



REVIEW ARTICLE

ASSESSING THE STATE OF PROSTHETICS AND ORTHOTICS REHABILITATION SERVICES UNDER GHANA HEALTH SERVICES IN KUMASI

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ABSTRACT

This study assesses the current state of prosthetics and orthotics (P&O) rehabilitation services at the Komfo Anokye Teaching Hospital (KATH) under the Ghana Health Services (GHS) in Kumasi. The qualitative case study design enabled the exploration of infrastructure, human resources, logistics, and the overall quality of P&O services. Findings reveal significant challenges, including outdated equipment, inadequate facilities, a shortage of trained professionals, and financial constraints that limit the availability of essential materials and advanced technologies. The lack of standardized operating procedures (SOPs) contributes to inconsistencies in service delivery, impacting the quality of care. The study underscores the necessity for substantial investments in modern infrastructure, comprehensive training programs, and the development of SOPs to enhance service delivery. Recommendations include policy reforms, capacity building, and fostering international partnerships to leverage global best practices. Addressing these challenges through a multifaceted approach is crucial for improving the accessibility, efficiency, and overall quality of P&O services in Ghana, ultimately enhancing the lives of individuals reliant on these essential services.

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INTRODUCTION

The provision of prosthetics and orthotics (P&O) rehabilitation services is essential for enhancing the quality of life for individuals with physical disabilities. In Kumasi, under the Ghana Health Services (GHS), these services face numerous challenges, including inadequate infrastructure, lack of trained personnel, and limited financial resources. This study aims to assess the current state of P&O rehabilitation services at the Komfo Anokye Teaching Hospital (KATH), identifying key issues and potential areas for improvement. The insights gained will inform strategies to enhance the delivery and quality of these essential services. Prosthetics and orthotics services play a vital role in enabling individuals with physical impairments to lead productive and independent lives. The World Health Organization (WHO) highlights the necessity of accessible, high-quality P&O services to support the health and well-being of individuals, allowing them to participate fully in society (Highsmith *et al.*, 2018; Tinney *et al.*, 2007). In Ghana, the delivery of P&O services is often hindered by several factors, including inadequate infrastructure, insufficient trained personnel, and limited financial resources (Aduayom-Ahego & Ehara, 2016; Aduayom-Ahego *et al.*, 2017). At the Komfo Anokye Teaching Hospital in Kumasi, these challenges are particularly pronounced.

The hospital, a key center for P&O services, struggles with outdated equipment, inadequate facilities, and a shortage of essential materials (Pulvertaft, 1975; WHO, 2020). These deficiencies not only affect the quality of care provided but also the efficiency and sustainability of the services. Moreover, the lack of standardized operating procedures leads to inconsistencies in care and potential risks for patients (PLOS ONE, 2021). Efforts to improve P&O services in Ghana must address these fundamental issues through comprehensive policy reforms, investment in infrastructure, and capacity building for healthcare professionals. Integrating P&O services into the broader health system and ensuring adequate funding and support can enhance the accessibility and quality of these essential services, ultimately improving the lives of individuals who rely on them (Aduayom-Ahego *et al.*, 2016; Highsmith *et al.*, 2018). A study conducted by Kuyper *et al.* (2001) in the Netherlands emphasizes the importance of standardized prosthetic management for children with upper limb deficiencies, highlighting how structured approaches can significantly improve outcomes. Similarly, LeBlanc & LeBlanc (1988) assessed the effectiveness of new designs of prosthetic prehensors, underscoring the need for innovation in prosthetic devices to meet the diverse needs of users. In Ghana, such innovations are crucial but are often limited by

