal communication, female CHT representative, age 59, Vose, March 2017].

Gender-specific health issues were reflected and integrated into the health business plan. Women's health topics were much broader than men's. Common topics included pregnancy (e.g., ante- and postnatal care visits, birth registration, homebirth, miscarriage, abortion, infertility, breastfeeding), women-specific health issues (e.g., gynecologic disorders, sexually transmitted diseases), chronic diseases (e.g., cardiovascular disease, diabetes, obesity), and other (e.g., anemia, tuberculosis, iodine deficiency, and immunization).

With male CHT representatives being progressively involved in the health business planning process, men's health issues were increasingly more carefully considered. Topics pertained to preventing specific diseases (e.g., cardiovascular diseases, diabetes, tuberculosis, sexually transmitted infections), and focused on risk behavior (e.g., smoking, alcohol and drug abuse). Health issues and exposures associated with labor migration, such as sexually transmitted infections, had a particular focus, and the importance of medical examinations was emphasized. Thereby, the wives played a central role in sharing information with the CHT representatives. One interviewee revealed, "There are also problems that men share with their wives. The wives share these with us and, in a discreet way, we let health workers know the kind of health topics that worry the men in our communities" [personal communication, female CHT representative, age 39, Hamandoni]. A second participant pointed out, "Men do not come to us very frequently. We should find a way to reach them. Meanwhile, we talk to their wives that they may open discussions with them on issues like HIV and tobacco" [personal communication, female CHT representative, age 30, Vose, March 2020].

3.1.6. Reflection on health priorities in health business plan. The CHT representatives estimated the health needs expressed by the people as being satisfactorily reflected in the health business plan. They also estimated having been sufficiently involved to reach the annual targets through active participation in the health business planning process for goal setting and integration of people's needs, proactive interactions with people and dissemination of information.

Some disagreements referred to a lack of participation in the joint meetings because the CHT members were not invited, or their suggestions were not

considered in the health business plan. This shows the importance of a continued participatory approach to increase the communities' ownership.

3.1.7. Dissemination of information to the community. The PHC teams and CHT representatives organized regular gatherings for awareness-raising activities and dissemination of information from the health business planning meetings. Channels used were public places (water gathering points, markets and streets), public institutions (mosques, schools) where people meet for daily purposes, people's homes and women's group meetings. The influence of the CHT representatives over the PHC team ranged from a passive transfer of information from the community to a more active one by discussing the people's health concerns, ideas and suggestions with the PHC team. A female interviewee pointed out, "When they [RHC staff] call us and tell us about diseases, we pass it to people, let's say – doctor's assistants" [personal communication, female CHT representative, age 63, Hamadoni]. Another person noted, "By participating in business planning discussions, we offer our ideas on preventing diseases" [personal communication female CHT representative, age 43, Vose, March 2017].

3.1.8. Motivational factors. CHT representatives seemed to develop a sense of personal achievement and ownership. Stimulating factors were the collaboration with the PHC team and the opportunity to enhance individual knowledge in health topics and disease prevention, skills in communication, and community and teamwork approaches. The following statements were made by CHT representatives:

> My understanding of health issues has improved. I do this work for the sake of my health and the health of community [personal communication, female CHT representative, age 19, Vose, March 2017].
>
> I have learnt a lot from the experience in the CHT. I can now communicate more clearly than before - I know the kind of information people are looking for [personal communication, female CHT representative, age 55, Rudaki, March 2017].
>
> When I manage to explain a health condition or clarify a concern to one person, then this is a big achievement for me [personal communication, female CHT representative, age 63, Hamadoni, March 2017].
>
> I perceive as a success that I manage to work with people, to explain more and to do more to promote healthy lifestyles [personal communication, female CHT representative, age 63, Hamadoni, March 2017].
>
> It was very good. I am satisfied with the work done; a lot depends on mothers. Mothers move the world with one hand, and with the other hand, they rock the cradle [personal communication, female CHT representative, age 58, Hamadoni, March 2017].

The PHC staff's confidence in mutual cooperation, respect and esteem towards the CHT representatives contributed to increasing their status within the community. One interviewee noted, "We work on the same wave; together we visit the households that did not vaccinate their children, listen to them, and explain the risks and benefits of vaccinations" [personal communication, female CHT representative, age 37, Rudaki, March 2017]. Another person stated, "I am respected, valued, they talk with me on any topic" [personal communication, female CHT representative, age 57, Faizobod, March 2017].

The CHT representatives, through their awareness raising, contributed to strengthening the confidence of the people in the PHC team and services. A CHT representative explained, "Thanks to the time taken to discuss and explain, people became more engaged in approaching health workers" [personal communication, female CHT representative, age 38, Rudaki, March 2020]. As a female interviewee asserted, "We see progress from providing explanations about requests to visit the health facilities; there is more understanding now, for example, pregnant women do register" [personal communication, female CHT representative, age 46, Rudaki, March 2020].

