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"...with the third eye we can detect mistakes and correct them..." Supportive supervision and the management of Clubfoot by Ponseti method

Qualitative experiences from Mwanza, Tanzania

Emmanuel Kowero, MSc, PMMEH[a,*], Dorica Burengelo, MSc, PMMEH[a], Doreen Philbert, MSc, PMMEH[a], Nathanael Sirili, PhD[a]

Abstract

Supportive supervision is the key to health programs in the provision of quality care. Clubfoot or Congenital Talipes Equinovarus remains among the prevalent congenital musculoskeletal birth defects in Tanzania. In 2015, Tanzania introduced supportive supervision guidelines for clubfoot treatment. However, little is known about how supportive supervision helps maintain the skills of providers. To analyze the supportive supervision in maintaining the clinical skills of healthcare workers in clubfoot management in Mwanza, Tanzania. An exploratory qualitative case study employing in-depth interviews (IDIs) with healthcare providers, supervisors, and parents of children with clubfoot was conducted in Mwanza, Tanzania. Data were collected from 3 purposefully selected hospitals and 32 IDI were conducted with the selected participants between April and May 2021. A semi-structured interview guide was used to conduct the IDIs. Qualitative content analysis was used to analyze the data. Two categories were identified in this study. First "the contribution of supportive supervision" attributed by its purpose and the success brought by the supportive supervision. Second, "the maintenance of healthcare workers' skills was attributed to their willingness to learn and actively engage in supportive supervision, cooperation with clinics and clubfoot programmes, and material support. The findings of this study underscore the contribution of supportive supervision to maintaining skills in the management of clubfoot in Tanzania. The findings of this study highlight the importance of joint efforts to maintain quality service skills.

Abbreviations: BMC = Bugando Medical Center, IDI = in-depth interview, TCCO = Tanzania clubfoot care organization.

Keywords: clinical skills, clubfoot, health care providers, supportive supervision, talipes equinovarus, Tanzania clubfoot care organization

1. Introduction

Supportive supervision is widely acknowledged to be an essential component for enhancing health workers' performance.[1] Supportive supervision is an on-site activity of leading, helping, coaching, mentoring, and motivating staff to improve their performance and bring about high-standard healthcare services by improving their technical skills.[1–3] Supportive supervision increases job satisfaction and health workers' motivation, thereby contributing to quality treatment outcomes.[4] Clubfoot programmes use supportive supervision to achieve their objectives.[5,6]

According to data from the sales force from 2019 to 2020, the number of clubfoot cases treated annually ranges from 600 to 800. Clinicians practicing in Mwanza clinics were trained in basic Ponseti, advanced Ponseti, data collection, and entry. On the other hand; supportive supervisors received supportive supervision training in addition to the previously mentioned trainings. Supportive supervision is performed through physical visits to the clinic by a trained supervisor who spends a day in the clinic by working with the staff on hands and through practical demonstrations of Ponseti casting, tenotomy training, and brace fitting. According to the program, supportive supervision is conducted once every 3 months, and supervisors come from other hospitals in the Mwanza region. Supportive supervisors included both medical and physical therapists.

Effective supportive supervision of healthcare services highly depends on the way it is carried out and the context.[4]

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All data generated or analyzed during this study are included in this published article [and its supplementary information files].

[a] *Department of Development Studies, Muhimbili University of Health and Allied Sciences (MUHAS), Dar es salaam, United Republic of Tanzania.*

**Correspondence: Emmanuel Kowero (e-mail: samkowero998@gmail.com).*

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Docker et al documented that when an experienced team from a tertiary health facility regularly visits primary and secondary healthcare facilities with a clubfoot clinic, it helps enhance adherence to the treatment plan, and treatment results are documented to ensure a good standard of care.[7] Supportive supervision is challenging in areas with few qualified staff, overworked healthcare workers, multiple roles of supportive supervisors, weak supply chains, different donor interests, and a lack of funding.[8]