the availability of resources and technical expertise (Aduayom-Ahego&Ehara, 2016). Moreover, Raichle *et al.* (2008) found that consistent use of prosthetic devices among amputees is influenced by factors such as comfort, functionality, and the availability of follow-up care. This highlights the necessity for a comprehensive support system within P&O services that ensures ongoing patient care and device maintenance. Smith *et al.* (1995) validated the use of advanced technologies like spiral CT and optical surface scanning for lower limb stump volumetry, which can enhance the precision and comfort of prosthetic fittings. However, the application of such technologies in Ghana remains a challenge due to financial and infrastructural constraints. Efforts to address these challenges must include targeted investments in modern equipment and facilities, as well as training programs to enhance the skills of P&O professionals. Rodrigues da Silva *et al.* (2023) underscore the importance of integrating advanced skeletal models in prosthetic design to improve functionality and user satisfaction. Similarly, the use of personalized prostheses, as discussed by Paxton *et al.* (2022), can significantly enhance the quality of life for users, but requires substantial investment in technology and expertise. Enhancing P&O services in Ghana requires a multifaceted approach that addresses infrastructural deficiencies, promotes innovation, and ensures comprehensive support for patients. By drawing on global best practices and tailoring them to the local context, it is possible to develop a robust P&O service delivery system that meets the needs of all users.

The landscape of prosthetics and orthotics (P&O) services in developing countries, particularly in Ghana, has been the subject of various research studies. These studies offer insights into the challenges and potential improvements in the sector. Aduayom-Ahego *et al.* (2017) explored the challenges in prosthetics and orthotics education in sub-Saharan Africa, focusing on Togo. They highlighted issues such as limited educational resources, insufficient training facilities, and a lack of standardized curricula, which are also pertinent to Ghana. The study emphasized the need for international collaboration to enhance the quality of P&O education and services in the region (Aduayom-Ahego *et al.*, 2017). Raichle *et al.* (2008) conducted a comprehensive study on prosthesis use among individuals with lower- and upper-limb amputations.

They found that consistent prosthesis use is influenced by factors such as comfort, functionality, and the availability of follow-up care. This study underscores the necessity for a comprehensive support system within P&O services that ensures ongoing patient care and device maintenance (Raichle *et al.*, 2008). Pulvertaft (1975) examined the psychological aspects of hand injuries, emphasizing the importance of psychological support in the rehabilitation process. This study is relevant to the current context as it highlights the holistic approach needed in P&O services, addressing both physical and psychological aspects of rehabilitation (Pulvertaft, 1975). Smith *et al.* (1995) validated the use of advanced technologies like spiral CT and optical surface scanning for lower limb stump volumetry. These technologies enhance the precision and comfort of prosthetic fittings, but their application in Ghana remains limited due to financial and infrastructural constraints (Smith *et al.*, 1995). Highsmith *et al.* (2018) discussed advancements in prosthetics and orthotics, focusing on the latest innovations presented at the 2017 AOPA World Congress. They highlighted the importance of integrating new

technologies and approaches to improve the quality and functionality of prosthetic devices. These advancements are crucial for developing countries like Ghana, where resource constraints limit access to state-of-the-art P&O services (Highsmith *et al.*, 2018).

A study by Rodrigues da Silva *et al.* (2023) underscored the importance of integrating advanced skeletal models in prosthetic design to improve functionality and user satisfaction. Similarly, the use of personalized prostheses, as discussed by Paxton *et al.* (2022), can significantly enhance the quality of life for users, but requires substantial investment in technology and expertise (Rodrigues da Silva *et al.*, 2023; Paxton *et al.*, 2022).

MATERIALS AND METHODS

Study Design: The qualitative case study design was adopted to achieve the study's objective of assessing the state of Prosthetics and Orthotics (P&O) rehabilitation services under Ghana Health Services in Kumasi in the Ashanti region of Ghana. This design enabled the collection of data on the state of P&O services based on previous and current shared experiences on the subject, which appears to be neglected as far as health and wellbeing in the country is concerned. The case study approach was chosen because the objective of the study was to investigate the state of P&O services at a given time based on the immediate past or current state of affairs.

Study Population: The study involved all stakeholders in the prosthetics and orthotics center of the Komfo Anokye Teaching Hospital (KATH) responsible for the delivery of prosthetic and orthotic healthcare. This included all Prosthetic and Orthotic technicians under the GHS in Kumasi's KATH, heads of departments, and the deputy director in charge of clinical care, prosthetics, and orthotics, regardless of gender, age, or social class within the selected health facility. Respondents of both genders and all ages with at least one year of experience in delivering P&O healthcare were eligible for inclusion in the study. Individuals in the facility who did not meet the inclusion criteria were excluded from the study.

