

IMPROVING ADHERENCE TO METHADONE TREATMENT AMONG YOUNG ADULTS AGED 20-35 YEARS RECEIVING CARE AT BUTABIKA MEDICALLY ASSISTED TREATMENT CLINIC.

Tumusiime Samuel^{1,2}, Jane Frank Nalubega², Edith Akankwasa², Elizabeth Okello², David Kavuma².

University of Manchester, UK.¹

Mildmay Institute of Health Sciences²

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Abstract

Background

Adherence to Methadone Maintenance Treatment (MMT) is a critical determinant in managing opioid use disorders. Despite MMT's proven efficacy, suboptimal adherence rates, particularly in Uganda, impeded its effectiveness. At Butabika Medically Assisted Treatment (MAT) Clinic, only 45% of patients adhered to methadone, highlighting the need for targeted interventions.

Methodology

A quality improvement project was conducted among 378 patients aged 20–35 at Butabika MAT Clinic. Interventions included group and individual psychosocial therapy, patient-led group sessions, psychoeducation, contingency management (token rewards), and mobile methadone dispensing. The Logical Framework Approach, Root Cause Analysis, PESTELI, SWOT, and 7S models guided the project. Monitoring and evaluation were conducted monthly and quarterly, respectively.

Results

The introduction of peer-led group therapy improved engagement and reduced monotony. Contingency management, such as reward tokens and meal provision, incentivized daily attendance. Mobile van dispensing reduced missed doses by addressing logistical barriers. Humanistic, psychodynamic, and behavioral counseling approaches facilitated psychological recovery and treatment adherence. Leadership strategies, including transformational and task-oriented styles, positively influenced service delivery and patient engagement.

Conclusions

Psychosocial interventions, logistical support through mobile units, and contingency-based motivational strategies significantly enhanced adherence to methadone treatment among young adults. Change management frameworks such as Lewin's and Kotter's models facilitated the implementation and sustainability of new practices.

Recommendations

MAT programs should integrate individualized psychosocial treatment plans, scale contingency management, and expand mobile dispensing services. Staff training and leadership development are crucial to sustaining adherence improvements.

Keywords: *Methadone Adherence, Psychosocial Support, Mobile Dispensing, Contingency Management, Butabika MAT Clinic, Opioid Use Disorder, Change Management.*

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Corresponding Author: *Tumusiime Samuel*

University of Manchester, UK.

Mildmay Institute of Health Sciences.

Background.

Adherence was defined as the extent to which the patient's behavior matches agreed recommendations from the prescriber (Horne et al., 2005). Similarly, Sabate (2001) said it's the extent to which the patient follows medical instructions. However, adherence also encompasses numerous health-related behaviors that extend beyond

taking prescribed pharmaceuticals (WHO, 2001; Thomas et al., 2014).

According Brown & Bussell, (2011) adherence to medication was a crucial part of patient care and indispensable for reaching clinical goals. In addition to the above, in a report by WHO on medication adherence, stated that increasing the effectiveness of adherence interventions had a far greater impact on the health of the

population than any improvement in specific medical treatment (Sabaté, and Sabaté, 2003).

In line with Sabate, adherence was the result of a complex interaction of the social environment, patient, and healthcare professionals (Leiva et al., 2014). Still, Sanders et al. (2013) add that all the proven positive effects of MMT occur when the patient has long-term adherence to treatment. Likewise, Amato, Davoli, Perucci, Ferri, Faggiano, et al. (2005) and Shen et al. (2016) revealed that using appropriate doses of methadone (MMT) was the most effective predictor for retaining and adhering to substitutive treatment.

Besides, Substitutive treatment like MMT was recognized as the treatment of preference for Opioid dependence (Roux et al., 2014; Gowing et al., 2011). In the same line with the above, WHO (2009) stated that MMT had been used to treat Opioid dependence since the 1950s in form of a liquid. Furthermore, Navidian et al. (2016) said that MMT was a well-known approach for the treatment of Opioid dependence. Also, in a study by Bart (2012), MMT provided the best opportunity for clients to achieve recovery from opiate addiction.

In the same vein, the efficacy of MMT was well established when taken at the recommended dosage, and long-term maintenance treatment had been associated with such outcomes as reduced use of Opioid and reduced criminal activity (Reist 2010; Ward et al. 1994; Gossop 2006; Gossop et al. 2001; SACDM Methadone Project Group 2007).

