

ORIGINAL ARTICLE

SHORT-TERM INTERVENTIONS IN HEALTH COOPERATION PROGRAMS: VOLUNTEERS AND LOCAL HEALTHCARE PROFESSIONALS PERSPECTIVE

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ABSTRACT

Background: Healthcare challenges in low/middle-income countries have been encouraging professionals to volunteer for medical service. The impact of these interventions should be evaluated to guarantee quality and local agreement. The aim was to assess volunteers' and local healthcare professionals' perspectives on short-term health interventions (STHIs) in a international health cooperation program in Guinea-Bissau.

Methodology: Three standardized questionnaires were applied to international volunteers and local healthcare professionals, including National System workers and those from the cooperation project.

Results: All volunteers integrated a team and their main activity was clinical and medical training. The main motivation to participate was the will to meet different cultures, altruistic reasons, and to improve clinical knowledge and their curriculum. Volunteers strongly agreed they have contributed to the training of locals and had the opportunity to improve communication with patients from different settings. Most local professionals reported regular or daily contact with volunteers and 92% participated in their medical training, in which practical and on job training were the preferred methods. Volunteers strongly agreed they have contributed to the training of locals. Local professionals also strongly agreed that volunteers contributed to updating knowledge as well as managing and organizing the services. Both volunteers and locals felt their collaboration was useful. Most local professionals agreed that STHIs can be improved by increasing the length of stay.

Conclusions: STHI's assessment is essential so that it has an objective in compliance with the project and local requirements, allowing a sustainable solution for the improvement of community healthcare.

Introduction

Globalization has brought growing attention to the needs of low- and middle-income countries (LMICs), especially those concerning healthcare needs.¹ In this context and due to this global awareness, there have been an increasing number of healthcare professionals who volunteer for medical service in LMICs, most of them coming from high-income countries (HICs).² According to the World Health Organization (WHO), there is a dramatic imbalance between the demand and need of these countries and the availability of physicians able to face those needs.³ Healthcare professionals and resource shortage are some of the challenges that have been leading HICs health professionals to participate in international health initiatives and volunteering.^{1,4} These healthcare interventions may occur in different contexts, since they can be held in emergency scenarios or in health cooperation projects and so the objectives may differ.

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ARTICLE HISTORY

Received 4 November 2022

Accepted 11 November 2022

KEYWORDS

volunteerism, public health, health resources, health care coalitions, community health services

Both emergency and cooperation short-term health interventions (STHI) need training, accreditation and responsibility.⁵ Impact evaluation of these interventions is needed on what concerns the quality of the health services offered and their agreement with the local culture and healthcare structures.^{6,7,8} Therefore, it is of major importance to raise awareness to this necessity and the potential impact of these interventions on all parties.

In the context of PIMI II (Integrated Programme for the Reduction of Maternal and Child Mortality II), an international cooperation program in Guinea-Bissau with the aim of reducing maternal and childhood mortality, there were occasional STHI.⁹

For the purpose of this article, STHI in health cooperation programs are defined as trips in which volunteer healthcare professionals from other countries travel to LMIC to provide healthcare or health education over periods ranging from one day to three months.

The aim of this work was to assess the perception of healthcare professionals who worked in the cooperation program, including healthcare professionals who volunteered and all healthcare professionals who worked with international volunteers in the context of PIMI II in Guinea-Bissau.

Methodology

Setting

PIMI II is an international program promoted by the European Union, co-funded by the Portuguese Cooperation, and implemented by Instituto Marquês Valle Flôr (IMVF) across all regions of Guinea-Bissau between June of 2017 and May of 2021. IMVF was responsible for the implementation of one of the intervention axes of PIMI II: strengthening the availability and quality of maternal and child healthcare. The other axes of intervention included organizational support, community healthcare and research which were implemented by EMI (Entraide Médicale Internacional), UNICEF and Bandim Health Project respectively.

