Project Implementation challenges of infertility treatment Project in the case of St. Paul's Hospital Millennium Medical College,Ethiopia 2023

A Research Project work will be submitted to the School of Graduate Study of the Addis Ababa University in Partial Fulfilment of Master of Art in Project Management

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GRADUATE STUDIES

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Project Implementation challenges of infertility treatment Project in the case of St. Paul's Hospital Millennium Medical College,Ethiopia 2023

By Dereje Bayissa Demissie

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Dr. Seifu Mamo		
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Statement of Declaration

I Dereje Bayissa have carried out independently a research work on the topic entitled **"Project Implementation challenges of infertility treatment Project in the case of St. Paul's Hospital Millennium Medical College,Ethiopia 2023**" in partial fulfillment of the requirement for the Degree of Masters of art in Project Management with the guidance and support of the research advisor Dr. Seifu Mamo (Phd). All the sources of data used in the research have been acknowledged regarding originality. This study is my own work that has not been submitted for any degree or Master program in this or any other institutions.

Signature:_____Date: _____

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Statement of Certification

This is to certify that Dereje Bayissa Demissie has carried out this project work entitled '**Project Implementation challenges of infertility treatment Project in the case of St. Paul's Hospital Millennium Medical College,Ethiopia 2023"** is under my supervision. This work is original in nature and it is sufficient for submission for the partial fulfillment for the award of Degree of Masters of Art in Project Management.

Seifu Mamo (Phd) _____ _____

Advisor Signature Date

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Abstract

This study aimed to identify the project implementation challenges of the infertility treatment project at St. Paul's Hospital Millennium Medical College, Ethiopia, 2023. The project is complex and requires attention to human, budgetary, and technical variables. It is the only public project being implemented nationally in Ethiopia, and one in every six couples is facing the problem of infertility. To address this exploratory study design was used, both qualitative and quantitative, at different levels of the project, including top managers, obstetricians and gynecologists, midwives, nurses, clinicians, and support staff. Data was collected from nine key informants for the qualitative, and all nine participants were participated in descriptive quantitative section to rated project implementation status by using Likert scale rating. Qualitative results were categorized and organized by content with thematic analysis, while quantitative results were presented in narration, figures, and tables. As a result, this study explored the challenges related to the implementation of an infertility treatment project at St. Paul's Hospital Millennium Medical College in Ethiopia. The major challenges identified in the early implementation of the infertility treatment project were a lack of trained personnel, medical equipment, laboratory supplies, rules and regulations, and community misperceptions of the treatment. Potentials project risks were identified in early infertility treatment project implementation and the actual faced challenges were such as delayed endorsement of rules and regulations, shortage of trained human resources, and lack of drugs and supplies respectively.This study examined the implementation of an infertility treatment project using a Likert scale. It revealed challenges related to the project team, resources, top management involvement, and risk identification status ranged from 55.56% to 88.9% in the study area. The majority of the study participants agreed or strongly agreed that a shortage of consumables and supplies interrupted the schedule of service implementation in the study area. Therefore, policymakers should strengthen active involvement in project implementation by conducting a baseline assessment, monitoring on-time requests, and purchasing basic supplies for project implementation. The Ministry of Health should focus on infertility treatment projects to improve challenges and document best practices to be used as a benchmark for future projects.

Keywords: Project, Implementation, challenges, infertility, treatment, St. Paul's Hospital

Acknowledgment

I would like to express my deepest gratitude to my advisor, Seifu Mamo (PhD) for his constructive, critical, and immediate feedback to enrich this project proposal and research work. Last but not least, to St. Paul's Hospital Millennium Medical College Fertility Centre for background information, and study participants.

ACRONYM

ART: Assisted reproductive technology

ASRM: American Society for Reproductive Medicine

EPSA: Ethiopian Pharmaceutical Supply Service drug

CDC: Centres for Disease Control and Prevention

MOH: Ministry of Health

PMBOK- Project Management Body of Knowledge

P- Pseudo name

SPHMMC- St. Paul's Hospital Millennium Medical College

SPIRHR: St. Paul Institute for Reproductive Health and Rights

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CHAPTER ONE

INTERODUCTION

This chapter presented the background of the study, statement of the problem, research questions and objectives, significance of the study, delimitation of the study, limitation of the study and operational definitions of terms used. It then summarizes the other chapters that make up the study report.

1.1. Background of the Study

'Project implementation' is the third stage of the four project management stages, including kickoff, planning, implementation, and completion. During this phase, the project manager must make real-time adjustments to schedules, procurement, and the budget to keep the team on track. Managers must also communicate changes to the plan across teams and change management styles to address unforeseen challenges(Takagi and Varajão, 2020, Verzuh and Association, 2021). 'Project implementation is complex and requires attention to human, financial, and technological elements. The soft dimension of the profile includes key success factors such as top management support and client acceptance (Ika and Pinto, 2023, Mughal et al., 2019). Project implementation or execution is the stage that follows initiation and planning in project life cycle that involves the actual "work" of the project (Stark, 2015). During project implementation, people carry out the 'duties, and progress' is reported at frequent team meetings. The project manager utilises this information to retain control over the project's direction by comparing progress reports to the project plan to gauge the performance of project activities and take corrective action as needed (Ajelabi and Tang, 2010).

In order to deal with the challenges of project implementation, different authors use implementation success as a means of comparison: Project implementation success has been defined in many ways to include a large variety of criteria (Stretton, 2023, Sankaran et al., 2021). The ten-factor model was proposed as project implementation challenges (Pinto and Slevin, 2015). Out of which, three relate to top management support, project team challenges related in selection, recruitment and training and crisis management, which is risk identification and management. Likewise, project implementation challenges are considered project management challenges as implementation takes most of the time and budget from the project life cycle. In the health information system projects, three major challenges complicated the project and eventually led to its failure, namely difficulties in (1) defining an appropriate scope for implementation, (2) coping with unanticipated technical and practical problems, and (3) ensuring commitment from users and their managers(Bansler and Havn, 2010). According to a community health intervention program, this intervention's challenges

relate to the existing political atmosphere and the difficult process of building and maintaining a partnership (Barbir, 2010). According to P. R. Harper and M. A. Pitt, health care challenges in implementation could relate to Scale, complexity and change in technology and clinical conditions (Harper and Pitt, 2004).

The authors identified ten challenges to improving the quality of health, such as 'convincing people that the problem is relevant, getting data collection and monitoring systems right, excess ambitions, organizational cultures, tribalism, leadership, incentivizing participation, sustainability, and risk of unintended consequences' (Dixon-Woods et al., 2012).

1.2. Background of the Company

The study was conducted from May 20 to May 30, 2023, at St. Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia. St. Paul's Hospital Millennium Medical College was established in 1968 by Emperor Haileselassie in collaboration with the German Evangelical Church. St. Paul's Hospital Millennium medical college in Addis Ababa, Ethiopia has been serving as a general and referral hospital for the Ethiopian people for over five decades. The hospital services have advanced from general to specialized level, including the kidney transplant center, Addis Ababa burn, emergency and trauma (AABET) specialty center and Hayahulet fertility specialty center. The construction of a multi-complex building at the College premise has gone halfway to make the hospital bed number around 2,000, and the speciality services have far advanced. This progress is presumed to enable the establishment of a huge diagnostic and treatment speciality centre for cardiac illness, cancers, ENT problems, and gastroenterological pathologies. The College is expanding the teaching hospitals and speciality centers outside the main campus, increasing the number of patients seen daily and the number of health professionals to over 3000. St Paul's hospital is the national model specialized hospital by initiated new project as scale up in Ethiopia, and infertility treatment project is a good example. The infertility treatment project has a total of 44 Health care professional for the implementation of this project; of these, 20 all-level nurses (both BSC and MSc), six obstetricians and gynecologists subspecialists, five embryologists (3 MD+ embryologists), three laboratory technologists, six pharmacists, and 14 non-technical staff are currently working in the project (SPHMM, 2020).

1.3. Statement of the problem

The ‘World Health Organisation defines infertility’ as the inability to establish a clinical pregnancy in a reproductive age following 12 months or more of frequent unprotected sexual intercourse (Zegers-Hochschild et al., 2009). Globally, 'infertility' is believed to affect 15% of married couples, with incidence varying between and within nations (Cui, 2010). In the past decades, the infertility problem in Africa has gained lesser attention. The focus of demographers, social science researchers and anthropologists has been on the increasing rate of population. However, at present infertility problem is getting due attention to be researched in social and public health contexts (Hollos and Larsen, 2008). In this discourse, it can be understood that infertility is found to be a multi-problematic issue which adversely challenges both sexes, specifically women.

Infertility is a common problem for both sexes. However, they are not equally treated under the state of being infertile. The social blame and stigma are universally laid on women.

Infertility leads to social problems, marital instability, psychological burden, alienation, and economic hardship for women, while many societies in Ethiopia value having children as the main purpose of marriage (Freeman et al., 1985). Besides this, people consider childbearing a primary function of being a woman. This condition sets the stage for women to be viewed and valued in the context of bearing and rearing children. ‘Infertile couples’ prefer to seek treatment from spiritualists, traditional healers, witchcraft, and modern medicine due to their perception of infertility as a possible cause (Nieuwenhuis et al., 2009, Okonofua et al., 1997).

Individuals are ‘forced to engage in extramarital intercourse’ as a fertility test and treatment for infertility, which can result in the acquisition of STIs. Women are also harmed when they seek treatment from traditional healers and witchcraft practitioners, including forced sexual intercourse (Moyo and Muhwati, 2013, Nieuwenhuis et al., 2009, Okonofua et al., 1997).