In addition to the above, MMT has been a proven strategy that reduces drug-related troubles (with family, work, and society), high-risk behaviors, and transmission of blood infections and improves the addict's quality of life and survival (Noori, Ahmadipour, 2014; Keshtkaran et al., 2014) if there was good adherence to methadone (Tran et al., 2018).

Similarly, to achieve good adherence to MMT, there were predictors such as methadone dose sufficiency (Roux et al., 2014). Also, multimodal intervention and management programs showed improved medication adherence among the MMT patient population (Zhou, Li, Wei, Li, and Zhuang, 2017). In line with the above, Liu et al. (2018) found that the educational and behavioral counseling (EBC) mode in an MMT program was associated with improved adherence to treatment, hence facilitating the client's recovery.

Additional interventions, such as take-home doses, also facilitated improved MMT adherence (Parpouchi et al., 2018). Moreover, with good promotion and awareness about MMT programs, adherence rates significantly improved (Sharma, Chamroonswasdi, and Srisorrachatr, 2016). The Other factors for improved adherence to methadone included older age at the onset of addiction, longer duration of substance abuse, and no history of previous MMT (Nabavi and Ahmadipour, 2018).

However, there were also predictors for non-adherence to methadone, like severe depression (Roux et al., 2008). Likewise, poor emotional functioning or low levels of education can lead to poor adherence (Kelly, 2001). Also, Protopopescu et al. (2009) and Gu et al. (2014) say psychosocial conditions and treatment-related characteristics cause poor adherence.

Correspondingly, poor adherence to MMT increases the risk of overdose through changes to the central nervous system (Parpouchi et al., 2017). Parpouchi further stated that poor adherence to MMT resulted in increased illicit substance use, overdose deaths, and increased infectious disease transmission. Also, poor adherence to methadone treatment resulted in relapse and treatment failure (Nguyen, Nguyen, Nguyen, et al., 2020).

On the other hand, adherence to methadone treatment was frequently noted in global reports, in the United States, studies had found 83% of patients were adherent to the therapy, and in Canada, this number had been reported to be 86% (Lucas, et al., 2007 and Raffa et al., 2007). However, in the United Kingdom, France, and Australia, adherence rates were at 58.0%, 34.8%, and 67%, respectively (Clarence, 2012; Haskew et al., 2008; Zhou et al., 2017).

However, in Asia, studies in China showed that only 11.8% adhere to methadone treatment. Additionally, in Wuhan, China, 26% of patients were adherent to methadone treatment (Marienfeld et al., 2015). However, in East Africa, Nairobi in particular, studies found that 45.8% of clients were adherent to methadone (Wanyoike, Mokaya, Karaguti, 2021). In Uganda, Butabika MAT clinic, adherence to methadone was found at a suboptimal rate of 45 %, according to the MoH standard, among MMT patients was 45 % (MoH, SOP, 2020).

Therefore, several strategies were being implemented at Butabika MAT Clinic to improve adherence to methadone treatment (Chaisson, et al., 2001) for example Cognitive, behavioral, and psycho-educational strategies for improving client adherence through engagement and counseling services (Simpson, et al., 1997; Joe, Brown, & Simpson, 1995). Similarly, group art therapy, when combined with counseling, was an effective therapeutic modality when working with a nonverbal and resistant population such as drug abusers (Virshup, 1985).

Group therapy sessions are led by one or more psychologists with specialized training, who teach group members proven strategies for managing specific problems (Brown, Jackson, & Bass, 1973; Scherbaum et al., 2005). However, other strategies were currently not being implemented, like Contingency management, which showed an increase in adherence (Timko et al., 2016). According to Sindelar, Olmstead, and Peirce (2007), Contingency management has been successfully employed in methadone treatment to improve adherence.

In the same vein, a study demonstrated that psycho-social services delivered by social workers can improve adherence, reduce MMT clients' attrition, and improve their well-being in real-world settings (Fan, et al., 2019; McLellan, Arndt, Metzger, and Woody, 1953. & O'Brien, 1993). Furthermore, WHO (2009) stated that psycho-social services were recommended for the improvement of MMT adherence/ retention and treatment outcomes.

In addition, Le, Le, Dang, et al. (2019), psychological counseling adequately done for MMT patients showed improved adherence. Also, dispensing methadone through mobile vans can help in improving methadone adherence for patients with Opioid dependence compared with stationary clinic-based dispensing of methadone (Rao et al., 2021; Breve et al., 2022).