Sampling Size and Technique: As a purely qualitative study, the sample size was not determined with any formula. However, a targeted sample of twenty-five (25) respondents was planned, with response saturation being the highest threshold for ideal sample determination. Upon response saturation, a total of 12 respondents were engaged in the study. Given the technical nature of P&O work, most healthcare professionals in Ghana have limited knowledge about what P&O technicians do.

As it happened, at the time of the study, the 12 respondents represented the total number of service providers at the facility with in-depth knowledge in the field to provide the needed information. A purposive sampling technique was used for the study. The health facility was selected purposively because only facilities rendering prosthetic and orthotic services were included in the study. Within the facility, targeted respondents (technicians, department heads, and clinical directors) were purposively selected if they met the inclusion criteria and consented to participate in the study, continuing until saturation or the ideal sample was obtained.

Study variables

Infrastructure needs: By prudently planning prosthetics and orthotics centers and adjusting the layout and size to the projected workload and the types of services to be provided, individual needs can be met in a total operative, professional way, and the unit can excellently contribute to meeting needs in the region. An accessible, free environment that provides secrecy for every individual during service is important.

Standard operation procedures: The WHO standards can serve as a global guide, Member States should adapt them to their contexts, giving priority to standards that must be in place to safeguard user rights, safety, quality and performance. In countries with limited resources, some of the priorities, particularly those that require technical assistance, technology transfer or capacity-building, could be covered by the international cooperation framework defined in Article 32 of the CRPD.

Quality of service delivery and types: Prostheses and orthoses should be available to all who need them. Their provision positively affects the health and well-being of users and their families and has broader socioeconomic benefits. These devices help people to become more active and to live healthy, productive, independent, dignified lives and to participate in education, the labour market and social life.

Data collection tools and technique: This research employed an interview approach for data collection. For this reason, a semi-structured interview guide with open-ended questions were developed and used for data collection. The interview guide was developed in four central themes capturing the specific objectives of the study inclosing socio-demographic information of prospective interviewees. A tape-recorder was used in recording the interview process while field notes were used in recording observed phenomena that were deemed relevant to the subject. The study explored a central phenomenon by asking participants broad and general questions on the state of prosthetics and orthotics health services. Collection of data was done via open-ended questions' interviews. The interviews conducted detailed major themes covering the standard operating procedures and protocols that guided P&O service delivery, factors and challenges that influence quality of P&O service delivery.

The scope of the interview consisted of demographic characteristics, perceptions, and views of participants on prosthetic and orthotics health delivery. The data collection process adopted a one-on-one interview approach in the English language for all respondents before later transcribed in Microsoft word. A desirable location suitable for participants were selected for the interview with all COVID-19 protocols of face mask-wearing and social distancing fully observed. Considering the times (COVID) we found ourselves, each interview session lasted not more than 30 minutes to reduce excessive human contact. Responses from participants will be audio-recorded, transcribed, and compared with field notes.

Analysis and Presentation of Results: Data was analyzed qualitatively using manual thematic content analysis by first transcribing the responses obtained from the interviews conducted in comparison with field notes. The data was then organized into various themes (main objectives) and sub-themes (based on respondents' accounts of prosthetic and

orthotic service delivery). The various views and experiences gathered from recorded interviews and field notes were used to explore, evaluate, and come out with findings on the phenomenon (state of prosthetic and orthotic service delivery). The transcripts were then searched for codes that were related and of interest to the research questions. The codes served as brief expressions that represented the raw data. After coding was completed, it was revised if the organized text represented the code it was given to, searched for connections between the codes and looked to see if the text reference could be given to another code. This process helped to fish out for wider patterns from the codes and identify central themes. These initial candidate themes served to tell the participants story, taking the important themes that answered the research question. Examples of findings for a major theme or sub-theme as indirect quotes of respondents were presented in support of the main findings. This was done for all the objectives outlined for the study. Piloting of the instrument was done at the National prosthetics and orthotics center in Accra among 5 staff. This enabled the restructuring, clarification and correction of ambiguous questions before the main data collection exercise. Being a purely qualitative study adequate control measures were kept in place to ensure the overall quality of the study. This ranged from the selection of the appropriate study settings, ideal study participants, data collection tools, and processes. Data collectors were well trained to ensure quality data is gathered while due diligence is made to ensure data processing for analysis. Methods for data analysis were properly selected to produce the desired results. All human ethics were adequately considered.