In Africa, various methods have been used to treat clubfoot. A study done in Nigeria found out the clubfeet treatment of choice in most cases used to be early extensive surgeries which resulted to complications to the operated foot leading to the adoption of conservative methods in this case Ponseti method.[9] In East Africa, Surgical methods have been used for many years, and over the last decade, they have been replaced with the Ponseti method[2] In countries such as Malawi and Uganda, the Ponseti method has proven to be successful.[2,10]

In Tanzania, Ponseti method replaced Kite method when it was first introduced in 2008.[11] Despite the treatment method selected, considering the time required for clubfoot treatment, supportive supervision of clinics has become an important component to ensure that healthcare workers maintain the standard throughout treatment.[7,12,13]

This study aimed to explore supportive supervision and its contribution to reducing the deterioration of healthcare workers' skills in the management of clubfoot by using the Ponseti method in Mwanza, Tanzania.

Specific Objectives

i. To explore the role of supportive supervision in reducing deterioration of clinical skills of health workers.
ii. To analyze the supportive supervision in the Clubfoot Administration System application in Ponseti method.
iii. To explore the factors influencing the successful supportive supervision by TCCO (Tanzania Clubfoot Care Organization).

2. Methods study design

We conducted an exploratory qualitative case study employing in-depth interviews (IDIs) with healthcare providers, supportive supervisors, and parents of children with clubfoot, to acquire an in-depth understanding of the supportive supervision process. We treated the use of Ponseti method as a case study and we looked it from multiple angles of healthcare providers, supervisors and parents of children with clubfoot. We adopted a case study as the management of clubfoot with Ponseti method is a complex phenomenon that involve social processes.[14]

2.1. Study context

This study was conducted at health facilities in the Mwanza region of Tanzania the lake zone. The Mwanza region is 1 of the 6 regions in the lake zone.

This region was selected because it is the first region to formally treat clubfoot using the Ponseti method, train clubfoot providers, and conduct supportive supervision for years. No study has analyzed the implementation of supportive supervision in the management of clubfoot using the Ponseti method. Owing to its population, the Mwanza region records a high number of patients at clubfoot clinics, which also necessitates the maintenance of the quality of clubfoot management, which is one of the measures to ensure quality.

2.2. Study population

This study involved healthcare providers from 3 different hospitals who were involved in clubfoot treatment and supportive supervision. These include health care providers and supportive supervisors–medical doctors, Physiotherapists, Occupational therapists, nurses, and parents of children with clubfoot–in the 3 selected hospitals in the Mwanza region. The final sample size was determined in the field after reaching the saturation point. The saturation point was determined after interviewing several informants and summarizing their information. The respondents provided the same information as the previous key informants, even when asked the same questions in different styles that marked the saturation point. A total of 32 respondents were interviewed.

2.3. Sampling techniques

A purposeful sampling strategy was used to select 3 hospitals: the Bugando Medical Center (BMC), Sekou-toure Regional Referral Hospital, and Sengerema District Hospital. Interviewees (health care providers and supervisors) were selected for this study. Key informants (supportive supervisors and healthcare providers) were also selected. This was because the researcher only included healthcare workers who had been trained and practiced the Ponseti method and had received regular supportive supervision visits. Supportive supervisors were purposively selected, because they were the only supervisor-conducting activities at the selected hospitals. Parents of the children with clubfoot were selected for convenience. This helped obtain genuine responses from parents. This resulted in the availability of adequate data, and hence, generated reliable information. A purposeful sampling technique was used because it involves selecting research participants according to study needs.

2.4. Data collection

Data for this study were collected between April and June 2021. A document review checklist and semi-structured interview guide developed in English and later translated into Kiswahili were used to conduct IDI. To ensure quality, research assistants fluent in both English and Kiswahili were recruited and trained in the study objectives, informed consent, guides, and entire research process. For healthcare providers, the heads of the departments were contacted to organize the interviews and ensure the availability of the providers. During data collection, the researcher conducted interviews, while the research assistant took field notes. The questions asked during the interviews included; Please tell us as to how the supportive supervision is conducted in your facility/clinic, what can you say about a successful or unsuccessful supportive supervision? What do you like/ dislike about the supportive supervision at your clinic? These questions were followed by probes. The audio records of the interviews were transferred to a computer by the data manager and kept in a PIN folder on a computer that he only had access to. The transcripts and document review checklists were kept by the data manager but only shared with the research team for analysis purposes. Data were collected from hospital clinics. It has been shown that to enable participants to talk more freely about their own opinions, it is better to pay a visit and see the participants in their context (in their home or workplace) and offer a wealth of information.[15]