3.1.9. Feedback from the community. A large majority of the CHT representatives received feedback from their community for the work they do, which was highly valued. People were grateful that somebody from the community was aware of their health and could guide them in case of a problem and receive information on health topics. Asking a CHT representative for advice on a health issue points to a high level of support and trust in their work. People seemed to have developed a sense of understanding of their own capacity to tackle common health priorities jointly. An interviewee proudly noted, "They praised our work; they explained that they were housewives and now had a chance to learn so much. They were thankful" [personal communication, female CHT representative, age 50, Hamadoni, March 2017]. Another statement was, "Oh, what would we do without you? These are the words I hear. I received only positive feedback" [personal communication, female CHT representative, age 43, Hamadoni, March 2017].

The challenges mentioned referred to time constraints, which was aptly expressed by a CHT representative, "My family is already losing me because questions and requests from the community are many, and the number of meetings is increasing" [personal communication, female CHT representative, age 41, Rudaki, March 2017].

3.2 Health Literacy Surveys

Complete data from 1,183 adult women and men from 60 communities participating in the HL surveys in 2015, 1,418 from 71 communities in 2017 and 1,111 from 55 communities in 2020 were obtained and analyzed. Results presented focus on findings relating to health knowledge and beliefs.

The study participant's demographic and socioeconomic profile was comparable across the surveys, with roughly half of them being of the younger generation aged between 18–45 years. Seven out of 10 study participants in the baseline and 8 out of 10 in the endline were women. More than half of the interviewees completed secondary school, every fifth completed college or a technical school, and every seventh graduated from an institute or University. A large majority had one occupation, mainly homemaker (40%), working for local government (25%), agricultural production (10%), and owning a business (5%). More than one-third (36%) declared receiving remittances from relatives abroad.

To assess the health knowledge, participants were asked to recall risk factors for cardiovascular diseases. Their knowledge clearly improved in the endline: 5 risk factors were cited by 24% of the interviewees in the endline compared to 2% in the baseline. The participant's overall knowledge of cardiovascular disease risk factors (including diabetes and obesity) rated as 'good' increased from 31% in the baseline to 46% in the endline. The proportion of 'poor' knowledge decreased from 38% to 23%, and very poor from 8% to 4% from the baseline to the endline, respectively.

Interviewees had to agree or disagree on different statements relating to health beliefs. Belief about an association between one's own lifestyle and health was more self-paced in the endline compared to the baseline: 60% of the respondents disagreed with the statement, "Changing my lifestyle today has not any effect of my health later in life" in the baseline versus 86% in the endline. Almost half of the interviewees (48%) estimated their own health as a given status rather unalterable and depending on doctors in the baseline versus 21% in the endline, whereby interviewees with higher education level and occupation status (e.g., working in the public sector) less likely share this belief.

Moreover, the large majority of the respondents strongly believed in their communities' influence on health planning through the Community Health Team (73% in baseline vs 93% in the endline), which indicates a broad trust from the population in this approach set up by the project.

4.0 Discussion

The health business planning approach fostered a closer collaboration between the PHC services, community authorities and the population through the CHTs. Main achievements were: (i) the collaboration seen as an equal partnership empowering communities to shape community health work, which increased ownership and engagement by successfully integrating communities' health priorities and needs in the annual health planning; and (ii) increased transparency of the PHC services' resources and activities towards the communities, which resulted in more mutual trust from communities in PHC services.

At the individual level, CHT representatives were highly committed to their engagement. Drivers included the identification of communities' health priorities and a successful integration of health concerns, ideas and suggestions made by the people into the local health planning. Other motivational factors were improvements that were achieved and the development of one's own competencies, such as enhanced knowledge of health issues, skills in communication and community work experience. The CHTs earned the PHC staff's trust in mutual cooperation and were considered equal partners for health business planning and promotion activities. Their work was highly valued by the communities, particularly their advice, which empowered them to raise their sense of personal achievement and status. We have described elsewhere that women actively participating and engaging within women's groups—be it to discuss health issues, organize social events or improve community infrastructure—were able to raise their status and influence upon society and local authorities, which is key for their empowerment (Molesworth et al., 2017).

Time constraints and work overload came out as an impeding factor in our study—and were reported elsewhere—due to peaks in farming activities (Agalga et al., 2022) and competing economic activities (Gyawali et al., 2018). Volunteer attrition because of dissatisfaction with incentives was further mentioned as inhibitor (Agalga et al., 2022; Gyawali et al., 2018; Neupane et al., 2015). Local economic empowerment of volunteers is thus important for sustainable

community participation. Other barriers reported pertained to low confidentiality and lack of information on relevant health issues. If community health volunteers lack useful resources to provide or do not have reliable information, they face challenges in providing their services and engaging with communities. Confidentiality is thus crucial for specific diseases and related concerns of stigma (Rachlis et al., 2016). A study from Ireland found that the relationship with and perceived support from health professionals is very important in developing HL capacity over time. Findings from this study supported the integration of HL into medical curricula (McKenna et al., 2020).