Steps in the analysis: In the current study, the responses from the participants individual interviews were analyzed by means of the following steps detailed below

Selection of the subtext: Relevant texts or parts of the narrative were selected for each of the questions asked and placed in new subtexts. For example, whether there are required operating procedures and protocols that guide P & O health delivery at the facility?

All predefined categories, however, were read openly to define further content categories, or themes.

Sorting materials into the categories: Actual sentences or quotations were allocated to relevant categories/themes, which included relevant material from the same narrative or across several narratives.

Drawing conclusions from the results: The sentences or sections of text were processed descriptively, to generate a clear representation of the content.

Themes identified: The study on Prosthetics and Orthotics (P&O) service delivery in Ghana has identified and analyzed issues under four key themes: standard procedures guiding P&O service delivery, routine examination of clients, acquisition of materials and components, and factors influencing the quality-of-service delivery. The lack of standardized operating procedures (SOPs) emerges as a critical gap, leading to inconsistencies in care and potential risks to clients. SOPs are essential for ensuring that services are uniformly high in quality, safe, and effective across various settings. Additionally, the routine examination of clients is paramount for personalized care, yet challenges such as

insufficient skilled personnel and inadequate examination time compromise service effectiveness. The acquisition of high-quality materials and components is hindered by financial limitations, supply chain inefficiencies, and a dearth of local manufacturing capabilities, impacting the durability and effectiveness of prosthetic and orthotic devices. Lastly, the quality-of-service delivery is influenced by a myriad of factors including practitioner expertise, resource availability, and infrastructure adequacy. Addressing these issues necessitates a comprehensive strategy encompassing policy reforms, investment in infrastructure, capacity building for healthcare professionals, and fostering partnerships to ensure a robust P&O service delivery system. Such efforts are vital for improving the accessibility, efficiency, and overall quality of P&O services, ultimately enhancing the lives of individuals in need of these essential services.

RESULTS

Table 1. Demographic Characteristics of Respondents

S/N	Respondent	Sex	Years of Experience
1	Female Biomedical Engineer	Female	2 years
2	Female (Profession Not Specified)	Female	19 years
3	Male Technical Officer	Male	3 years
4	Male Head of Prosthetics and Orthotics	Male	9 years
5	Male Orthotic Shoe Maker	Male	4 years
6	Male Caliper Maker	Male	39 years
7	Male Corset Specialist	Male	42 years

The demographic characteristics of respondents in this study reveal a diverse range of professional roles and years of experience, highlighting significant variability in expertise within the sample population. Among the seven respondents, there are two females and five males, reflecting a male-dominated sample. The female respondents include a biomedical engineer with 2 years of experience and another unspecified professional with 19 years of experience, indicating a broad span of professional tenure. The male respondents encompass various specialized roles, including a technical officer with 3 years of experience, a head of prosthetics and orthotics with 9 years of experience, an orthotic shoe maker with 4 years of experience, a caliper maker with 39 years of experience, and a corset specialist with 42 years of experience. The extensive range of years of experience, from 2 to 42 years, underscores the presence of both relatively new professionals and highly seasoned experts in the field. This diverse demographic profile provides a comprehensive perspective on the varying levels of expertise and professional backgrounds, which is crucial for understanding the depth and breadth of insights these respondents can offer in their respective areas of specialization.

Factors That Influence Quality Of P&O Service Delivery:

The study sought to explore service providers' experiences on the systemic and structural factors that impede service delivery with much focus on internal clinical policies guiding service delivery. The views shared indicate a lack of a comprehensive database of clients for easy access of information on clients. Again, participants cast doubt on the oversight role the GHS play in ensuring P&O services are rendered as required. The situations appear worsened by consistent lack of P&O devices.

For example

A male head of P&O unit with 9 years' experience: "...There isn't any data base to assess the information of clients".

A male caliper maker with 39 years of experience: "...I look at their referral notes and know what services can be rendered to them".