The main objective of this project was reducing maternal and childhood mortality by supplying healthcare services with essential medicines and other medical supplies, giving medical education and guidance to medical teams, and by helping to manage maternal and paediatric services at the hospital and primary care. At a clinical level, the logical framework is implemented by a training team, with international experts and a national team of local trainers who work with their peers in the field. In the course of the program, there were STHI with international professionals who participated in the project by supporting theoretical and hands-on training to healthcare professionals of PIMI II and of the National Health Service (NHS) of Guinea-Bissau or by working directly with them in healthcare structures.

Design

This was a descriptive study in which three questionnaires were designed, one for healthcare professionals who volunteered in STHI, other for professionals from PIMI team and the third to NHS professionals. The first two questionnaires were created using online software (Google forms®) and the third was paper-based. The answers were gathered during one month at the end of the PIMI II (May of 2021).

Participants

The study included international healthcare volunteers who participated in STHI since the beginning of PIMI II (total of 13 professionals), healthcare workers from PIMI team (n=36), and NHS professionals who worked in health centres where PIMI was implemented. Healthcare volunteers and PIMI team were sent an online questionnaire, while NHS workers received a paper form. Their participation was voluntary and all forms were submitted with agreement of district health directors.

Variables

Questionnaires for volunteers included participants' background, motivations, insights, personal improvements and additional feedback. The section about motivations, insights, and improvements included 24-items, each one rated on a five-point Likert-type scale of agreement, where 1=Strongly Disagree and 5=Strongly Agree, and nine items with a scale of frequency, where 1=Never and 5=Always.

Questionnaires for PIMI team and NHS workers included background, insights, and perceptions about

volunteers' collaboration and additional feedback. To measure insights and perceptions, participants were invited to rate 14-items on a five-point Likert-type scale of agreement where 1=Strongly Disagree and 5=Strongly Agree; 10-items on a five-point Likert-type scale of agreement and six-items with a scale of frequency, where 1=Never and 5=Always, directed to PIMI Team. Additional feedback included questions about improvements, advantages and disadvantages of volunteer collaboration.

Statistical analysis

Categorical variables are presented as absolute and relative frequencies. In addition, means and standard deviations are presented for rating scale data. Also, Cronbach's alpha was calculated to estimate internal consistency of scales. Statistical analysis was performed with Microsoft® Excel® to Microsoft 365 MSO. Qualitative data were not enough to do meaningful thematic content analysis, such that responses to the open-ended survey item are reported as additional feedback.

Results

Volunteers' perspective

Background and STHI context

A total of eight responses (62%) were obtained from volunteers. All of the respondents were Portuguese, most of them females (88%, n=7) and with a median age of 33,5 years old. STHIs took place in 2018 and 2019.

Volunteers were all medical doctors, the majority obstetricians (n=6) and the remaining paediatricians (n=2). At the moment of STHI, most were residents (n=6) and 50% were in their fourth year of training or higher (n=4). Half of them participated in the project for a period of two months (n=4), 25% for three months (n=2) and 25% one month (n=2). Moreover, 75% had no previous experience in international STHIs (n=6) while the other two have already volunteered in São Tome and Príncipe and Guinea-Bissau.

All participants were integrated in a specific PIMI team with different functions, namely classroom training (n=1), training in the national school of public health (n=1) and in hospital services (n=6). Moreover, 25% visited more than five healthcare structures and 75% from two to five. Concerning beneficiaries, the majority were obstetric patients (n=6), paediatric (n=1) or both (n=1). Regarding the main clinical activity, 38% performed ultrasonography (n=3), 25% training (n=2), 13% consultation (n=1), 13% hospital ward (n=1) and 13% pharmacy (n=1). Furthermore, 75% also helped in other activities (n=6), namely logistics, training and medical education, team meetings and hospital services management. In respect of training, 88% reported having participated in medical training activities: two as the main activity and five as an additional task.

Prior to participation, 38% (n=3) claimed they have done some kind of preparation (theoretical lectures, studying emergency protocols, ultrasonography training), while 63% (n=5) denied any previous preparation. Most participants (88%) considered it important to prepare for the STHI (n=7). The reasons mentioned were: to know the local conditions and the

health system reality, the project and STHI objectives, main difficulties, to improve efficiency, and to improve understanding/knowledge on the social and cultural framework. None of the respondents knew how to speak crioulo.