Methodology

Project approaches

The clinic currently enrolls 378 clients (316 PWIDs and 62 PWUDs). Furthermore, for the past 1 year, the psychosocial department on weekends conducted group sessions starting from 9 am to 1 pm. A series of sessions were conducted depending on the time of arrival of the patients to 10-15 sessions were held on a given Saturday and Sunday on topics such as: Anger management, Anxiety, Self-care, rebuilding social connections, Depression, Short- and long-term goals, Triggers, Positive thinking skills.

Nonetheless, the patient-led group sessions under the MAT program were a new strategy that was being initiated at the MAT Clinic; the client was given a chance to share educational, motivational, and inspirational ideas with their fellows under the recovery program. This strategy was thought of after a year of conducting group sessions led by the counselors, a thing that had become monotonous and boring, so to revive the group sessions, this strategy is one of the ways to achieve it.

Furthermore, the benefits of peer-led support group therapy included a decrease in drug and alcohol usage, improved methadone adherence, sticking with a treatment plan, making new friends, breeding a sense of accountability to those who care about you, and a sense of belonging, (Walden, 2006) satisfaction with the treatment, reduction in relapse rates, improved relationships with treatment and social supporters and improved adherence to treatment (Tracy, & Wallace, 2016; Eddie, et al., 2019). On the other hand, Schainker, Voss, and Yaughner, (2021) cited an integrated care approach for managing an emerging OUD would entail a close partnership between the primary care provider (PCP) and the behavioral healthcare provider (BHP), with the PCP monitoring health and physical indicators of OUD and the BHP conducting diagnostic interviews and providing prevention services that match the patient's identified level of need.

Furthermore, Zavod et al. (2019), Psycho-educational strategies led by nurses can promote treatment adherence during withdrawal management and induction, for example, psycho education on addiction, overcoming ambivalence, treatment adherence, managing psychological and physiological aspects of Opioid withdrawal, risks of Opioid use, and sources of support during recovery.

Conversely, Butner et al. (2018) training was a promising intervention, where drug counselors on psychosocial interventions were enhanced. Training in drugs helped in Drug policy changes, and improvements to educational programs for drug services would be important to ensure adherence (Mayet et al., 2011; Gedeon et al., 2019). Through training, there were opportunities to improve adherence.

According to Sokol et al. (2020), the Group-Based Opioid Treatment (GBOT) approach models in outpatient settings were feasible for adherence improvement. Sokol et al. (2019) further identified individual implementation components needed for improved adherence.

Also, Sokol et al. (2018) group-specific communication behaviors supported patients in recovery, including offering direct emotional support to others struggling with difficult experiences. In groups, instruction to clients was clear, and clients were in small groups ranging from 2-6 clients because it's easy to follow the whole group. There were many benefits of small-group instruction. It was effective because the teaching was focused on the needs of the clients, to solve the growing challenges of adherence to methadone treatment among injecting drug users.

Adherence to methadone treatment among injecting drug users was improved through counseling using different approaches like the Psychodynamic Approach to Counseling, the Humanistic Approach to Counseling, and the Behavioral Approach to Counseling. These different approaches were applied depending on the client's individual needs and challenges.

In line with the above, Psychodynamic counseling evolved from the work of Sigmund Freud (1856-1939). This led him to believe that the origin of such illnesses lay in the unconscious mind of the patient. Freud, therefore, started to investigate the unconscious mind so that he could understand his patients and help them recover. Psychodynamic counseling was based on Freud's idea that true knowledge of people and their problems was possible through an understanding of three particular areas of the human mind (Khantzian, 1986; Henry et al., 1994).

In Butabika MAT clinic psychodynamic Counseling assists with understanding the long-standing conflicts from the past which helped the client become more self-aware and bring what was unconscious into consciousness. It focuses on the fact that many of the

personal troubles in life were the result of mental processes that were hidden from us.

Furthermore, psychodynamic Counseling clients gained insight and understanding into the aspects of the self that were previously unknown and were able to see how these were affecting the present, finding ways of doing things differently as a result. In Psychodynamic Counseling, the counselor and psychologist will help a client to make sense of these conflicts, and their link to the present, by offering suggestions or 'interpretations' on what was going on, especially with poor adherence to methadone treatment.