Infertility is a significant public health problem in Ethiopia, with an estimated 15 to 20% of couples suffering from the disease. Despite its magnitude, infertility has been a neglected disease because of other overarching reproductive health issues in the country. This hospital, SPHMMC, is the first public health facility to offer advanced infertility treatment options, including In vitro fertilization (IVF). Although an achievement on its own, the service that we can provide is incomparable to the number of patients seeking the care. As a result, we have a long waiting list of patients that need an initial infertility evaluation at our center. Below is a step-by-step approach one can take to be evaluated for infertility-related problems at the Regular infertility clinic. Patients need to have a referral from another public or private health

facility that necessitates advanced infertility treatment options. Patients must come and register for an appointment of an initial outpatient visit at Center for Reproductive Medicine (found at 22 areas, 50 meters from Addis Hiwot General Hospital). The appointment may take upto eight months, because of the sheer volume of clients visiting the center from all corners of the country and beyond. An alternative to the Regular infertility clinic is the Private wing service that is also offered at the same facility. This program is opened to ensure the long term sustainability of the center. The revenue generated from it will help cover the high running cost of the center, as the government cannot fully cover it. Unlike the regular clinic, patients in the private wing are expected to pay for all services rendered at the clinic. Patients are evaluated within 1 to 2 weeks of initial registry and, if needed, can undergo advanced infertility treatment within 2 months. IVF is one of the most expensive treatment modalities in the medical field. This is mainly because of the very high cost of consumables and drugs needed for the service. Regular clinic (subsidized cost) 25,000 to70, 000 birr and Private wing- 60,000 to 120,000 birr. Understanding the challenges in implementing infertility treatment Projects in Ethiopia will lead to the identification of the challenges of project implementation by policy makers and help address the gaps prevailing in the community. The project is still in progress and it is important to assess the challenges of the implementation phase to get current information and use as lessons learned. To make a significant contribution to the challenges of infertility treatment Project, the assessment of implementation challenges is selected. The research aimed to explore the current project implementation process and its challenges of infertility treatment Project and make recommendations.

1.4. Research questions

1. How do challenges of infertility treatment project implementation related to resources?
2. How do the critical challenges of infertility treatment project implementation related to skilled manpower and team work?
3. How do challenges of infertility treatment project implementation related to top management and policy makers' support?
4. How do challenges of infertility treatment project implementation related to risk identification and management?

1.5. General Objective

To explore challenges in implementing infertility treatment Projects in Ethiopia, in the case of SPHMMC 2023

1.5.1. Specific Objectives

- To explore challenges in implementing infertility treatment Projects related to resources in Ethiopia
- To explore challenges in implementing infertility treatment Projects related to skilled manpower and team work in Ethiopia
- To explore challenges in implementing infertility treatment Projects related to top management support in Ethiopia
- To explore challenges in implementing infertility treatment Projects related to risk identification and management in Ethiopia

1.6. **Definition of Terms**

1.6.1. Conceptual definition

Project implementation

The project cycle essentially regards the project environment as continuous. Four major stages in the cycle are planning, scoping and design, execution (implementation and control), and closeout (evaluation and feedback) (Lutchman, 2011).

'Challenges of Working with skilled manpower/team work'

A 'project manager's leadership qualities can shine when each team member takes responsibility for his or her role in achieving project success. 'Project management training' can help project managers determine competencies, assess employees, and recommend training, outsourcing, or hiring.Conversely, a lack of accountability can bring a project to a complete halt. Finger-pointing and avoiding blame are unproductive but all-too-common features of flawed project management (Brink et al., 2006)

'Challenges' in dealing with Risk management

'Resource challenge' – In order for a project to be run efficiently and effectively, management must provide sufficient resources (Gebre-Iyesus, 2018)

1.6.2. Operational definition

Infertility: The inability of heterosexual couples to produce a pregnancy after one year of regular sexual intercourse (Bernard, 2020). This means infertility is not a problem of individuals but of couples, which is different from many other medical problems; in addition, regular sexual intercourse should be unprotected. 'Women of reproductive age' who have not conceived within a year without contraception are considered infertile.

Primary infertility : An infertile woman who never gives birth to a child is considered as 'primary infertility'. This occurs when a woman fails to conceive after a year of coitus without contraception (Super and Harkness, 2020).

Childlessness: It has been commonly defined as "a life style without biological or adopted children(Super and Harkness, 2020)

In vitro-Fertilization: It is a technological assistance in which an offspring develops outside a living organism.

Adoption: Growing up children who are not biological and may be found in needy situations or missing their own parents.

1.7. Significance of the Study

This project is new and the only one implemented in our context; thus, the subject matter of this research and the resulting lessons drawn from the finding will likely benefit different stakeholders and the ministry of health in the following way. The results of this study will be useful for the federal Ministry of Health to address the problem related to infertility treatment project implementation and its consequences; used as a baseline in monitoring and evaluation of infertility treatment project implementation-related interventions, can be used by local government, concerned stakeholders and partners to attain successful infertility treatment services, several preparations had been in place, and it had not happened overnight. This study can serve as a reference material for researchers, health care authorities, or project managers interested in conducting research similar or related to such topic in the future. This study also contributes to the national and regional guidelines and policy development by forwarding evidence-based recommendations that are highly important to top management of the hospital and beyond at the policymakers like the the Federal Ministry of Health (FMOH) level because it draws their attention to some of the points where corrective actions and necessary on time supports could be made which would benefit to the sustainability of the service.

1.8 Delimitation/scope of the study

1.8.1. Scope of the Study

This study was focus on only selected challenges that fall under the categories of resource, project team (skilled human resources) challenges, top management and policy makers' support, and challenges related to risk identification and management. As other challenges during the project implementation are not included; , this study will give coverage to only the abovementioned groups of challenges.

1.8.2. Delimitation of the Study

The study is sectional, which can be considered an inherent design limitation where causal relationship between the independent and dependent variables cannot be established. Participants might not give exact response for sensitive questions. Since the center is the only currently available infertility treatment center in Ethiopia, there is no similar study and data in similar socio-economic setups. In addition, the study will explore only the challenges in implementing infertility treatment and the setting is delimited to SPHMMC.

1.9. Organization of the paper

The first chapter of this study is the introductory part (Background, statement of the problem, significance of the study, research questions and objectives). The second chapter mainly treated the reviewing of literature; chapter three dealt with the research methodology. The result, discussion, conclusion, and recommendations were presented in the remaining chapters ,four and five, respectively.

CHAPTER TWO

2. REVIEW OF RELATED LITRATURE

2.1. Theoretical Review of the Literature

This chapter was addressed the research study's literature review, which gives an overview of the theoretical basis of the subject being examined and what research has already been done. It is based on previously published reference material and includes a critical appraisal of the theoretical literature review, an empirical literature review, and identified research gaps. In this study, the theoretical review discusses project-related concepts and terminologies, project implementation and project implementation challenges.

2.2. **Project**: is a temporary endeavour undertaken to create a unique product, service or result (Stackpole, 2013, Webster and Knutson, 2004)

2.2. Project Success

Project success is defined as the degree to which project objectives have been met. Critical success factors emerged in the late 1980s, such as Pinto and Slevin (1987) and de Wit (1988), who viewed success as being judged by the degree to which project objectives have been met and the project stakeholder's perception of the value of what was delivered (Besteiro et al., 2015, Serrador and Pinto, 2015).

2.2.1 Project Implementation

The project cycle regards the project environment as continuous. This cycle has four major stages: planning, scoping, and design; execution (implementation and control); and closeout (evaluation and feedback) (Serrador and Pinto, 2015).

Implementation (execution) entails carrying out the project management strategy. The project manager will organise and lead project resources here to accomplish the project plan's objectives. The execution process keeps the project plan on track and guarantees that future project execution continues on track with project objectives. Typically, accepted modifications are executed in this process group. The execution process group will use the most project time and resources; hence, expenses will be highest during the execution process. During this cycle, project managers will face the most scheduling conflicts (Heldman and Baca, 2009, Stackpole, 2013, Webster and Knutson, 2004, Lutchman, 2016). Project implementation (or project execution) is the stage at which goals and plans become a reality. This is the project's conclusion after assessing, deciding, visioning, planning, applying for funds, and determining

a project's financial resources (Messner et al., 2019, Lutchman, 2016). The execution stage of a project is transforming a theoretical and planned concept into physical and material structures. It involves the development of an organizational framework, personnel, systems, and processes to meet the project's operational needs. Adequate controls are required to avoid delays and cost overruns. Project leaders are responsible for early recognition and avoidance of potential problems. Variables within the organization's control include construction, labor productivity, site policies, safety culture, working conditions, wage rates, personnel turnover, level of training, and working hours (Lutchman, 2016).

The execution stage of a project involves the transfer of a concept, idea, or process into physical structures and tangible entities. This includes the construction of buildings, equipment, and machinery, the development of an organizational framework and structure, personnel, systems for managing and operating the project, and processes such as procurement, maintenance management, accounting, and marketing. Adequate controls are required to avoid cost overruns or schedule delays, and the project leader is the principal agent between the project and senior management of the organization. They ‘act as the eyes and ears’ of the organization so that the right decisions are made at the right time (Lutchman, 2016, Messner et al., 2019, Stackpole, 2013).

2.3. Challenges in the project implementation phase

The ten-factor model of project implementation was developed by Alex Bavelas to manage the challenges of project implementation (Schaefer et al., 1980). It includes project mission, top management support, project schedule, client consultation, personal acceptance, monitoring and feedback, communication and trouble shooting. The sustainable success of project implementation is linked to managing the challenges of the ten factors model, which includes project mission, top management support, project schedule, client consultation, personal and client acceptance, monitoring and feedback, communication and troubleshooting (Besteiro et al., 2015, Ika and Pinto, 2023). This research focuses on the most important idea: to explore challenges in implementing infertility treatment in Ethiopia, such as top management and policymakers' support, skilled manpower and teamwork, resources, and risk identification and management. Challenges related to the current study are discussed as follows.

1. Top Management Support-The willingness of top management to provide the required resources, authority, and power for project success.
2. Project team challenges relate to personnel: recruitment, selection, and training of the necessary personnel for the project team.

3. Resource- relates to the availability of the required medical equipment, supply, technology and expertise to accomplish the specific technical action steps. Management must provide sufficient resources to ensure a project runs efficiently and effectively(Education, 2018).
4. Risk identification and management is related to troubleshooting or the ability to handle unexpected crises and deviations from plan (Pinto and Slevin, 1987, Besteiro et al., 2015, Ika and Pinto, 2023). The Bisk education course at Villanova University outlines five major categories of challenges in project implementation: corporate, team, risk, communication, and managing expectations or risk (Education, 2018).

Risk tolerance is an important part of project management training, as it helps project managers identify and plan for risk. It is a desirable trait as projects rarely go exactly to plan and must be identified in pre-defined scenarios. Asking others to identify potential problem areas can help smooth and successful projects. But without contingencies, the entire project can become mired in unexpectedunexpected problems (Education, 2018).