Motivations, insights and improvements

Volunteers were invited to rate 24-items on a five-point Likert-type scale of agreement [table 1]. Other reasons that motivated participation were personal and professional improvement, to gain knowledge about the

migrant population and to consequently improve their care. When asked how the cooperation with local health professionals could be improved, volunteers mentioned more training, telemedicine which would allow discussion of complex cases, and better cooperation between PIMI teams and local teams.

Related to the difficulties felt, the participants were also invited to rate nine-items on a five-point frequency scale of agreement [table 1]. Cronbach's alpha for Likert scale of agreement 24-items was 0,80 and for frequency nine-items were 0,84.

Table 1. Survey results on the agreement and frequency items for international volunteers.

Item stem	Survey item	Mean	SD
I have participated because*	I like to help others	4,38	0,48
	I want to improve my clinical knowledge	4,38	0,99
	I want to meet different cultures and ways of living	4,88	0,33
	To improve my CV	4	1,22
	Other	3,25	1,48
During my participation*	I felt that I worked in team with PIMI healthcare professionals	4,88	0,33
	I felt that I worked in team with the NHS healthcare professionals	4,38	0,99
	I made a contribution to the training of healthcare professionals	5	0,00
	I made a contribution to the improvement of care	4,88	0,33
	I made a contribution to the tidying-up of the health care structure	4,38	0,99
	I established a good relationship/cooperation with NHS healthcare professionals	4,5	0,50
	I established a good relationship/cooperation with PIMI healthcare professionals	4,88	0,33
	I felt I have replaced the local healthcare professionals	2,5	1,58
	I had difficulty in dissociating the training activities from the daily medical activity	3	1,66
I believe that I had the opportunity to improve*	The ability to communicate with patients from different cultural and socioeconomic settings	4,5	0,50
	The ability to communicate with healthcare professionals from different cultural and socioeconomic settings	4,75	0,43
	The ability to communicate in other language	3,38	0,99
	The ability to evaluate the needs of the community	4,25	0,43
	The ability to adapt to new clinical contexts	4,38	0,48
	The understanding of the community care	4,25	0,43
	My technical and medical knowledge	4,38	0,48
	My capacity to conduct the clinical history and physical exam	3,88	0,93
	The ability to diagnose	4	0,87
The ability to make clinical decisions	4	1,00	
How often did you felt the following difficulties**	Preparedness	3,38	0,99
	Clinical knowledge	3,00	0,87
	Healthcare professionals	3,5	0,12
	Cultural differences	4,25	0,83
	Language barrier	4,25	0,83
	Medical equipment	3,63	0,99
	Medication	2,88	0,60
	Infrastructure conditions	3,63	1,22
	Lack of human resources	3,25	1,20

* Each item was rated on a five-point Likert-type scale of agreement, where 1=Strongly Disagree and 5=Strongly Agree.

** Each item was rated on a five-point Likert-type scale of frequency, where 1=Never and 5=Always.

Additional feedback: advantages, disadvantages and perspectives

Considering the main advantages, participants reported the professional and personal benefits, contact with different cultures, the possibility to work in low resource settings and learning with these difficulties, the opportunity to make a difference and contribute to other professionals' education, life experience, sense of job fulfilment, improvement of technical abilities, improvement of professional autonomy and curriculum vitae. Most of them denied any disadvantage (n=6), though others referred being away from family and the adaptation process as a challenge.

The main concerns were the practical implementation of the training program, the ability to respond to the diagnosis by the local team, hygiene, low standards of medical education of local human resources, wellbeing of the team, and the lack of capacity to respond to a complex clinical situation.

All of them felt that their participation mentioning they were able to contribute to the improvement of healthcare basic training, ultrasonography training and management. After this experience, participants claimed they recognized the value of their own country NHS (n=3), they were more aware of the difficulties

faced in other countries and felt more resilient and autonomous. All of them recommended participation in this project or in similar ones and claimed they will participate again.