2.5. Key informant interviews

We used an IDI guide containing questions specific to each group of informants to conduct 32 IDI. Interview guides were prepared based on the experience of supportive supervision within the program. The questions in the guide solicited the importance of supportive supervision in reducing the deterioration of the clinical skills of supportive supervisors

and healthcare providers, who are frequently supervised. The interviews were conducted at hospital clinics and were recorded using a digital audio recorder. Each interview lasted between 20 and 30 minutes for IDI, while taking notes on key issues.

2.6. Data analysis

Data was analyzed using content analysis approach.

All key informant interview were transcribed verbatim. The qualitative content analysis was used in data analysis. The code book was developed through deductive approach by the first author using the objectives of the study as well as familiarity with the data. The discussion of the code book was done with the second, third and fourth authors and upon agreement the code book was imported to NVIVO software version 11. Each transcript was treated as a meaningful unit. Condensed meaningful units were identified and coding was done by using NVIVO software. The First author did coding and all codes were discussed and finally agreed upon by both authors. The coding process was iterative and new codes was identified that either supplemented the prior codes or were added as a new code. Similar codes were grouped and then abstracted into subcategories. The categories generated were used in the writing process.

2.7. Ethical consideration

Ethical approval was obtained from the Muhimbili University of Health and Allied Sciences Research and Ethics Review Committee. For Sengerema District Designated Hospital and Sekou-toure Regional Referral Hospitals, written permission to conduct the study was granted by hospital administration. For BMC, ethical approval was obtained from the Catholic University of Health and Allied Sciences/BMC Joint Ethics & Review Committee board. Written informed consent was obtained from each participant after the purpose of the study was explained. Participants' privacy was assured by not using their names or facility identities during data collection and dissemination through written reports and peer-reviewed publications. Permission was obtained during the interviews using an audio recorder.

3. Results

Table 1 showing the results

Awareness of the purpose of supportive supervision. Most healthcare workers reported that the main purpose of supportive supervision was to enhance their performance by reorienting them with forgotten skills, identifying work challenges, and imparting new skills for clubfoot treatment.

Table 1

Table showing the results.

Sub-category	Category
Awareness of the purpose of supportive supervision	The supportive supervision in reducing the deterioration of clinical skills
Success of the supportive supervision	
Providers willingness to actively engage in supportive supervision	Continuous improvement in providers skills
Cooperation among hospitals management and the clubfoot program	
Availability of technical and material support	

…." the main purpose is to improve by identifying the existing challenges because as we continue with the clinic there are new things that emerge, so it closes the gaps and reminds us of the forgotten techniques, so it's important that it is conducted on a regular basis…." (KI 8 Provider)

To improve clubfoot treatment services, another participant complemented supportive supervision by reporting that it came to regularly correct mistakes made at clinics. They act as sources of knowledge for quality and effective service.

"…the purpose of supportive supervision is to correct the mistakes finally to improve the services as you may be doing mistakes without knowing, so with the third eye it will be possible to see the mistakes and correct them…" (KI 2 Provider)

Success of the supportive supervision. Most participants reported that, through supportive supervision, the knowledge gained increased the number of cured children.

"."… we have a large number of clubfeet children who have been completely treated and cured as it helps the children to get rid of disability…." (KI 7 Provider)

Most participants reported that supportive supervision created a good working environment by encouraging them and promoting good relationships between healthcare workers and supervisors, which in turn improved the quality of clubfoot treatment services.

"…. supportive supervision encourages us, it makes us see that we are not left alone, we have instant help when needed and good relationship existing improves the services. To me supportive supervision is successful for more than 90%." (KI 8 Provider)

Providers willingness to actively engage in Supportive supervision. We found that healthcare workers' willingness to learn was the strongest factor in achieving successful supportive supervision as it improved their skills.