Challenges of Working with a Team

Project implementation requires skills that the project's contributors do not possess. ‘Project management training’ can help a project leader determine the needed competencies, assess the available workers, and recommend training, outsourcing, or hiring additional staff. However, a lack of accountability can lead to project stagnation and finger-pointing and avoiding blame are common features of flawed project management(Education, 2018, Stackpole, 2013). Skilled and competent project implementer teams are crucial for the successful implementation of projects. Therefore capacity building is essential for successful project implementation. However, implementation is challenging due to a lack of resources, training needs, budget, time, and human resources. Additionally, due to employees turnover, there is a need for continuums training to ensure that the project is run efficiently and effectively (Oh and Choi, 2020).

2.3. Empirical Review of the Literature

The implementation challenges in health-related projects are complex and dynamic, requiring difficult technical and organizational problems to be resolved in a conflict-laden arena. Three major challenges that led to the project's failure include defining an appropriate scope for implementation, coping with technical and practical problems, and ensuring commitment from users and their managers (Bansler and Havn, 2010, Bansler, 2021). The implementation of new reproductive technologies will require well-organised education and training programmes. Moreover, need regular audits and systems of accreditation and registration should be implemented to ensure the quality of care. Funding is also needed for the fixed costs of new fertility centres, running services, staff salaries, training medical, paramedical and administrative staff, and education of the public (Sallam and Attiya, 2019).

The development of health information systems is a complex and dynamic process characterized by high ambiguity and uncertainty. An iterative, incremental approach is necessary to ensure project success. In contrast, new project implementations have their own challenges and issues to deal with (Bansler, 2021). The role of the public sector in infertility management is weak as even basic investigations and services were limited or incomplete. Providers highlighted inadequate infrastructure, inappropriate management, lack of information and training, absence of clear protocols, private practice by public health doctors, pre-occupation with other health issues and lack of regulation as their main problems (Widge and Cleland, 2009).

Community health intervention programs face challenges related to the political atmosphere and the difficult process of building and maintaining a partnership. The partnership is the most important challenge in community-based interventions, which requires time, effort and engagement with the community. Political context relates to power dynamics and political affiliation, while the partnership is related to building trust. Building trust is key to successful intervention (Chatio et al., 2019).

The ten challenges in improving quality in healthcare identified by a group of researchers include 10 key challenges in securing improvement, covering three broad themes: design and planning improvement interventions, organizational and institutional contexts, professions and leadership, and sustainability and spread beyond the initial intervention period and unintended consequences. These interconnected issues can lead to unintended consequences (Dixon-Woods, 2019).

Design and Planning of Improvement Interventions

Designing an improvement intervention involves 'designing, testing, implementing and evaluating quality improvement interventions' to improve the safety of people in need of care (Portela et al., 2015).

Challenge 1: Convincing people that there is a problem:

Lyu argued that there is a bias in the ideology of science that tens of thousands of scientists don't think science matters to them (Lyu, 2020). Van Inwagen argued that there is an overarching problem of evil, but he was unable to convince the audience that there is a problem. He concluded that people who accept the thesis that there is a problem must accept it(Van der Leeuw, 2020). The challenge of convincing healthcare workers to address real problems is a key challenge, requiring hard data, patient stories, and voices to secure emotional engagement(Dixon-Woods, 2019).

Challenge 2: 'Convincing people that the solution chosen is the right one':

Improvement interventions are needed to achieve good quality but may be contested due to a lack of evidence or incongruence with preferred practises, leading to resistance to change (Dixon-Woods, 2019, Verzuh and Association, 2021)

Convincing people of the rightness of one's solution is key to solving problems such as investing, choosing a partner, and choosing the right investments (Sternberg, 2019)

Challenge 3: 'Getting data collection and monitoring systems right':

The most important idea is to ensure that data collection and monitoring systems are in place with the right ambitions and cultural contexts (Dixon-Woods et al., 2012).

Data collection and feedback are essential for improving quality, as they help demonstrate the scale of a problem and show what is happening in response to an intervention. Data collection, 'monitoring', and 'feedback systems' are often poorly understood, 'designed, and implemented'

Challenge 4: 'Excess ambitions and 'projectness'

Organisational cultures, capacities, and contexts can lead to excessive ambitions, tribalism, and lack of staff engagement, leadership, incentivizing participation, and hard edges. These are due to excess ambitions and 'projectness (Dixon-Woods et al., 2012)'.

Enthusiasm for improving quality is natural but can easily overwhelm available resources. Ambitious goals and talk of transformation can alienate people and lead to disillusionment. Without adequate financial support, infrastructure, managerial skills and dedicated time, efforts to improve quality can quickly become difficult (Dixon-Woods et al., 2012).

Organisational and Institutional Contexts, Professions and Leadership

Challenge 5: Organizational cultures, capacities and Contexts:

Organizational cultures, capacities and contexts can lead to emotional exhaustion and evaporation of support, while differences in morale, leadership and management can lead to outcome variation (Dixon-Woods et al., 2012).

Capacity building is essential for the project implementation. However, it is not performed as planned due to employee turnover and the need for continuums training, which requires budget, time and human resources. This is a challenge for the project due to the need for budget, time and human resources (Hailu, 2018). Coordination is essential for successful project implementation, as it requires strong coordination and partnership between project stakeholders. System systems like monitoring and evaluation, communication and retargeting are necessary for successful performance (Hailu, 2018).

Challenge 6: 'Tribalism and lack of staff engagement':

Tribalism and lack of staff engagement are major challenges in improvement efforts. Boundaries between professional, disciplinary and managerial groups present obstacles to change, and others do not always share consensus within one profession. Tribalism and lack of staff engagement are key challenges in improving professional, disciplinary and managerial relationships (Dixon-Woods et al., 2012).

Lack of real-life experience, lack of engagement and leadership, and lack of engagement and leadership are barriers to implementing lean in healthcare (Leite et al., 2022). For instance, a study revealed that Nurse engagement in the health sector is affected by disengagement from management, low morale, isolation, lack of openness, and acceptance (Tillott et al., 2013).

Challenge 7: Leadership

Leadership is the practice of exercising and transacting leadership, which can significantly impact improving the quality of life. Evidence supports the current interest in improving leadership (Leithwood et al., 2004).

Leadership for improvement efforts requires technical skills, facilitation skills and personal qualities to ensure alignment with staff priorities and active work to foster collaboration and engagement with improvement aims. It must be done at multiple levels and align with staff priorities to foster collaboration and engagement(Dixon-Woods et al., 2012).

Challenge 8: Incentivizing participation and 'hard edges'

The most important details are that incentives affected engagement, the project team lacked mechanisms to facilitate engagement, and transnational development challenges and globalization are becoming more difficult (Armstrong et al., 2016).

Healthcare professionals are motivated to ‘maximize the quality’ and ‘effectiveness’ of the care they provide for patients, and incentives can help them prioritize improvement activities. Visible improvements and evidence of potential patient benefit through credible feedback can encourage clinician involvement in what may be seen as low-status activity(Dixon-Woods et al., 2012). The most important idea is that activist tactics were used to ensure cooperation through the technical hard edge of the project rather than writing down the project(Dixon-Woods et al., 2012).

Beyond the Intervention: Sustainability, Spread and Unintended Consequences

The crisis of unintended consequences affects our way of life in many ways, such as reducing time for collaborative dialogue, masking key trends in data, making work routines brittle, and making solutions unintended (Van der Leeuw, 2020).

Challenge 9: Securing sustainability:

The authors identified a range of tactics to respond to the challenges of securing sustainability and unintended consequences, such as infrastructure and health care conditions (Skar et al., 2020). Projects may be vulnerable to sustainability challenges, as clinicians and managers may be faced with competing priorities at the end of the project (Dixon-Woods et al., 2012, Dixon-Woods, 2019).

Challenge 10: Risk of unintended consequences:

Unintended consequences lead to risk avoidance, where patients at high risk of adverse consequences are less likely to take risks (Khot, 2012).

Risk of unintended consequences is an important consideration when evaluating health-related projects. Studies have shown that quality improvement programmes can have unintended and unwanted consequences, and the literature on these topics is more focused on underlying clinical factors than project-based factors (Dixon-Woods et al., 2012, Education, 2018).

2.5. Conceptual and Theoretical Framework

A conceptual framework has been developed to explore project implementation challenges, focusing on the project team, resources, top management support and risk management adopted from previous literature (Rogers, 2019).