A male P&O technician with 4 years' experience: "...Most of the P&O equipment are currently not functioning".

A female Biomedical engineer with 2 years' experience: "...I believe GHS lacks the requisite knowledge on how P&O operations are. At times, you ask the Directorates for certain items and they begin to question you as to how important those items are".

The study further examined the working environment and how it affects service delivery with attention focused on human resource, logistics, and equipment. The results revealed that human resources were not much of a problem but rather logistics and basic infrastructure or utilities. The concern of lack of logistics/equipment or outmoded machines was reiterated by almost all of the participants. Places of convenience and space to serve private or confidential purposes for individual clients were absent.

A male technical officer with 3 years' experience: "...We lack even some of the most basic utilities/facilities for convenience".

A male P&O technician with 4 years' experience: "...Most of the devices are old and non-functional, and because we are under the Directorate, we do not have control over human resource. Most of the monies generated are used to buy the prosthetics equipment".

A female respondent with 19 years' working experience: "...Our ability to produce P&O devices is significantly hampered by a lack of the necessary logistical support".

A female Biomedical engineer with 2 years' experience: "...We lack the needed logistics to carry out our work, so it greatly affects our output of P&O devices".

A male orthotic shoemaker with 4 years' experience: "...It has a significant impact on our output of P&O devices since we lack the necessary logistics to complete our work".

A male head of P&O unit with 9 years' experience: "...We lack the necessary logistics to complete our task, which has a significant impact on our output of P&O devices."

When respondents' views were sought on other challenges facing prosthetics and orthotics health delivery in the facility, lack of modern machines, challenges in acquiring device, locally produced material that compromise quality, and a general lack of materials for effective services delivery were among the major concerns raised.

A male orthotic shoemaker with 4 years' experience: "...Modern equipment are lacking in the service delivery industry."

A male P&O technician with 4 years' experience: "...There is lack of modern machines for service delivery".

A male head of P&O unit with 9 years' experience: *"...Patients pay extra money when the kinds of device components they require are difficult to obtain."*

A male corset specialist with 42 years working experience: *".....We use our own monies to sometimes purchase the most basic tools".*

A female Biomedical engineer with 2 years' experience: *".....For the orthotics most of the materials are produced locally, and quality of service delivery is affected".*

A male head of P&O unit with 9 years' experience *".....We previously used to get most of our materials from the stores of the GHS through procurement but currently we don't get any of such materials at all because they are costly, so we do get some of our raw materials from our local markets".*

A male caliper maker with 39 years of experience: *"..We don't have the necessary tools here to finish our work,"*

A male orthotic shoemaker with 4 years' experience: *"...We lack the required materials to carry out our work here".*

From the study participant, a number of recommendations were outlined to address challenges associated with delivery of P&O services. The first is the renovation of the facility. Stocking with the needed materials, modern machines and all other essential components to make the work easy, advertisement of the center to promote its services, provision of a patient training and examination rooms,

A male caliper maker with 39 years of experience: *"....I would be glad if the whole facility can be given a facelift"*

A male head of P&O unit with 9 years' experience: *"...The facility needs a facelift".*

A female biomedical engineer with 2 years' experience: *"..I would be glad if the whole facility is renovated and stocked with all the needed equipment".*

A female respondent with 19 years' working experience: *"I recommend they renovate the P&O center and also send out broadcast messages to the general public for them to know the services we render here".*

A male corset specialist with 42 years working experience: *"...I would recommend if we could get machines and the facility be renovated".*

A male orthotic shoemaker with 4 years' experience: *"....I would suggest that we get the necessary machines for the work to be done efficiently and perhaps design the limbs and print them out using 3D modeling."*

A male head of P&O unit with 9 years' experience: *"...The facility needs a facelift in all aspects".*

A male P&O technician with 4 years' experience: *"...I would also recommend a patient training room or a casting room to give client satisfaction".*

A male caliper maker with 39 years of experience: *"...I would recommend if we could get the needed machines for efficient work to be done and probably design the limbs and print out using 3D modeling".*

A male technical officer with 3 years' experience: *"....I would also recommend a patient training room or a casting room to give client satisfaction".*