"…. The health care workers are willing to learn, and this helps in making the supportive supervision a success as their skills are always improved…" (KI 3 Supervisor).

Cooperation among hospital management and the clubfoot program. The participants reported that good communication and cooperation between the clubfoot program as a donor and the supported hospitals made supportive supervision more successful, as the hospital management followed up with what was being done at the clinic, which increased the seriousness of the healthcare providers.

"…. Good relationship among TCCO and the hospital enables us to get the support we need, as
the hospital follows up the supervision visits for continuous support and improvement…" (KI 7 supervisor).

Availability of technical and material support: Provision of quality treatment supplies and immediate technical support in terms of training and on job training not only strengthens the relationship with the clinic but also improves the technical skills of healthcare workers.

"…. Availability of quality treatment supplies and equipment on time, and the willingness to help children by TCCO makes our work easier as the hospitals willingness to collaborate increases…." (KI9 supervisor)

4. Discussion

We aimed to explore supportive supervision and its contribution in reducing the deterioration of the clinical skills of healthcare workers involved in clubfoot treatment in Mwanza, Tanzania. In this study, we report 2 major categories of supportive supervision to reduce the deterioration of clinical skills in healthcare workers involved in clubfoot treatment: The supportive

supervision in reducing the deterioration of clinical skills, in this study a phenomenon which is brought about by the awareness of the purpose of conducting supportive supervision itself and the success brought about by supportive supervision, and continuous improvement, which is attributed to healthcare providers' willingness to actively engage in supportive supervision, cooperation among hospitals and TCCO management, and the availability of technical and treatment material support. From these 2 categories, we believe that the prevention of deterioration in the clinical skills of healthcare workers working in clubfoot treatment goes beyond normal classroom trainings. In this section, we discuss the contribution of supportive supervision in reducing the deterioration of clinical skills and the continuous improvement in healthcare providers' skills.

The presence of well-functioning clubfoot clinics was a result of healthcare workers with improved clinical skills, as revealed in our study, as the main purpose of supportive supervision. Our findings have highlighted that supportive supervision is of utmost importance to health programs as it helps enhance performance by helping healthcare workers maintain their clinical skills through on job coaching.

The study found that, the awareness of the importance of supportive supervision to both staff and clinicians is high. This is because most of the team members were happy to be supervised because they were re-oriented to the forgotten skills, and gained new skills from the supportive supervision process. Saab M et al reports that, the supportive supervision helps in increasing group self-awareness for the clinicians with the same challenges and who were struggling in the same issues through supervision they both had the same understanding and their work became easier.[16] Despite that they may have been trained before on the same techniques, supportive supervision brings in a different feeling as they are made aware of the techniques and procedures that they all depend on in making their work easier and finally for them to be able to perform with excellency. This increases the staff confidence and provides them with agility in providing the best care to their clients.

It was also found that frequent supportive supervision usually corrects mistakes made by providers. Frimpong et al (2011) reported that frequently supervised healthcare workers felt supported and performed better than non-supervised healthcare workers in terms of improving clinical skills.[17] How often the supportive supervision is conducted matters. When there is frequent supervision there is constant learning environment that encourages learning and self-realization of the personal and group skills. This means that the contribution of supportive supervision in maintaining the clinical skills of healthcare providers is also considering how often the visits are performed and so that there is a continuation of the learning process.

The study found that supportive supervision imparts knowledge to providers so that their skills are maintained and renewed each time a visit is conducted. This does not only help the clinic, but it increases the trust among the parents of children with clubfoot in such a way that there is an increased flow of new children enrolled in the clinics being supported. This finding is supported by a study conducted in Mozambique on the impact of supportive supervision interventions on health workers, which found that health workers regarded advancement in their achievements and accredited them to the supportive supervision they obtained from their supervisors following the activity.[18] The findings of this study are similar to other studies by the fact that, the ongoing supportive supervision not only was conducted as planned but the health workers perceived the improvement of the skills from the intervention.