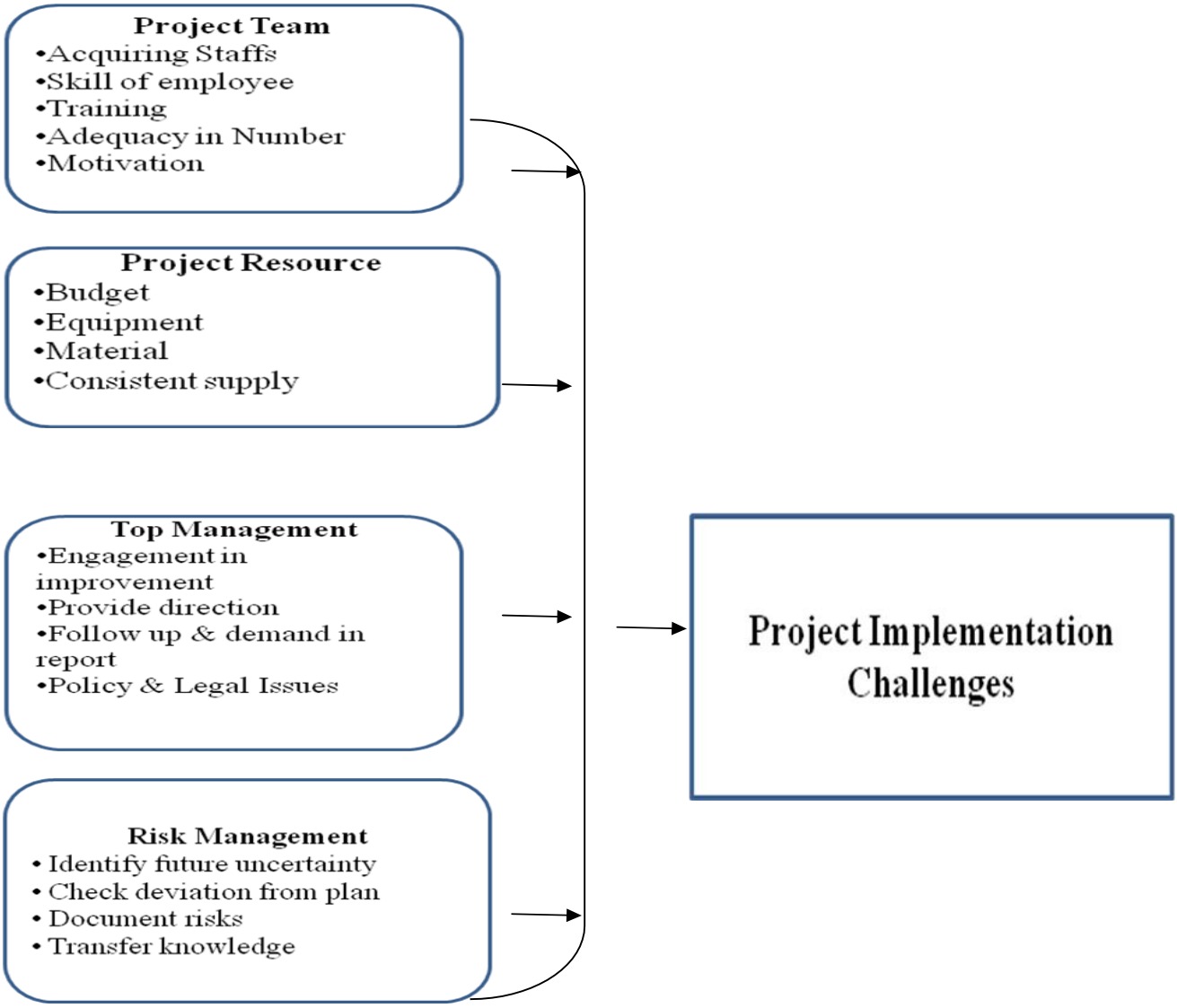

Figure 1 : An adopted conceptual framework of Project Implementation challenges of infertility treatment Service in Ethiopia, 'in the case of St. Paul's Hospital Millennium Medical College' 2023 (Schultz et al., 1987, Anantatmula, 2023).

Chapter Three

3.0. RESEARCH METHODOLOGY

3.1. Research Design and Methodology

3.1.1. Introduction:

This chapter explains the research methodology used to carry out the study. It considers the context of the research and the results to achieve meaningful research outcomes. The selection of an appropriate research design involves several steps, beginning with identifying the problem, purpose of the study and literature review. This chapter presents the details of the methods used in this research, with different sub sections that describe and justify the method and processes used to answer the research questions.

3.2.**Research Paradigm:**

The research paradigm of this study was mixed method, both qualitative and quantitative design. The study used mixed method, both qualitative and quantitative design as Keegan (Swann et al., 2017, Keegan, 2009) states that hybrid methodologies that include both qualitative and quantitative elements are common as they potentially provide complementary understanding to the subject at hand. The researcher used Mixed design, qualitative design to represent the views and perspectives of the participants in a study, analyze the meaning of people's lives, under real-world conditions and to cover contextual conditions which include the social, institutional, and environmental conditions within which people's lives take place (Gentles et al., 2015). The qualitative study assumes relativist ontology and interpretive paradigms was emphasized.

3.3. **Research approach** :

A study that explores a phenomenon's dimensions or develops or refines hypotheses about relationships between phenomena is termed 'exploratory research (Polit et al., 2012). In line with the character of the exploratory study design, where nothing or little is known(Kumar et al., 2011), this study explored the current challenges in implementing infertility treatment Projects in Ethiopia, in the case of SPHMMC.

3.4.Research design

This study design was exploratory with both qualitative and quantitative data collection methods were conducted. Mixed method design as (Swann et al., 2017, Keegan, 2009) states that hybrid methodologies that include both qualitative and quantitative elements are common as they potentially provide complementary understanding of the subject at hand. The researcher

used mixed design and qualitative design to represent the views and perspectives of the participants in a study, analyze the meaning of people's lives under real-world conditions, and cover contextual conditions, which include the social, institutional, and environmental conditions within which people's lives take place (Gentles et al., 2015). The qualitative data was collected through a key informant interview (KII). According to the literature, quantitative methods are used to collect numeric data and present statistics about participants' collective features, such as the socio-demographic characteristics of study participants in an organization (Gentles et al., 2015). As a result, I used quantitative data, which was collected through a questionnaire. The questionnaire consists of two sections, which contain qualitative inquiry guides and quantitative questions (Annex I). The main purpose of the questionnaire was to collect the necessary data from key informants about the challenges of project implementation in infertility treatment. The questionnaire contains both closed-ended and open-ended types of questions. A key informant interview has been used as one of the methods for generating data for this research. The researcher was able to deeply understand the service provision process and implementation challenges. It was conducted by the researcher himself. The interview was conducted using a developed interview guide (see the annex). The interview with experts and officials was to assess the overall service delivery process. Key stakeholders at project teams, middle, and top level managers (Provost, Vice Provost), Finance director, budget and planning team leader, and the infertility treatment Center Directors), Obstetricians and Gynecologists, Midwifery, Nursing, clinicians and support staffs involved in pre, during and post infertility treatment activities were included in the study by using purposive sampling of key informants as the case study respondents, and actors involved in the project implementation to explore their experience in facing the different challenges in setting up of infertility treatment project at St. Paul's SPHMMC. This helped me understand the situation.

3.5.Sampling design

3.5.1. Target Population and Sampling technique:

All top managers and policy makers (Finance director, budget and planning team leader, and the infertility treatment Centre Directors), Obstetricians and Gynaecologists, Midwifery, Nursing, clinicians and support staff involved in pre, during and post infertility treatment activities were target population and selected by using a purposive sampling technique.

3.5.2. Sampling Frame

The sampling frame of this study was St. Paul's SPHMMC human resources directors' record/ database.

3.5.3. Sample size and Sampling procedure

To select sample respondents from total study population, a convenience sampling method was employed and as per the quota and availability during the survey by considering the different segments of the project implementation personnel were available in the work flow: providers in the preparation, counseling, care after post- In vitro fertilization (IVF) and assist with the conception of a child, pharmacy, laboratory and managers were voluntarily requested to participate the in-depth interviews until the researcher was obtained the adequate number of responses or saturation data. Furthermore, qualitative respondents who were key informants were identified purposely and have better experience through the specific project.

Purposively 9 key informants were used as the case study respondents for both qualitative and Quantitative

3.6.0. Sources of Data

3.6.1. Primary source

The primary data were collected from professional employees and top management in the organization who were directly involved in the project's specific implementation. They chose to participate in the in-depth interviews from the mouth of the respondents who can provide their deep experience in the implementation and challenges.

3.6.1. Secondary source

To strengthen the reliability of research data and supplement the information missing in the questionnaire survey, information was collected from other related publications like researches, Journals, the organizations procedure and policy and relevant reports and proceedings.

3.7. Data collection methods and tools

Qualitative data were collected by using an in-depth interview guide; the interview guides were used to collected data from top managers and policy makers (Vice Provost for Medical Services, Finance director, budget and planning team leder, and the infertility treatment Center Directors), Obstetricians and Gynecologists, Midwifery, Nursing, clinicians and support staffs involved in pre, during and post infertility treatment activities. The interview guides has two parts adopted from previous similar studies and developed after reviewing the field's literature. The first part addresses the demographic characteristics of respondents, and the second part deals with questions of opinion regarding the sub-thematic areas of the study regarding major problems related to the implementation of infertility treatment projects, specific challenges with the implementation projects from the perspective of the hospital, resource-related challenges faced, top management involved in the implementation, and resource and risk management.

3.8. Data Analysis and Presentation

As data means row material, it has to pass through a process of analysis and be interpreted accordingly before their meaning and implications are understood. Qualitative data analysis techniques were employed to analyze the data. 'Qualitative data were transcribed and translated verbatim' into English and analyzed using colour-coded, organized and summarized the main thematic area. The analysis of the possible challenges under the thematic areas of top management support, dimension of project team, project resources and risk management was conducted through further data analysis of in-depth interviews. The qualitative method responses were categorized and then organized by content with thematic analysis of in-depth interviews. A narrative report of the qualitative study finding was made under the specified themes to explore more challenges which were specific to the unique project. Qualitative data were transcribed and translated verbatim' into English and analyzed using NVIVO-coded, organized and summarized in the main thematic area. Results presented by extracting concepts from main themes in text narration. Descriptive analysis by using SPSS and result presented in text and tables

3.9. Trustworthiness of this Study

Trustworthiness is defined as the degree of confidence, credibility and authenticity that qualitative researchers have in their findings. It is assessed by using the criteria of credibility, transferability, dependability, conformability and authenticity as proposed by (Cope, 2014). There are many arguments for and against using validity in qualitative research but no real conclusion, except to say that the term rigor or trustworthiness seems to be becoming the accepted term to be used by qualitative researchers(Polit et al., 2012). Also, the rigor of a qualitative study is demonstrated when the participant's experiences are accurately portrayed and represented. In other words, the worth of a study is referred to as rigor, which means the endeavouring for excellence in research through discipline, meticulous observance to detail, and stringent accurateness (Grove et al., 2012).

Rigorous qualitative researchers are regarded as -minded and show methodological accuracy, strict adherence to a philosophical perspective, thoroughness in collecting data, attention to all of the data in the analysis process, and self-understanding (Grove et al., 2012).

The trustworthiness of this study was established through prolonged engagement, persistent observation, peer-debriefing, member-checking, and reflective feedback on transcribed and narrated key informant results to ensure the validity and credibility of this study.

3.1. Ethical Standards and Procedures

A support letter was obtained from Addis Ababa University School of Commerce, and Ethical clearance was obtained from the Institutional Review Board of SPHMMC(Refer No PM23/808) to check for the three criteria of research in a health setting, which are autonomy, Justice, mal efficiencies and beneficence.