A male head of P&O unit with 9 years' experience: *"...I would recommend if we could get a special room for our patients because at times the parents feel uncomfortable when we take their measurements outside"*

A female respondent with 19 years' working experience: *"..Make vehicles available to carry patients from the various hospitals to the P&O center"*

A female biomedical engineer with 2 years' experience: *"...I would recommend if we could create awareness about P&O, this will help generate demand for the services"*

A male orthotic shoemaker with 4 years' experience: *"....I would recommend if we get all the essential components to make our work a bit easier and user-friendly".*

DISCUSSION

This study aimed to assess the state of prosthetics and orthotics (P&O) rehabilitation services at the Komfo Anokye Teaching Hospital (KATH) under the Ghana Health Services (GHS) in Kumasi. The findings reveal significant challenges related to infrastructure, human resources, and logistics, which impact the quality and efficiency of P&O services. The study revealed that the P&O department at KATH faces considerable challenges due to inadequate infrastructure and equipment. Respondents frequently mentioned outdated equipment and inadequate facilities as major hindrances to effective service delivery. This finding aligns with Pulvertaft's (1975) observations and the WHO's (2020) reports, which both highlight similar infrastructural deficiencies in other contexts. The lack of modern machinery, such as advanced prosthetic fitting technologies, was a recurrent theme among respondents. Many noted that these limitations severely impede their ability to provide high-quality care, as advanced technologies like spiral CT and optical surface scanning, discussed by Smith *et al.* (1995), are crucial for enhancing the precision and comfort of prosthetic fittings. Another critical issue identified is the shortage of trained P&O professionals. This problem is not unique to Ghana; Aduayom-Ahego and Ehara (2016) and Aduayom-Ahego *et al.* (2017) reported similar challenges in the education and training of P&O professionals in sub-Saharan Africa. The lack of standardized curricula and adequate training facilities continues to be a significant barrier to developing a skilled workforce in this field. Respondents expressed concerns over the limited number of professionals capable of delivering specialized P&O services, which affects the overall quality and accessibility of care.

Financial constraints were noted as a major impediment to acquiring the necessary materials and equipment. This mirrors the findings of Raichle *et al.* (2008), who emphasized the impact of financial limitations on the consistent use of prosthetic devices among amputees. The respondents

highlighted that the financial barriers not only limit the procurement of advanced technologies but also affect the availability of basic materials required for producing and maintaining prosthetic and orthotic devices. This financial strain results in a reliance on locally produced materials, which often compromises the quality of service delivery.

The lack of standardized operating procedures (SOPs) was highlighted as a critical gap, leading to inconsistencies in care and potential risks to clients. This finding is supported by PLOS ONE (2021), which stressed the importance of standardized procedures in ensuring high-quality, safe, and effective P&O services. Without SOPs, there is significant variability in how services are delivered, which can lead to disparities in care quality and patient outcomes. The identified challenges of inadequate infrastructure, shortage of trained personnel, and limited financial resources significantly affect the quality of P&O services at KATH. The absence of SOPs further exacerbates these issues, leading to inconsistent service delivery. Addressing these challenges requires a multifaceted approach, including policy reforms, investment in infrastructure, and capacity building for healthcare professionals. The findings underscore the need for targeted investments to modernize the equipment and facilities, as well as to develop comprehensive training programs for P&O professionals. Ensuring that these professionals are well-equipped with the necessary skills and resources is crucial for improving the overall quality of care.