PIMI team and NHS workers perspective*Background*

A total of 88 responses were obtained, 15 from PIMI team (42% of total team) and 73 from NHS workers, as shown in table 2. From survey respondents, 96% of the NHS professionals worked with the PIMI team (n=70) and considering all survey respondents, 56% (n=49) worked with international volunteers.

Regarding frequency of contact with international volunteers 28% of the NHS professionals reported having had daily contact (n=11), 46% regularly (n=18), 15% pontual work (n=6) and four did not answer. Conversely, 40% of PIMI team inquiries worked on a daily basis (n=4), 30% regularly (n=3) and 30% had a pontual contact (n=3).

On what concerns the importance of international volunteers collaboration, 71% (n=35) considered it as a valuable input (67% of NHS professionals and 90% of PIMI team).

Table 2. Demographic and professional data from NHS and PIMI professionals.

		NHS workers (n=73)		PIMI team (n=15)		Total (N=88)	
		n	%	n	%	n	%
Sex	Female	37	51%	8	53%	45	51%
	Male	35	48%	7	47%	42	48%
	Non identified	1	1%	-	-	1	1%
Age	<30	6	8%	-	-	6	7%
	30-39	29	40%	5	33%	34	39%
	40-49	24	33%	8	53%	32	36%
	>50	11	15%	2	13%	13	15%
	Non identified	3	4%	-	-	3	23%
Type of healthcare structure	Hospital	20	27%	8	53%	28	32%
	Primary care	48	66%	-	-	48	55%
	Maternal and childhood centre	4	5%	1	7%	5	6%
	All centres	-	-	6	40%	6	7%
	Non identified	1	1%	-	-	1	1%
Professional group	Doctor	12	16%	5	33%	17	19%
	Nurse	47	64%	7	47%	54	61%
	Midwife	13	18%	3	20%	16	18%
	Non identified	1	1%	-	-	1	1%
Main clinical activity	Paediatrics	11	15%	9	60%	20	23%
	Obstetrics	26	36%	6	40%	32	36%
	General Practice	2	3%	-	-	2	2%
	Paediatrics and obstetrics	4	5%	-	-	4	5%
	Paediatrics and general practice	3	4%	-	-	3	3%
	All	26	36%	-	-	26	30%
	Non identified	1	1%	-	-	1	1%

Insights and perceptions about international volunteers participation

NHS workers were invited to rate 14-items on a five point Likert-type scale of agreement related to volunteers' collaboration [table 3]. Cronbach's alpha for Likert scale of agreement 14-items was 0,70.

PIMI professionals were invited to rate 10-items on a five-point Likert-type scale of agreement and six-items with a scale of frequency related to volunteers' collaboration [table 4]. Cronbach's alpha for Likert scale of agreement 10-items regarding international volunteer contribution was 0,90 and for frequency six-items regarding "how often did they feel" was 0,81.

Table 3. Survey results on NHS workers agreement items.

Item stem	Survey item	Mean	SD
International volunteers contributed to*	Improvement of patients care	4,6	0,5
	My professional training	4,2	0,9
	Knowledge update of professionals	4,4	0,5
	Management and organization of the service	4,5	0,5
	Team work with local professionals	4,3	0,6
	Improvement of the conditions of attendance	4,4	0,6
	Improvement of services organization	4,4	0,5
International volunteers*	Improvement of medical records	4,5	0,6
	Tried to know and to apply local guidelines	4,4	0,6
	Tried to know and to apply PIMI therapeutic guidelines	4,5	0,5
	Adapted their behaviour to local culture	4,0	0,7
	Were available to participate in local activities	4,3	0,8
	Only performed medical training	3,1	1,3
	Replaced local healthcare workers in their duties	2,2	1,1

* Each item was rated on a 5-point Likert-type scale of agreement, where 1=Strongly Disagree and 5=Strongly Agree.

Table 4. Survey results on PIMI team agreement and frequency items.