Oral consent was obtained from all interviewees and participants of the KIIs. The recorded interviews were used only for the study and deleted at the end of the research project. The audio-recorded interviews were transcribed. Then content and thematic analysis was conducted. For each transcription, issues relating to the study objectives were identified and coded without predefined categories. After the completion of the coding process, themes were developed and classified. The respondents 'right to refuse or withdraw from the study at any stage was respected. Information collected from respondents was kept confidential, and the collected information was stored in a locked space, in a file without the name of the study respondent (anonymously), but codes were assigned for each respondent and had not been disclosed to others except the principal investigators. Scientific integrity was ensured by avoiding plagiarism, being honest in reporting on the findings, and accurately cited all consulted sources.

Chapter Four

4.Finding and discussion

This chapter presented the key findings of a study conducted by SPSS, thematic, spreadsheet, and qualitative data analysis techniques. The overall findings were presented as Project Implementation challenges of infertility treatment in the case of St. Paul's Hospital Millennium Medical College, Ethiopia.

4.1. Socio-demographic characteristics of Participants

Nine in-depth interviews were conducted with key informants who worked on the project, from the project team to the top manager.

The ‘mean age’ of the study respondents was 36.67 years old, with the majority ranging between 30 and 35 years old, which accounts for 55.6%.

Of the total respondents, females accounted for 6(66.7%), the work experience in the project ranged from one year to four years, and the study respondents educational backgrounds ranged from bachelor's to subspecialist level. Most of the study participants were master's level, accounting for 55.56%. See details in Table 1.

Table 1: Socio-demographic characteristics of Participants of worked in infertility treatment project Addis Ababa, Ethiopia 2023

Variable	Category	Frequency	Percentage
Age in years	30- 35 year old	5	55.6%
Mean age 36.67 Years	> 36 years (36-43 years)	4	44.4%
	Total	9	100.0%
Sex of respondent	female	6	66.7%
	male	3	33.3%
	Total	9	100.0%
Respondents position in the project	Middle Manager	4	44.4%
	Planning and budget officer	1	11.1%
	Project team	3	33.3%
	Top Manager	1	11.1%
	Total	9	100.0%
Profession	Obstetrician and Gynecologist	1	11.1%
	Midwifery	1	11.1%
	Physician	2	22.2%
	Nurse	4	44.4%
	Accountant	1	11.1%
	Total	9	100.0%
Highest education achieved	Degree (BA, BSC)	2	22.22%
	Masters(MA/MSC)	5	55.56%

	MD+specialist/subspecialist	1	11.11%
	MD	1	11.11%
	Total	9	100.0%
Work of experience infertility treatment project in year	1 - 2 years of work experience	3	33.3%
	2 - 4 years of work experience	6	66.7%
	Total	9	100.0%

4.2. Major problems related to the implementation of the infertility Treatment project include launch and service delivery

The major problems related to the implementation of infertility treatment during launching were '*trained human resources, lack of essential medical equipment, shortage of laboratory supplies due to shortage of foreign currency, and lack of separate rooms or centre for the launching of the project with high demands of infertility treatment clients, this due to the launching of infertility treatment for the first time in Ethiopia with very few trained health professionals. Other issues are that rules and regulations about the treatment were not allowed as soon as requested by responsible bodies, and community misperceptions of the treatment were the major problems related to infertility treatment in our centre'*….. … (P1).

Middle-level manager of the project stayed that…. '*Problems we faced during early implementation like lack of legal framework, clear rules, accountability, unrealistic deadlines, resource allocation, budget, and risk management, were the main challenges of early initiation phase infertility treatment project implementation'* ….(P2).

'*HHmm' during early project initiation, we faced budget problems, another main challenges were regular government work hours and private wing work hour integration problems arising due to patient follows are beyond the capacity of early implementation of the project. In general, the scheduling problem of regular work hours with private wings within the same overcrowded spaces….. So these challenges were delayed the project implementation phases and after implementation was started with budget scarcity and high demands for infertility treatment* …. (P3).

A Medical practitioner work on the project for the last three years mentioned '*the late presentation of patients and the long waiting list for the service, for example …hormonal drugs and supplies, are not easily available cost for the 'patients' and not subsidized for the clients. These issues were due to patient follow-up being beyond the capacity of the project's early*

implementation'. …. …. (P4). Another key informant explained that '*client load, shortage of drugs, and basic laboratory supplies are still the major problem for the project*…(P8).

A top-level manager of the project stated that '*the infertility treatment Project service was a challenge to acquire a professional in a specific field of study in the early implementation phases. However, there is on-going communication among departments to share knowledge and skills. Providers have become skilled through short-term training for nurses and other health professionals and long-term training opportunities for physicians as part of the fellowship program'* … (P9).

The identified major problems related to the implementation of the infertility treatment project include launch and service delivery supported by previous challenges reported in other studies revealing that lack of resources, training needs, budget, time, and human resources. Additionally, due to employees turnover, there is a need for continuums training to ensure that the project is run efficiently and effectively (Oh and Choi, 2020).

4.3. Challenges of project implementation from a hospital perspective include culture and organizational structure.

A middle-level manager key informant discussant who had worked on the project for the last two years explained that ….*'Lack of budget line and separate space/ room for the centre due to overburdened hospital with other treatment shortages of trained manpower, and as solution we had rent other private building at separate out of hospital at hayehulet after six months of implementation in the St. Paul's hospital'.....* (P1-Pseudo name).

A key informant discussant stated that the *'Hospitals face challenges with infertility treatment project implementation due to resource allocation, budget, and a lack of experience due to the project's uniqueness. The patients' needs and demands for the project were beyond the capacity of the implemented project; the project was only able to provide services for 50% of the registered patients, but there were no problems with the organizational structure*'….. (P2).

As some of the key informant discussants explained by shared almost the same……. '*The infertility treatment service faced a challenge in acquiring a professional in a specific field of study. However, there was no culture or organizational structure problem. There was shortage of expert clinicians and providers like embryologists, laboratory, nursing, and physician disciplines'*…. (P4-& P3).

Himmm….as I already told you before… 'the infrastructure problems like specific to the project, hormonal tastings, and hormonal drugs are still the problem due to budget scarcity,

and location of the project centre far from the main hospital are great problems in relation to organograms and organizational cultures'….. (P5-& P6).

Senior Nurse Professional working as a middle manager of the project explained that …. '*Infertility project was established at separate rent building far away from the hospital, and the uniqueness of the project make lack of specific tests for this project reagents were problems related to the project implementation'* ….. (P8-).

A top-level manager stated that…. '*St. Paul's Hospital has no culture or organizational structure issues with infertility treatment, despite implementation projects out of the hospital until the comprehensive complex fertility and reproductive health program is completed, which will launch next year at St. Paul's Hospital'…* (P9). These explored challenges were similar to the previous study. Similarly, the identified challenge for the project was due to the need for budget, time and human resources (Hailu, 2018). Coordination is essential for successful project implementation, as it requires strong coordination and partnership between project stakeholders. System systems like monitoring and evaluation, communication and retargeting are necessary for successful performance

4.4. Resource-related challenges faced in implementing the infertility treatment project in the first three years included budget, pharmaceuticals, and lab supplies.

Key informant discussants who had worked on the project for the last years….. '*explained that... The last three years were full of challenges due to a shortage of currency to sustain basic laboratory and medical equipment supplies. Due to COVID-19 pandemic lockdowns and restrictions, burdened by client follow build rental cost was triple due to inflations medical supplies are much cost and lack of local suppliers like basic drugs, lab investigation supplies'*…….(P1-Pseudo name).

Key discussant explained that ……' *the infertility treatment project at St. Paul's Hospital faced resource-related challenges such as a shortage of budget, the fact that essential pharmaceutical drugs for the infertility treatments are not included in national drug lists, inconsistent lab supplies, and unpredictable risks like a shortage of foreign currency. This was due to the project's uniqueness, implemented for the first time in Ethiopia'*…. (P2).

A budget and project planning officer key informant discussant explained that '*the infertility treatment project faced major challenges due to budget and drug and pharmaceutical supply problems'. Eventually, budget problems were resolved, but the medical supplies, drugs, and*

specific laboratory supplies faced challenges due to foreign currency problems, insufficient suppliers, or no importers related to the fertility supplies due to the uniqueness of the project implemented in Ethiopia' ……. (P9).

A middle manager explained…….. '*the infertility treatment service was established in a building built for a hotel, leading to a space shortage and inadequate space to serve customers and clients in preparation work, post-infertility treatment procedures, intensive care units, admissions, and rooms. 'The clinical service resources at the infertility treatment centre lacked supply consistency throughout the year due to a scarcity of consumables and the absence of backup machines, laboratory machines, and beds. Additionally, the infertility treatment centre relied on SPHMMC clinical investigation services, leading to a long wait time and schedule delay in the service'. …….* (P4).

Project teams shared similar ideas by explaining that……. '*infertility treatment project faced resource-related challenges such as budget, pharmaceuticals, lab supplies, and procurements of these supplies, especially essential drugs, these result in increases the price of the procedures are cost for clients and needs special training in abroad,,, the drugs pharmaceuticals and specific laboratories supplies are very challenging due to these essential medical supplies are not included under EPSA drug lists for the sustainability of services without interrupted with affordable cost. The supplies were expensive and not usually available or accessible in the country'……* (P5, P6& P8).

A top-level manager stated that…. '*The infertility treatment project service was challenging to implement due to the lack of specifically trained clinicians and providers in pharmacy, laboratory, nursing, and physician disciplines'. The project team was frustrated due to the lack of specific trained clinicians and providers in pharmacy, laboratory, nursing, and physician disciplines in the early implementation phases only; currently, the centre has more than four subspecialists in reproductive endocrinology providing services in the centre'. …….* (P9).

4.5. Human resources-related challenges of infertility treatment project implementation

Human resources were essential for the infertility treatment service, including the team's selection, acquisition, training, and development. Coordination is essential for successful project implementation, as it requires strong coordination and partnership between project stakeholders. System systems like monitoring and evaluation, communication and retargeting are necessary for successful performance (Hailu, 2018).

Human resources were fulfilled for the infertility treatment service, with no challenges in selection, acquisition, training, or development. And another good opportunity was the

treatment project and training human resources were launched together, with continuous job training and rotation based on training, specialization, and fellowship program. Lastly, as I mentioned before, '*the staff gained skills from long- and short-term training programs in the centre and hospital in collaboration with partners'*….. ……. (P1-& P2-).