On the other hand, Humanistic counseling recognizes the uniqueness of every individual. It assumed that everyone had an innate capacity to grow emotionally and psychologically towards the goals of self-actualization and personal fulfillment. Therefore, Humanistic counselors work with the belief that problems were not caused by life events themselves, but how we experience them.

The experience, in turn, affects how we feel about ourselves, influencing self-esteem and confidence. The humanistic approach to counseling, therefore, encouraged the client to learn to understand how negative responses to life events can lead to psychological discomfort. The approach aims at self-acceptance of both negative and positive aspects of our characters and personalities (Van Bilsen, 1986)

Humanistic counselors, therefore, aim to help clients explore their thoughts and feelings and work out their solutions to their problems of poor adherence to methadone treatment. The Counselors need to better understand the relationship between adherence and psychological health and how a change in Opioid replacement therapy regimes can influence client behavior.

Nonetheless, the behavioral approach to counseling focuses on the assumption that the environment determines an individual's behavior. For example, CM programs arrange the therapeutic environment such that; A target therapeutic behavior such as drug abstinence, counseling attendance and medication compliance were carefully monitored, and on the other hand, reinforcing or punishing events (like tangible rewards or incentives, suspension of employment or school, loss of privileges) occur when the target behavior was or was not achieved. In line with the above, Proctor (2022) CM by rewarding clients, often with money, for achieving their recovery goals. Similarly, Stanger, & Budney (2010), Contingency management (CM) was a behavior modification intervention that reinforced desired behavior through incentives, which in turn improved adherence. This could be by Smartphone and smart debit card technologies that can deliver automated, patient-centered, high-fidelity CM and related services. The platform was an effective

method for remote delivery of CM services that could overcome key logistical barriers to the widespread adoption of CM among treatment providers.

At Butabika MAT clinic there was several new clients on MAT almost daily but because of a given number of obstacles and challenges, patients fail to come in for their daily doses, they only maintain daily dose for a few months or even weeks and then fall off the programme and some come back in a sorrier state for re induction. This could be addressed through contingency management, which acts as a motivator.

For each positive behavior, such as a month (29-30 days) of not missing a dose or for a negative drug test, patients were rewarded by being them tokens. This token can be equivalent to a cash reward that can help them meet their transport cost at least for a few days. Alternatively, the token can be equated to a day out that can be arranged accordingly.

Next, offering clients who come in early porridge/tea for breakfast. Most of the patients failed to come for their routine dose because they were hungry, yet they had walked long distances. This will help us in such a way that a client will come for their dose because they know they can get a cup of porridge/tea at the end of the day so services such as group sessions, psycho-education, and clinical reviews can be given without patients being in a rush running away with an excuse that they were hungry. Furthermore, recognizing patients who were doing fairly well by giving them a star. This star can be equivalent to a MAT-branded T/shirts, caps, mugs, and umbrellas. As an alternative, write a thoughtful thank-you card. The joy someone feels when they receive a happy card is as tangible as the paper in their hand. Make sure to get specific about what you're thankful for and candid about what it means to you as a person.

Also offering a free service during a challenging time when people began to feel the impact of coronavirus and lockdown, providing identification cards, were provided to clients to help police identify clients who were allowed to move. This was so important in maintaining adherence to methadone treatment because the clients were allowed to move for treatment even on motorcycles, even when they were not allowed to carry passengers.

Again, linking up with any organization that offers skills training for our clients. Many clients had relapsed because they had nothing to keep them busy once they finished taking their treatment and didn't have any authentic means of income, some of our female clients continued to exchange sex for money, gifts, and drugs, and some were salves to people who can offer them free drugs, some steal in a bid to survive and end up being arrested and all this could be solved if they were skilled. Skilling the clients will help in getting them find something to do and eventually earn a living.

The other approach was Mobile Van dispensing for MAT was a model will involve moving MAT drugs from the static clinic at Butabika hospital to selected dispensing points in the community. Dispensing targeted ONLY eligible clients who will receive their daily refills from specific dispensing points. This process was supported by a team comprising of; dispensing officer, nurse, community worker (peer), security guard and a van driver. The main objective of mobile van dispensing was to extend MAT services closer to the beneficiaries, thus reducing on high transport cost and long distances to the static MAT clinic. Mobile van dispensing will also increase access to MAT services and enhance adherence to MAT. However, Preference for dispensing points will be in geographical areas/ divisions/sub-counties with the highest numbers of beneficiaries.