	Item stem	Survey item	Mean	SD
Volunteer contribution	International volunteer contributed to*	Improvement of patients care	4	0,10
		Professional training	3,7	0,19
		Updating knowledge of team professionals	4,2	0,60
		Management and organization of team work	4,4	0,66
		Improvement of the conditions of attendance	4,2	0,60
		Improvement of services organization	4,3	0,64
	International volunteers*	Were integrated in PIMI team	3,9	0,83
Frequency of...	How often did you felt the following**	Stimulated team work with local professionals	3,8	1,25
		Tried to know and to apply PIMI therapeutic guidelines	4,6	0,66
		Adapted their behaviour to local culture	3,6	0,92
		Request clinical support of international professionals for the daily practice	3,3	0,78
		Request support of international professionals to perform local medical training	3,4	0,66
		Request clinical support of international professionals for the daily practice due to their higher level of knowledge	2,9	0,83
		International professionals replaced me on my activities	1,7	1,10
International professionals replaced other professionals of the healthcare structure	1,6	1,02		
		International professionals did medical training in fields where I do not have great knowledge	2,2	0,87

* Each item was rated on a five-point Likert-type scale of agreement, where 1=Strongly Disagree and 5=Strongly Agree.

** Each item was rated on a five-point Likert-type scale of frequency, where 1=Never and 5=Always.

Additional feedback about international volunteers' participation

Regarding volunteers contribution for service improvement, 95% of NHS professionals believed volunteers have helped (n=37) justifying that they supported training and knowledge acquisition, medicines management and service organization, promoted sharing of ideas and guidelines compliance, improved materials sterilization, health indicators and also ultrasonography, gave training in collecting patient's medical history, obstetric surgery and anaesthesiology support.

Considering volunteers length of stay, 89% of PIMI team considered a minimum of six months (n=8) and 20% two or three months (n=2). In contrast, 28% of NHS workers consider a minimum of one year (n=12), 23% consider six months (n=9) and 10% between 14 days and six months (n=4). Two NHS professionals highlighted the need of support during the rainy season.

Regarding medical education, 92% participated in medical training conducted by international volunteers (n=45). On what concerns the type of training, 38% preferred practical (n=17), 36% on job training (n=16), 13% theoretical lessons (n=6), 8% both theoretical and practical (n=4) and 8% all types of training (n=4).

Additionally, 80% of PIMI team considered that involvement of volunteers can be improved (n=8). Although qualitative data of the explanation were not enough for formal content analysis, the most often mentioned need of improvement was the length of stay that should be increased, support from different medical areas and daily residence in one specific service.

Discussion

Results from our investigation revealed that all participants were integrated in a specific team and the main activity was clinical activity in the hospital and medical training. Both PIMI and NHS professionals agreed with the team integration which is in agreement with volunteers' perspective. Medical training was the main activity of 25% of volunteers, and the majority of local workers (92%) have received medical training from volunteers at some point. However, most of volunteers also participated in other activities besides their main clinical activity, such as medical education or service and pharmacy management, revealing therefore that medical education is an important component of these STHIs. These findings are in agreement with other studies which revealed that volunteers reported an educational or training component in 43%¹⁰, 60%¹¹, and 89%¹² of their interventions. Furthermore, in a systematic review, Sykes found out that almost half of the studies included showed that their medical interventions comprised an educational component aiming to improve knowledge of local professionals or community.^{1,10} Medical education is such a preponderant component in STHI that in our study volunteers strongly agreed they have contributed to the training of healthcare professionals. This underlines that medical training and education may pose a sustainable and lasting solution for improving population's health.^{10,13,14} This is particularly important since local professionals agreed that volunteers contributed to their training and knowledge updating, reflecting therefore, the importance of these

interventions. PIMI team also agreed to have requested support of international professionals to perform local medical training sustaining the relevance of STHI. Unlikely, PIMI professionals disagreed in the need of requesting clinical support of volunteers for daily practice due to their higher level of knowledge, and in medical training, in fields where they did not have advanced knowledge, which contrasts with the strong agreement felt regarding the update of knowledge warranted by international volunteers.