Middle-level manager key informant discussant explained that ……..'*the human resources were fulfilled by rotation and a program-based schedule from St. Paul's Hospital during the implementation phases. During the project preparation phases, human resources were trained abroad in well-experienced countries to fill the skill and knowledge gaps. Long-term specialization training was opened in the same centre side by side with the service provision of the project. This was the strategic approach used to fulfil the project's human resources'.* ….. (P3-).

The project team leader explained that……. '*the human resources were fulfilled by rotation and a program-based schedule from St. Paul's Hospital during the implementation phases. During the project preparation phases, human resources were trained abroad in well-experienced countries to fill skill and knowledge gaps, and long-term specialization training was opened in the same centre*'…… (P3-).

Project team member key informant discussants explained …….. '*There is a shortage of well-trained nurses to some extent from a formal training perspective. The project needs special training abroad to acquire skills, so we trained health professionals based on their experience and motivation to implement the project with the minimal required skills. Human resources filled by rotation and training based on the gaps'*……. (P5-& P7).

A top-level manager stated that '*human resources for the infertility treatment service have been fulfilled from the project implementation approach of both clinical service provision and training health professionals at advanced training to acquire and maintain skills after training'*…. (P9).

4.6. Top management involvement in infertility treatment project implementation

Top management involvement is essential for successful project implementation, such as developing SOPs, and policy frameworks and allocating budget.

Middle-level manager stated that …. '*The involvement of top management in the implementation of an infertility treatment project rumours which including developing a legal framework, rules, resource allocation, budget, and risk management strategy. They also participate in developing SOPs, policy frameworks, and budget allocations. They have signed*

Memorandums of Understanding with collaborative partners to secure budgets for the centre building and facilitated collaboration. They have signed Memorandums of Understanding with collaborative partners to secure budgets for the centre building, and facilitated collaboration with partners working in the area' …. (P1).

Medical practitioner key informant discussant explained that *....'the project's uniqueness made it difficult to set up a clear scope, deliverables, plan, and financial system. This was compounded by bureaucratic flows for decision-making in importing drugs, supplies, pharmaceuticals, equipment, and foreign currency. Additionally, there was no legal framework to support consent and the legalization of infertility treatment by assisted reproductive technologies in Ethiopia'*…… (P4).

Key informant discussant explained that … '*top management was involved in the implementation stages by identifying the gaps and developing the project's strategic plan and standard of practice. They requested the ministry's endorsement of the minimum standard of practice by parliaments for the first time. Even if the project was delayed, top management's prepared budgets and a strategic plan to implement the project with regulation would solve budget shortage problems. So top management participated in developing policies, guidelines, and standards of practice, facilitated permission and allowed the project to be implemented'.* …… (P4).

A project team stated that ….. '*Our top management was involved in the implementation of the project by developing SOPs and policy frameworks and allocating the necessary budget for early implementation. This is a new project in our country, so there is no clear implementation guideline or standard of procedures. I .. himny ….. 'Top management is actively involved in the implementation of the project for the first time in our hospital as a project for scaling up programs in the area of fertility and reproductive health issues'*….(P6).

4.7. Possible risks identified in early project implementation and actual risks faced during the implementation of the infertility treatment project

Risks identified in early project implementation and actual risks faced during implementation of an infertility treatment project that affected the implementation of the project are people, place, policy, procedure, and practice.

'The actual challenges faced challenges are delayed endorsement of rules and regulations, policy, and procedures by Parliament and responsible bodies; the identified challenges and

risks were trained manpower, and foreign currency to establish and equipped the centre with essential medical equipment's Financial problems inaccessible due to long waiting time and appointments, which may take more than one to two years to get full treatment'….(P1).

A middle-level project manager mentioned that …..'*The possible risks identified early could affect the project's implementation, such as lack of trained health professions, place, policy, procedure, and practice-related risks due to uniqueness, no legal and regulatory regulation endorsed before with a minimum standard for the treatment of infertility in Ethiopia. The actual risks faced during the implementation included legal-related budget problems, an underserved small number of clients, and an overcapacity of the centre'.* ….(P2).

Medical practitioner key informant discussant explained that …….'*Patient-related identified risks were the low economic status of the community, the inability to pay for an evaluation of fertility problems, transportation, and infertility treatment procedures by assisted reproductive technologies. Additionally, there was no legal framework to support consent and the legalization of infertility treatment by assisted reproductive technologies in Ethiopia. So these problems were solved by the active engagement of top management with higher officials and other stakeholders'.* …. (P4).

Some of the key informant discussants explained that …..*'The identified risks were budget, shortage of trained human resources, and training costs abroad. These were addressed by training human resources abroad and providing open long-term training for physicians as fellowships, but there are gaps in nursing and other health professional's training. Delayed endorsement of these guidelines or policies takes time, which has affected the project's implementation. Lacks of drugs and diagnostic medical and laboratory supplies were the actually faced challenges'* …..…. (P7, 8 & 9).

4.8. Service providers and project managers perceived the benefits of the infertility treatment project for communities

A Middle-level Manager said '*Yes,... I can say confidently more than 200 infertile couples were gave birth to one to three children, and more than 20,000 couples are on the follow-up and a large number of people are benefited from this project advanced to centre with comprehensive by providing long-term training, short-term and comprehensive treatment of reproductive-related issues this project is one of the model for another advancement of medical*

care in our country' ….(P1). This is supported by a previous study done in Ethiopia on IVF outcomes reported that the overall pregnancy rate was 30.1% in 2020(Belay et al., 2021).
A nurse from the treatment centre for infertility explained the '*benefit of the service as it allows patients, recipients, and their families to communicate with their physicians, nurses, social workers, and psychiatrists in a language they can understand. Additionally, a financial offer stated that the cost of treatment for infertility in Ethiopia ranges from 40000 to 80000 ETB per procedure in the regular scheme. Even if they could afford to go out of the country, it would cost them a million birr on average. This is a privilege for the patients, recipients, and their families to get their treatment for infertility in their home country, accompanied by relatives and their citizens'*….(P2 & P3).
'*Infertility treatments is seen as a very bright light in the dark, providing valuable benefits such as avoiding the cost of transportation abroad for fertility treatment, medication, and family time and reducing the negative impact on productivity. Retaining the foreign currency could also be seen as a national benefit'*… (P4). A senior nurse expressed that …'*her patients who had used the infertility treatment project had previously given birth and remarried their divorced spouses, showing hope and confidence in our community'....* (P5).

As a service provider, the middle manager stated that '*the treatment centre for infertility in Ethiopia offers a service that allows patients to give birth after the infertility treatment. This is a privilege for patients, recipients, and their families, as it saves them from the cost of travel and visa processing'*…… …. (P6).
'The infertility treatment project has benefited over 300 infertile couples give birth to one to three children, and 25,000 couples are on the follow-up list. It provides long-term training and short-term and comprehensive treatment of reproductive issues and is a model for other advancements in medical care in the country'….. (P9-). These are supported with a study done in Ethiopia on IVF, the outcome reported 25% were already delivered 2020 (Belay et al., 2021).

4.9. Problems encountered by the people who had received infertility treatment service

A Midwifery professional working on the project stated that …..'*having a multiple pregnancy pregnancy or birth (twins, triplets or more) or ovarian hyperstimulation syndrome (a severe reaction to fertility drugs) having an ectopic pregnancy. Possible female infertility is the failure to ovulate, and abortion'*… …. (P4).

Medical practitioner explained that ….. '*infertility treatments is an advanced procedure that requires invasive procedures to collect eggs or sperms, which can lead to severe pain, emotional stress, and low self-esteem for infertile couples, particularly women, especially when the procedures are unsuccessful and they lose all their expenses for the procedures. Other common clinical problems include multiple pregnancies, ovarian hyperstimulation syndrome, and an ectopic pregnancy. Pain during procedure, and loss for those not successful after costing their money and time'*….. …. (P5).

Senior nurse professional key informant discussant stated that ……'*infertility treatments is an advanced procedure that requires invasive procedures to collect eggs or sperm, which can lead to severe pain, emotional stress, and low self-esteem for infertile couples, particularly women, when the procedures are unsuccessful. They lose all their expenses for the procedures'. ….* (P5).

4.10. Partners involved in the implementation of infertility treatment project, with specific expectations set for each partner.

Project team member key informant discussant explained '*the involvement of partners in supporting the implementation of a project is co-financing for the expenditures related to building the centre and long-term training activities in the project'. Facilitating sponsoring fellowship training and supporting by renting of the current building. The fertility treatment project was built in collaboration with the Centre of Excellence in Reproductive Health within St. Paul's Hospital compound*' …. (P1).

Middle level manager who has been working in the project for the last two years stated the …

'*The St. Paul Institute for Reproductive Health and Rights (SPIRHR), the Ministry of Health (MOH), financial institutions, the local community, and suppliers were all involved in implementing a project. SPIRHR and SPHMMC will continue to coordinate and supervise the administration and execution of the contract. Stakeholder engagement involves building and maintaining relationships and preserving people's active support and commitment to the implementation of change. Appropriate stakeholders at SPHMMC participated in the initial design and development of the building to ensure quality and the best functional outcome'. ….* (P5).

Key informant discussant explained that …. '*the project was implemented in collaboration with St. Paul's Hospital Millennium Medical College (SPHMMC) and the Department of Obstetrics and Gynaecology. 'Each partners' has their own roles and responsibilities all stakeholders involved during implementation. 'Department of Obstetrics and Gynaecology' is responsible for - and short-term on-the-job training of the health care professionals working on the project and SPHMMC assigned human resources and budgets for the project. St. Paul's Hospital and Ministry of Health are the primary stakeholders in the implementation of the project, while legal bodies and parliaments are also involved. The project is supported by St. Paul's Hospital and the Ministry of Health'*…….(P8).

4.11 People receiving service fully accepting infertility treatment project implementation as compared with other possible options

The medical practitioner said that *….'Yes' the community accepted the project and their demands for the treatment reached on maximum stage to serve the community in need of the procedures. This project allows patients, recipients, and their families to receive high-quality care, resulting in more than 25% of treated infertile couples giving birth. There is no other option in Ethiopia for the treatment of infertility, and the experience is advanced and expanded to private health facilities currently*'…. ……. (P6).

Key informant discussants explained that … *'the People who had received the service fully accepted the implementation of infertility treatment projects using assisted reproductive technologies compared with other options, like supportive treatment of the underlining causes of infertility. This public fertility treatment project is a fair price compared to private fertility treatment centres, as adopted by private fertility treatment clinics. We observed People are willing to pay for it*'……. (P6-, P8 & p9).