Continuous improvement of health care skills; this study finding revealed that, the continuous improvement of the health care workers skills was attributed by the supportive supervision. The intervention was made possible by several factors: collaboration between the healthcare providers and supervisors, readiness of the healthcare providers being supervised to collaborate with the supervisors, willingness and readiness of the healthcare providers to learn from supportive supervisors, and availability of quality treatment supplies that ease treatment work and treatment supplies availability. The availability of material support is another factor that not only enhances clubfoot treatment work but also increases support from hospital administration, an ingredient of good communication and cooperation among the team before, during, and after supportive supervision. This supports the study of factors that promote effective supportive supervision, which found that a good understanding of the situation on the ground by both parties involved in the intervention, collaboration among supervisors and healthcare providers in dealing with specific clinical findings, how often supervisors give positive comments to the supervised team, and properly planned supportive supervision visits with a clear aim.[6] In addition, knowledge and skills include training, evaluation, advice, assessment, comments, and interactions between people and organizations.[12] The similarity between this study and others indicates that there are factors through which supportive supervision depends on success. These factors may be based on institutions, supervisors, supervisees, individuals, or supervisory procedures. If these are considered important and addressed accordingly, the impact of supportive supervision will be easily noticed and will bring about success that is expected from the program itself. This study findings reveals that the supportive supervision conducted mostly focuses on the way the treatment is provided, the skills of the providers and the and does less on the readiness of the facility service provision and clients satisfaction. From the study done by Nyamhanga T et al, the supportive supervision should be focused on all aspects of guidance and administration, annual planned activities, financial status, human resource for health, health commodities and treatment supplies, services provision and quality and physical assets and hospital environment[19]

5. Study limitations

The findings of this study are subject to the following limitations.

First the interviews were conducted by a Physiotherapist (first author). This may have influenced the informants to respond in a socially desirable manner. This was controlled by having the research assistants with their background in social science.

Secondly the study was conducted in only 1 region and 1 district of Tanzania with only few facilities selected. This may have left other informants with different experiences in supportive supervision. However, the involvement of different categories of informants added richness and enhanced the applicability and truth ness of the findings.

Thirdly this was a qualitative study which allowed only few selected informants to be interviewed. This may have left other informants out. However, the involvement of different levels of informants from the supervisors to the providers with different work experiences counterbalance this condition.

Lastly, the findings of this study consider the situation during the data collection period for this study being conducted.

6. Conclusion

In this study, successful supportive supervision led to improved health care workers' skills and working environments. Apart from on-site training, supportive supervision ensured that several challenges were raised by clinicians whereby addressed on time. Supportive supervision also improves performance indicators, as revealed in this study. Despite the achievements of supportive supervision, it is time for the program to ensure regular maintenance of supportive supervision to ensure that healthcare workers' skills are constantly maintained. This study highlights the purpose and success of supportive supervision,

where healthcare workers' willingness to learn from supervisors and participate in events is key to success.

Finally, while these findings are true for supportive supervision in clubfoot treatment to reduce the deterioration of healthcare workers' clinical skills, we believe that the contribution of supportive supervision to reducing the deterioration of the clinical skills of healthcare providers in Tanzania is of utmost importance. Therefore, these findings can be used as a starting point for strengthening supportive supervision and reducing the deterioration of workers' skills in Tanzania and other settings in similar contexts.

Author contributions

Conceptualization: Emmanuel Kowero, Doreen Deogratius Philbert, Nathanael Sirili.
Data curation: Emmanuel Kowero, Dorica Burengelo, Doreen Deogratius Philbert.
Formal analysis: Emmanuel Kowero.
Funding acquisition: Emmanuel Kowero.
Methodology: Emmanuel Kowero.
Resources: Emmanuel Kowero.
Supervision: Nathanael Sirili.
Validation: Emmanuel Kowero.
Visualization: Emmanuel Kowero.
Writing – original draft: Emmanuel Kowero.
Writing – review & editing: Emmanuel Kowero, Nathanael Sirili.

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