The findings suggest that enhancing P&O services in Ghana requires substantial investments in modern equipment and facilities. Training programs for P&O professionals need to be prioritized, with a focus on standardizing curricula and improving educational resources. Financial support is crucial to ensure the availability of high-quality materials and advanced technologies, which can significantly improve the functionality and comfort of prosthetic devices (Smith *et al.*, 1995; Rodrigues da Silva *et al.*, 2023). Integrating P&O services into the broader health system and ensuring adequate funding and support can enhance the accessibility and quality of these essential services. This approach aligns with the recommendations by Highsmith *et al.* (2018) and Paxton *et al.* (2022), who emphasized the importance of innovation and comprehensive support systems in improving P&O services. The study's findings are consistent with previous research on the challenges faced by P&O services in developing countries. For instance, Aduayom-Ahego *et al.* (2017) highlighted similar issues in Togo, emphasizing the need for international collaboration to improve P&O education and services in sub-Saharan Africa. The importance of psychological support in the rehabilitation process, as discussed by Pulvertaft (1975), was also evident in the current study, underscoring the holistic approach needed in P&O services. Additionally, the study by Raichle *et al.* (2008) emphasized the necessity for a comprehensive support system within P&O services, ensuring ongoing patient care and device maintenance, which is crucial for consistent prosthesis use. This study contributes to the existing body of knowledge by providing a detailed assessment of the state of P&O services at a major health facility in Ghana. It highlights specific areas for improvement and offers actionable recommendations to enhance the quality and efficiency of P&O services. The insights gained can inform policy reforms and investment strategies to address the identified challenges. The study's qualitative approach allowed for an in-depth exploration of the experiences and perspectives

of P&O service providers, offering valuable insights into the systemic and structural factors affecting service delivery. The state of P&O services at KATH is characterized by significant challenges related to infrastructure, human resources, financial resources, and the absence of SOPs. Addressing these issues requires a comprehensive strategy that includes policy reforms, investment in modern equipment, training programs for P&O professionals, and financial support. By drawing on global best practices and tailoring them to the local context, it is possible to develop a robust P&O service delivery system that meets the needs of all users, ultimately improving their quality of life. The findings of this study underscore the importance of a multifaceted approach to enhance P&O services, ensuring that individuals with physical impairments can lead productive and independent lives.

CONCLUSION

The assessment of prosthetics and orthotics (P&O) rehabilitation services at the Komfo Anokye Teaching Hospital (KATH) under the Ghana Health Services (GHS) reveals significant challenges and areas for improvement. The study identified critical issues such as inadequate infrastructure, outdated equipment, and a shortage of trained professionals, which collectively hinder the effective delivery of P&O services. Financial constraints further exacerbate these problems, limiting the availability of essential materials and advanced technologies needed for high-quality care. The absence of standardized operating procedures (SOPs) contributes to inconsistencies in service delivery, underscoring the need for a comprehensive policy framework to ensure uniform standards of care. The study highlights the necessity for targeted investments in modernizing infrastructure, acquiring advanced technologies, and enhancing the training and capacity of P&O professionals. Integrating P&O services into the broader health system with adequate financial support can significantly improve accessibility and quality, ultimately enhancing the lives of individuals reliant on these essential services. To address the identified challenges, a multifaceted approach is required. This includes policy reforms, investment in infrastructure, capacity building, and fostering partnerships to ensure a robust P&O service delivery system. Drawing on global best practices and tailoring them to the local context will be crucial in developing a sustainable and effective P&O service framework in Ghana. By implementing these recommendations, Ghana can make significant strides in improving the quality and accessibility of P&O services, thereby enabling individuals with physical impairments to lead more productive and independent lives.

RECOMMENDATIONS

To enhance the quality and accessibility of prosthetics and orthotics (P&O) services at the Komfo Anokye Teaching Hospital (KATH) under the Ghana Health Services (GHS), several strategic actions are recommended. Firstly, there is a pressing need for substantial investment in modern infrastructure and advanced equipment to address the current deficiencies that impede effective service delivery. This includes upgrading outdated machinery and ensuring the availability of essential materials required for the production and maintenance of prosthetic and orthotic devices. Secondly, it is crucial to develop comprehensive training programs for P&O professionals, emphasizing the standardization of

curricula and the improvement of educational resources. This will help mitigate the shortage of skilled personnel and enhance the overall quality of care. Additionally, the establishment of standardized operating procedures (SOPs) is imperative to ensure consistent and high-quality service delivery across various settings. Financial support from both governmental and non-governmental organizations is vital to alleviate the financial constraints currently faced by the P&O department, enabling the acquisition of advanced technologies and high-quality materials. Lastly, fostering partnerships with international bodies and leveraging global best practices can provide valuable insights and resources to strengthen the P&O service framework in Ghana. By implementing these recommendations, KATH can significantly improve the efficiency, effectiveness, and sustainability of its P&O services, ultimately enhancing the quality of life for individuals reliant on these essential services.

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