4.12. St. Paul's infertility treatment project faces challenges in providing sustainable services in the future.

A key informant who had worked in the project for last three years stated that …. '*St. Paul's infertility treatment services are facing budget problems due to political instability, high inflation, shortage of foreign currency, lack of medical supplies, and delayed completion of fertility center building institutions. This infertility treatment 'offers valuable benefits, such as avoiding the cost of transportation abroad and reducing negative impacts on productivity. These threats may affect the sustainability of project'…* (P2).

A middle-level manager explained that ……'*There is no threat to the sustainability of the project, by next year the project will change to programs which will have long-term training and short-term center, research and treatment center of comprehensive fertility and reproductive related in Ethiopia. The future of this project is bright by next year this project will be changed multipurpose program ith clinical services provision, training, research, and consultancy in the area of fertility and reproductive health'……* (P1-& P8-).

A top manager explained that ….. '*St. Paul's infertility treatment project is facing threats because essential drugs and hormonal tests are not included in the Ethiopian Pharmaceutical Supply Service drug(EPSA) lists, and are not guaranteed by EPSA. However, there are no threats to the project's sustainability next year; the project will change to programs with long-term training and short-term centers, research, and treatment of comprehensive fertility and reproductive issues in Ethiopia*'….. (P9-).

4.13. What should have done differently to improve the infertility treatment project implementation?

Almost some of key informant discussants mentioned that …. '*St. Paul's should have strengthened the monitoring of fertility centre building finalizing and increased support from collaborative partners to improve infertility treatment project implementation with simplification of assisted reproductive (ART) procedures in order to improve accessibility, good-quality infertility services at a low cost for clients. It requires revision of strategic plan by improving government support including cost subsidization for clients can afford it'…* (P1-& P7-).

The project team key discussant explained that …'*The project budget should be allocated directly from Ministry of Finance, and procurement of drugs and reagents should be accessible, ensured sustainability by EPSA, and available immediately before stock out'…..* (P6-).

Key informant discussant mentioned that *…… 'this project should be advocated to the community in need of the services and improvement of the project by finalizing the fertility treatment building and transforming the project into programmes to reach out to the high demands of the community for infertility treatment'……..* (P9-).

4.2. Project team-related challenges in the implementation of infertility treatment

Quantitative parts items was managed for internal correlation (Cronbach's alpha (α) of 0.852) and instrument reliability determined (α=0.859). A descriptive statistic was used to describe the likert

scale results of the project team-related challenges of the infertility treatment project, which revealed that staff assignment in the infertility treatment centre was appropriate and motivated, scoring 8 (88.9%) as an agreeing or strongly agreeing rating, followed by staff selection and staff skill, equally rated 7(77.8%) as appropriate, while 55.56% of the respondents disagreed or strongly disagreed on the adequate number of staff assignments in the project. See details in Table 2.

Table 2: Project team challenges in the implementation of infertility treatment project at St. Paul's Hospital Millennium Medical College Addis Ababa 2023.

Variable	Category	Frequency (N)	Percentage (%)	mean
Staffs assigned in infertility treatment are selected appropriately	Agree or Strongly agree	7	77.8%	3
	Disagree	1	11.1%	
	Neutral	1	11.1%	
	Total	9	100.0%	
Staffs assigned in the infertility treatment service are with the appropriate skill	Agree or Strongly agree	7	77.8%	3
	Disagree	1	11.1%	
	Neutral	1	11.1%	
	Total	9	100.0%	
Staffs assigned in the infertility treatment unit are adequate in number	Agree or Strongly agree	4	44.4%	5
	Disagree or strongly disagree	5	55.6%	
	Total	9	100.0%	
Staffs assigned in the infertility treatment center are appropriately motivated to work as a team	Agree or Strongly agree	8	88.9%	5
	Disagree	1	11.1%	
	Total	9	100.0%	

4.3. Project Resource related challenges in implementation of infertility treatment

Project resources related items were managed for internal correlation (Cronbach's alpha (α) of 0.741) and instrument reliability determined (α=0.749). Project resource-related challenges distribution of the infertility treatment project showed that 6 (66.7%) of the respondents were rated as disagreeing or strongly disagreeing on appropriate pharmaceutical supply throughout the implementation of the infertility treatment service, followed by equal magnitudes of respondents rated disagreeing, which disagreeing or strongly disagreed accounts for 5 (55.56%) for baseline assessment, on-time request of purchase request preparation, and on-time delivery of purchase of the infertility treatment project, respectively. Finally, 7 (77.8%) of the study participants agreed or strongly agreed that a shortage of consumables and supplies interrupted the service implementation schedule in the study area. See details in Table 3.

Table 3: Project Resource-related challenges in the implementation of the infertility treatment project at St. Paul's Hospital Millennium Medical College Addis Ababa 2023.

Variable	Category	Frequency (N)	Percentage (%)	mean
A baseline assessment has been conducted to implement the infertility treatment service	Agree	3	33.3%	3
	disagree	5	55.6%	
	Neutral	1	11.1%	
	Total	9	100.0%	
Appropriate budget is allocated to the infertility treatment service establishment	Agree	5	55.6%	5
	disagree or Strongly disagree	4	44.4%	
	Total	9	100.0%	
On time request of purchase request is prepared for the infertility treatment service	Agree	3	33.3%	3
	disagree or Strongly disagree	5	55.6%	
	Neutral	1	11.1%	
	Total	9	100.0%	
On time delivery of purchase request is made for the infertility treatment service	Agree	4	44.4%	5
	disagree or Strongly disagree	5	55.6%	
	Total	9	100.0%	

There is appropriate pharmaceutical supply throughout the implementation of the infertility treatment service	Agree or strongly agree	3	33.3%	5
	disagree or Strongly disagree	6	66.7%	
	Total	9	100.0%	
There is appropriate laboratory equipment & reagent supply throughout the implementation of the infertility treatment	Agree or strongly agree	2	22.2%	5
	disagree or Strongly disagree	7	77.8%	
	Total	9	100.0%	
Shortage of consumables and supplies interrupted the schedule of the service implementation	Agree or strongly agree	7	77.8%	5
	disagree or Strongly disagree	2	22.2%	
	Total	9	100.0%	

4.4. Top management involvement in the implementation of infertility treatment project

Top management involvement items were managed for internal correlation (Cronbach's alpha (α) of 0.82) and instrument reliability determined (α=0.85). This study found that nine (100%) participants agreed or strongly agreed on management's support in identifying policy, legal, and administrative issues that hinder implementation. Of the total respondents, 8 (88.9%) agreed or strongly agreed that managers are involved in knowledge dissemination of lessons learned, demand achievement reports and challenges faced, and make decisions and corrective measures using the reports submitted. See details in Table 4.

Table 4: Top management involvement in the implementation of infertility treatment project at St. Paul's Hospital Millennium Medical College Addis Ababa 2023.

Section D: Top Management				
Variable	Category	Frequency (N)	Percentage (%)	mean
The managers are involved in the design, implementation and follow up of the project-infertility treatment service	Agree or strongly agree	8	88.9%	5
	disagree	1	11.1%	
	Total	9	100.0%	
The managers are involved when clarifying scope, purpose, intended use, and budget for implementation	Agree or strongly agree	8	88.9%	5
	neutral	1	11.1%	
	Total	9	100.0%	
The managers are involved in knowledge dissemination of lessons learnt in the infertility treatment project	Agree or strongly agree	8	88.9%	5
	disagree	1	11.1%	
	Total	9	100.0%	
Management always demands for achievement reports and challenges faced	Agree or Strongly agree	8	88.9%	5
	disagree	1	11.1%	
	Total	9	100.0%	
Decisions and corrective measures are made using the reports submitted	Agree or strongly agree	8	88.9%	5
	neutral	1	11.1%	
	Total	9	100.0%	
Management supports in identifying policy, legal and administrative issues that hinder the implementation	Agree or strongly agree	9	100.0%	9
	Total	9	100.0%	

4.5. Project risk identification status of infertility treatment project

Project risk identification status items were managed for internal correlation (Cronbach's alpha (α) of 0.63) and instrument reliability determined (α=0.67). This study found that project risk identification status was reported by an equal proportion of 7.78% of participants who agreed or strongly agreed that the identified risks occur during the implementation phase of the infertility treatment service. Six (66.7%) of respondents rated it as agreed or strongly agreed that new and unanticipated challenges occur during the implementation phase, followed by five (5.56%) who agreed that possible risks were identified at the early phase that could challenge the implementation of infertility treatment. See details in Table 5.

Table 5: Project risk identification status of infertility treatment project at St. Paul's Hospital Millennium Medical College Addis Ababa 2023.

Section E: Managing Risk				
	Category	Frequency (N)	Percentage (%)	mean
Possible Risks were identified at the early phase that can challenge the implementation of infertility treatment	Agree	5	55.6%	3
	Disagree	2	22.2%	
	Neutral	2	22.2%	
	Total	9	100.0%	
The identified risks occur during the implementation phase infertility treatment service	Agree	7	77.8%	5
	Neutral	2	22.2%	
	Total	9	100.0%	
New and unanticipated challenges occur during the actual implementation phase of the infertility treatment project	Agree	6	66.7%	5
	Disagree	3	33.3%	
	Total	9	100.0%	
The identified risks happed during the implementation phase were managed easily	Agree or Strongly agree	4	44.4%	3
	Disagree	1	11.1%	
	Neutral	4	44.4%	
	Total	9	100.0%	
Lessons from the management of the risks are used in knowledge transfer	Agree or Strongly agree	7	77.8%	5
	Disagree	2	22.2%	
	Total	9	100.0%	

Chapter Five

5.0 Conclusion and Recommendation

5.1. Conclusion

This study explored the challenges related to implementing an infertility treatment project at St. Paul's Hospital Millennium Medical College in Ethiopia. The major challenges identified in the early implementation of the infertility treatment project were a lack of trained personnel, medical equipment, laboratory supplies, rules and regulations, and community misperceptions of the treatment.

St. Paul's Hospital's infertility treatment project was able to provide services for 50% of registered patients due to infrastructure problems such as hormonal testing and drugs were still a problem due to budget scarcity and location. However, the hospital has no cultural or organizational structure issues with infertility treatment project from hospital perspective.