A broad range of studies considered formal training of community health volunteers on common diseases and related topics as essential to sustain community participation, as shown in Nepal (Agalga et al., 2022; Gyawali et al., 2018; Neupane et al., 2015; Rawal et al., 2022; Tan et al., 2020), in Kenya (Rachlis et al., 2016) and in Iran (Roohafza et al., 2014). An adequate level of basic health literacy and knowledge empowers the community health volunteers' ability to comprehend specific health issues and disseminate appropriate and accurate information to community members. Because of a broad range of literacy and education levels, they need training to ensure quality community-based service and to fit capacity and context (Rawal et al., 2022). Improving health volunteers' knowledge strengthens their credibility and trust from communities (Roohafza et al., 2014).

The health promotion activities contributed to better health literacy at individual and possibly household levels through increased knowledge of cardiovascular disease, diabetes, and obesity. Education and occupation were slight predictors for health knowledge and belief: participants with a higher educational level and those working in the public sector had better knowledge compared to the others. The respondents' awareness of their lifestyle potentially influencing their own health and well-being was much more self-paced in the endline, and their awareness of simple measures to implement in their daily life contributed to a healthier lifestyle. This indicates a change towards a better consciousness of their own health status and understanding that it can be positively influenced.

A literature review on HL interventions concluded that HL can lead to changes in health behavior (Walters et al., 2020). A study on HL and perceived risk of CVD among middle-aged women in Iran found no statistically significant association between education and perceived risk for CVD, but the majority of respondents had a good education. The level of HL was linked rather with health information sources, whereby health care providers at the primary level had a central role in contributing to an increase in HL (Enjezab et al., 2021). A study on awareness and perception of CVD among young adults in communities in Peru emphasized that women are key channels for health information to their families and, thus, most suitable for people-centered engagement relating to community work.

Women are able to positively influence their own health and the health of family members, which speaks for empowering them with knowledge and resources towards a healthy lifestyle (Sanchez-Samaniego et al., 2021). Studies from China and Haiti on community-based participatory interventions have shown that an increased level of HL can improve health behavior for prevention and enhance self-care abilities (Bourgette-Henry et al., 2019; Lin et al., 2019) however, with declining effects a few months after completion of the intervention (Lin et al., 2019). It has also been shown that poverty can be a limiting factor in choosing a healthy lifestyle (Jongen et al., 2019).

At the community and PHC level, the approach contributed to strengthening the population's trust in PHC services and communication with PHC teams through the CHTs' bridging role. The accountability of the PHC teams for progress towards communities was enhanced by actively associating the CHTs in the annual health planning process. Moreover, community's ownership was bought in with the integration of their health priorities in the health planning.

It is important that CHWs can link the community with the health system and enhance service uptake since they are able to bridge cultural and linguistic gaps between service providers and community members. They are close to the community and culturally sensitive by sharing community norms, health beliefs and health-seeking behavior with peers, and can explain health information in a comprehensible way using a similar vocabulary, encourage patients to seek medical care and provide health education. They are thus able to reduce literacy-related, social and cultural barriers, as shown in several studies from the USA (Bush et al., 2023), Kenya (Rachlis et al., 2016), and Nepal (Neupane et al., 2015). Integration of cultural knowledge into practice and community-based approaches contributed to a successful sustainable intervention, as shown in Haiti (Bourgette-Henry et al. 2019). Other enabling factors for sustainable participation in a community-based PHC intervention program in Ghana involved strong community leadership ensured by village authorities, public education, awareness raising on the initiative, and trust in the benefits of the program that it addresses the population's health needs (Agalga et al., 2022).

At the policy level, the "National Guideline for Partnership with communities on health issues" has been approved by the Ministry of Health and Social Protection of Tajikistan by the Order No. 153 on March 9, 2017, and adopted as a unified approach for working with communities. The current National Health Strategy 2021–2030 maintains community involvement in the health approach.

Our study suffered from a series of limitations. We have chosen a panel study design to assess key project indicators over time for health literacy, health business planning and quality of care. The surveys involved a PHC facility and corresponding community arm: for logistic reasons, the community of the selected PHC facility was chosen for the HL and the health business planning surveys, which might not have adequately taken into consideration remote villages. Moreover, the selected communities were aware of the repeated visits and were thus more likely to prepare and address the recommendations made by the project team than other communities within the project districts, resulting in a selection bias. Moreover, we used disease-specific knowledge as short-term outcome indicators and not health behavior, since knowledge can be directly associated with the intervention.

5.0 Conclusion

The health business planning and health literacy approaches supported comprehensive options for managing and preventing NCDs and locally common health conditions. The health business planning and health promotion approaches using community health teams are promising because they empower communities to take ownership in shaping the health planning process, enhance people's health literacy, and positively influence their health beliefs and behavior towards healthier lifestyle choices. The ability to influence and control people's own health status should continuously be reinforced by health professionals and community health teams to promote of a healthy lifestyle and encourage of preventive medical consultations. Local health promotion and awareness-raising activities may be organized by actors involved in community work, such as community health teams, PHC teams and healthy lifestyle centers.

Thereby, collaboration should be continuously fostered and competency of community health teams maintained to sustain community participation.

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