Additionally, most volunteers also helped in other activities, namely logistics and management of health services, revealing that local needs are more comprehensive than just the clinical and medical training components. This was also felt by local healthcare professionals both PIMI and NHS, who strongly agreed that volunteers improved management and organization of team work and services. Similarly, they also agreed on their contribution to improvement of patients care, conditions of attendance and medical records. This shows how STHI can help improve the care in many areas, even in those that are sometimes overlooked in LMIC's, such as management and organization, but most of all medical records. A well-functioning health information system is one of the WHO's six building blocks of a health system and improving registry and adequate medical records is also an intervention that can be promoted effectively during STHI.¹⁵

On what concerns motivation, volunteers especially agreed on what motivated them to integrate a STHI which were similar to other reports in the literature, whose common motives include altruistic reasons and the sense of helping others, but also personal and professional improvement.^{1,4,11,16,17,18}

Though these reasons are in accordance with our findings, our study also disclosed cultural knowledge and competency as a common motivation among participants. In this context, Campbell et al demonstrated that experiences such as STHI are suited to education in cultural competency.¹⁹ Furthermore, having the opportunity to become acquainted with the migrant population will consequently allow a more comprehensive care to these populations in their own home countries. In accordance with this objective is the agreement found among volunteers regarding the opportunity to improve their communication with patients from different cultural and socioeconomic settings. Seemingly, local professionals also agreed that international volunteers were able to adapt their behaviour to the local culture. This led to improvement of communication skills with professionals from different contexts, which was perceived as having a positive impact and was noticed by volunteers. This positive development was also felt in other volunteer surveys as one of the most addressed competency.²⁰ During the intervention, volunteers also agreed they were able to improve their perception of the needs of the community, their own technical knowledge, the ability to diagnose and to make clinical decisions showing therefore a positive impact on their medical development, as shown in previous surveys.^{20,21}

Both volunteers as local workers strongly disagreed that volunteers have replaced local professionals,

demonstrating the importance of having specific roles and activities assigned allowing them to work together with common goals and in accordance with STHI objectives.⁴

In our study, only 38% of volunteers claimed having done some kind of preparation which contrasts with the 88% who considered it important. Not surprisingly, leading difficulties pointed out during STHI included cultural differences and the language barrier. This point out the importance of preparing interventions so that those difficulties can be overcome.^{10,11,16}

Most of the international volunteers denied any disadvantage in participating, pointing for instance the adaptation process a challenge that must be won. All volunteers felt their participation was useful for altruistic and personal reasons by allowing them to contribute to the improvement of local healthcare and to enhance their resilience and autonomy, similarly to other surveys.^{17,21} The value of volunteers participation was also noticed and felt by local healthcare workers as positive (71%).

Both local workers as volunteers stated that cooperation and STHI can be improved bilaterally, for those who volunteer there should be better cooperation with the medical associations, and for those who receive a longer period of stay would be beneficial, especially during the rainy season.

Although this study further helps to comprehend the perspectives of all professionals involved in STHI, we acknowledge some limitations. First of all, our sample was small and not all participants had responded, which limit our results not including all perspectives. Moreover, this work was also limited by the fact that some STHI had different objectives with varying degrees of support by the PIMI team which limit their comparison. Secondly, this study included only participants from one cooperation project not allowing inferring further conclusions or recommendations to other types of project.

Conclusion

This study draws attention to the importance and the need of evaluation of STHI and points out the necessity of having an objective in compliance with the project and the local needs. Preparation of interventions from social, cultural and clinical point of view is also an important part of STHIs allowing a constructive and worthwhile experience for both international volunteers and local professionals and the community. Furthermore, medical training is an essential component of these interventions which may constitute a feasible and long-lasting solution that may improve the healthcare services in LMICs and have results in a long-term perspective.

Considerations for further operational research on STHI:

- Improve preparation of volunteers regarding objectives, field characteristics, local health needs of material, knowledge and practice and compliance with local health guidelines.
- Look for better knowledge for on-local gradual adaptation process to cultural specificities and language.

- Create conditions to increase the length of stay for at least three months, preferably six to one year and study the impact of such intervention.
- Promote integration on a specific team/service.

Compliance with Ethical Standards

Funding None

Conflict of Interest None

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