The infertility treatment project were faced resource-related challenges such as a shortage of budget, essential pharmaceutical drugs were not included in national drug lists, inconsistent lab supplies, and unpredictable risks like a shortage of foreign currency.

Human resources for the infertility treatment project were trained abroad to fill skill and knowledge gaps, and specialization training was opened side by side in the same project.

Top management has been involved in the implementation of an infertility treatment project, including developing a legal framework, rules, resource allocation, budget, risk management strategy, and signed Memorandums of Understanding with collaborative partners to secure budgets for the center building and facilitated collaboration with partners working in the area.

Potentials project risks were identified in early infertility treatment project implementation and the actual faced challenges were such as delayed endorsement of rules and regulations, shortage of trained human resources, and lack of drugs and supplies respectively.

The community fully accepted an infertility treatment project, resulting in more than 25% of treated infertile couples giving birth. It is a fair price compared to private fertility treatment center's, and people are willing to pay for it.

Most of the study participants agreed or strongly agreed that a shortage of consumables and supplies interrupted the service implementation schedule in the study area.

St. Paul's infertility treatment project is facing threats because essential drugs and hormonal tests are not included in the Ethiopian Pharmaceutical Supply Service drug (EPSA) lists and are not guaranteed by EPSA.

This study examined the implementation of an infertility treatment project using a Likert scale. It revealed challenges related to the project team, resources, top management involvement, and risk identification status ranged from 55.56% to 88.9% in the study area.

5.2. Recommendation

Policymakers should strengthen active involvement in project implementation by conducting a baseline assessment and monitoring on-time requests, and purchasing basic supplies for project implementation.

Policymakers should allow private partners for supply-related services to reduce project implementation challenges faced by a shortage of drugs and essential hormonal tests for infertility treatment and improve project implementation. This will help reach out to high client demands in Ethiopia.

St. Paul's Hospital Millennium Medical College should give great attention to infertility treatment projects to improve challenges, and document best practices as lesson-learning from those challenges before transforming and scaling up to program as a benchmark for future projects.

St. Paul's Hospital Millennium Medical College should request guideline revision to include drugs and essential hormonal tests required for infertility treatment in national drug list registers or Ethiopian Pharmaceutical Supply Service drug (EPSA) lists.

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Annex: I

Consent form

Introduction

Thank you so much for agreeing to participate in this study. My name is **Dereje Bayissa** _ and student at School of Commerce Department Of Project Management Post Graduate Program**.** This interview will take about 40 min to 1 hour. This interview guide is prepared for interviewing focal persons from St. Paul's Hospital Millennium Medical College regarding infertility treatment Service challenges in Ethiopia. Participation in this study is voluntary, and you do not have to participate if you do not want to. You may also stop participating at any time during the group. There are no correct answers to these questions, but please try to answer as truthfully as you can. We will respect the opinions and keep your thoughts confidential.

We will be taking notes during the session as well as audio recording it. But the information you provide will be strictly confidential and your personal identity will not be included in all reports (replaced with codes or identification numbers). The results of this assessment will be shared with you in the form of a summary report through Publication on reputable Journal. We ask that you kindly put your mobile phones on silent.

Do you have any questions?

Shall we continue the interview?

[MAKE NOTES ON AGE, OCCUPATION, MARITAL STATUS/RELATIONSHIP, position and role?]

[Turn the audio recorder on here and inform the interviewee]

I want to assure you that your responses are held in strict confidentiality.

Section 1: General information

Interview type:	
Level of the interview:	
Location of Interview:	
Date of Interview:	
Name of Interviewer:	
Starting time:	
Ending time:	

General observations/comments e.g., interview cut short, noisy environment etc.	

Appendices: Research Instrument

Appendix A: In-depth Interview Guide

Section I. Participants Background Information

1	Respondents position	1. Top Manager 2. Middle Manager Project team 3. Other Specify---------- 4.
2	Sex:	1. Male 2. Female
3	Age in Years _____	
4	Profession	1. Obstetrician and Gynecologist 2. Midwifery 3. Physician 4. Nurse 5. Lab-tech 6. Pharmacist 7. Other Specify----------
5	Highest education achieved	1. Diploma 2. Degree Masters 3. MD+specia list/subspec ialis 4. PhD and above
6	Number of years of experience in infertility treatment project	----------year ---------- months

1. What are the major problems related with the implementation of projects in the infertility treatment Center project? Probe: to launch the service? To conduct the first infertility treatment service? Etc
2. What are the specific challenges with the implementation projects from the perspective of the hospital? Probe: culture, organizational structure
3. What challenges were resource related challenges you have faced in implementing the infertility treatment project in the first 3 years? Probe: budget, pharmaceuticals , lab supplies etc
4. How was the human resource fulfilled for the infertility treatment service?

   Probe: What were the challenges in relation to human resource; specifically in selection, acquiring, training and developing the team? How the skill is acquired and will be maintained?

5. How was the top management involved in the implementation? Probe: participate in developing SOP, policy frameworks, allocating the necessary budget etc. ?
6. Were the possible risks identified early that could affect the implementation? What are the actual risks faced during the implementation? How did it affect the implementation?

   Probe: People, place, policy, procedure and practice related risks?

7. As a service provider, manager in the project do you think that your communities benefited from the project of infertility treatment?
8. What were some of the problems encountered by the people who receive the infertility treatment service? (only to be responded by clinical staffs and medical related personnel's)
9. How do you see the involvement of partners in supporting the implementation of the project? Who were the stakeholders involved in the implementation of the project? Probe: was a specific expectation set for each partner?
10. Were the people receiving the service fully accepted the implementation of

those projects compared with other possible options?

11. Finally what do you think are the issues left being not raised? And if any comment or suggestions you are welcomed.

---

1. What do you think were the major implementation challenges of infertility treatment service a St. Paul's?
2. What do you think are the threats of implementation of infertility treatment service a St. Paul's in providing sustainable future service ?

What do you think should have been done differently to improve the infertility treatment Center service implementation at St. Paul's?

THANK YOU FOR YOUR PARTICIPATION!

Section Two: Survey questionnaire

Please circle your appropriate opinion for each question using the following scales: 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly agree.

No.		Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Section B: Project Team						
1	Staffs assigned in infertility treatment are selected appropriately	**1**	**2**	**3**	**4**	**5**
2	Staffs assigned in the infertility treatment service are with the appropriate skill	**1**	**2**	**3**	**4**	**5**

3	Staffs assigned in infertility treatment are provided with necessary on job trainings	**1**	**2**	**3**	**4**	**5**
4	Staffs assigned in the infertility treatment unit are adequate in number	**1**	**2**	**3**	**4**	**5**
5	Staffs assigned in the infertility treatment Centre are appropriately motivated to work as a team	**1**	**2**	**3**	**4**	**5**
Section C: Project Resource						
1	A baseline assessment has been conducted to implement the infertility treatment service	**1**	**2**	**3**	**4**	**5**
2	Appropriate budget is allocated to the infertility treatment service establishment	**1**	**2**	**3**	**4**	**5**
3	On time request of purchase request is prepared for the infertility treatment service	**1**	**2**	**3**	**4**	**5**
4	On time delivery of purchase request is made for the infertility treatment service	**1**	**2**	**3**	**4**	**5**
5	There is appropriate pharmaceutical supply throughout the implementation of the infertility treatment service	**1**	**2**	**3**	**4**	**5**
6	There is appropriate laboratory equipment & reagent supply throughout the implementation of the infertility treatment	**1**	**2**	**3**	**4**	**5**
7	Shortage of consumables and supplies interrupted the schedule of the service implementation	**1**	**2**	**3**	**4**	**5**

Section D: Top Management						
1	The managers are involved in the design, implementation and follow up of the project- infertility treatment service	**1**	**2**	**3**	**4**	**5**
2	The managers are involved when clarifying scope, purpose, intended use, and budget for implementation	**1**	**2**	**3**	**4**	**5**
3	The managers are involved in knowledge dissemination of lessons learnt in the infertility treatment Centre	**1**	**2**	**3**	**4**	**5**
4	Management always demands for achievement reports and challenges faced	**1**	**2**	**3**	**4**	**5**
5	Decisions and corrective measures are made using the reports submitted	**1**	**2**	**3**	**4**	**5**
6	Management supports in identifying policy, legal and administrative issues that hinder the implementation					
Section E: Managing Risk						
1	Possible Risks were identified at the early phase that can challenge the	**1**	**2**	**3**	**4**	**5**
	implementation of infertility treatment					
2	The identified risks occur during the implementation phase infertility treatment service	**1**	**2**	**3**	**4**	**5**
3	New and unanticipated challenges occur during the actual	**1**	**2**	**3**	**4**	**5**

	implementation phase of the infertility treatment project					
4	The identified risks happed during the implementation phase were managed easily	**1**	**2**	**3**	**4**	**5**
5	Lessons from the management of the risks are used in knowledge transfer	**1**	**2**	**3**	**4**	**5**

Thank you for your participation

Ref. No. PM23/802
Date: 11/5/2023

Institutional Review Board (IRB) of St. Paul's Hospital Millennium Medical College (SPHHMC)

Ethical Clearance

Research Title: Project implementation challenges of infertility treatment service in Ethiopia, in the case of St. Paul`s Hospital millennium medical college2023

Principal Investigator: Dereje Bayissa

The IRB of SPHMMC has reviewed the above mentioned research proposal and made the following decision:

- Approved: _____X_____
- Approved with recommendation:- _____
- Approved on condition :-_____
- Disapproved:- _____

The decision is valid for 12 months and the research should be conducted in compliance with the protocol/proposal approved by the IRB of SPHMMC. Any subsequent revision/amendment of the protocol/proposal needs approval before conduct of the research. The researcher should also submit written summaries of the research status to the IRB every 03 months. Upon the conclusion of the study, manuscripts and thesis work to the final/completed research project needs to be submitted to the IRB.

IRB Chair:

Signature: _____

Mahteme Bekele (MD)
Professor of Surgery
Research Directorate Director

Date: May 10, 2023

Cc:

- Vice Provost for Academic and Research
- IRB
- Dereje Bayissa
  SPHMMC

Federal Ministry of Health
St. Paul's Millennium Medical College