In particular, mobile programs can make treatment available to people who are marginalized, homeless, in rural communities, and other underserved communities that don't have insurance, who lack reliable transportation, who live in chaotic situations, or maybe domiciled (Breve, Batastini, LeQuang, et al., 2022)

Leadership

Methadone Maintenance Therapy Program was a service of maintenance given to IDUs who were in public health centers, such as the provision and delivery of Methadone (as a legal drugs) taken orally (taken by mouth), to replace the drugs (illegal drugs) consumed by injecting. The development of these services requires management to achieve the optimum quality of service from the health providers (Aditya et al., 2017).

The Impact on adherence to methadone differs according to the different leadership styles, while they may broaden or close the existing gap in health care. Addressing the leadership gap in health care in an evolving and challenging environment constitutes the current and future goals of all societies. However, Leadership was a predictor of quality outcomes in healthcare settings. Along the same line, Tang (2019) states that effective leadership is essential for successful change in an organization.

Leaders offer good role models consistent with values and vision for health care. They promote continuous development of the knowledge, skills, and abilities of clients to improve quality of life, safety, compassion, and the patient experience. Also, effective leadership has been positively associated with increased patient adherence to methadone, satisfaction, and lower rates of adverse health outcomes.

Many identified styles of leadership were applied in health systems, like transformational, autocratic, laissez-faire, task-oriented, and relationship-oriented leadership. Transformational leadership style was characterized by creating relationships and motivation among clients.

Transformational leaders typically can inspire confidence and respect and communicate loyalty through a shared vision, resulting in increased productivity, strengthened client morale, and treatment satisfaction (Frandsen, 2014; Burns, 2012). This type of leader was used by the psychosocial department to inspire, motivate, and provide intellectual stimulation to clients to achieve results of improved adherence to methadone.

On the contrary, the laissez-faire leadership style involves a leader who does not make decisions; clients act without direction or supervision, but there is a hands-off approach resulting in rare changes (Frandsen, 2014). Task-oriented leadership style involves planning of treatment activities, clarification of roles for the two sides or a group of people, setting objectives set as well as the continuing monitoring and performance of processes. Lastly, the relationship-oriented leadership style incorporates support, development, and recognition (Yukl, 1981)

PROJECT IMPLEMENTATION

Project design

The project was considered based on the Evidence-based assessment report which was conducted at Butabika MAT clinic way back in November 2021. The EBNA laid the foundation for building comprehensive differential diagnoses or a problem list and provided the strategies for identifying key stakeholders and target groups for the project. The root cause analysis (RCA) provided a breakdown of processes and systems that contributed to the event and how to prevent future events.

RCA was simply the application of a series of well-known common-sense techniques that can produce a systematic, quantified, and documented approach to the identification, understanding, and resolution of underlying causes. The investigation and reporting of the causes of the occurrences enable the identification of corrective actions adequate to prevent recurrence and thereby protect the health and safety of the public workers and the environment. Furthermore, Williams (2001) said a root-cause analysis should be performed as soon as possible after the variance occurs.

The Logical Framework Approach was a management tool for the effective planning and implementation of developmental projects. It provided clear, concise, and systematic information about a project through a framework. The Logical Framework Approach was a systematic and analytical planning process used for the results-based planning of a project (or program) and the associated monitoring and evaluation system (Doggett, 2005; Couillard, Garon, and Riznic, 2009).

Furthermore, Jackson (1997), the logical framework approach provided a set of design tools that, when used creatively, can be used for planning, designing, implementing, and evaluating projects. Log frames provide a structured, logical approach to setting priorities

and determining the intended results and activities of a project. Log frames can also provide the basis for evaluating the effectiveness, efficiency, and relevance of a project. Many of the institutions involve log frames in development activities.

The logical framework approach has spread enormously, including increasingly to stages of review and evaluation. Yet it had had little systematic evaluation itself (Gasper, 2000). The activities of the project were broken down into activities as shown in Appendix 2

Project development tools (PESTELI, 7S, SWOT)

Tools used to develop the project included PESTELI (political, economic, sociological, technological, legal, and environmental), 7S (sort, systematize, sweep, standardize, safety, self-discipline, and sustain), and SWOT (a compilation of your company's strengths, weaknesses, opportunities and threats) analysis. The purpose of these tools was to provide contextual information about the project direction, its current positioning, growth targets, and risks (such as another pandemic) to improve efficiency. It can help determine the validity of existing services and define new product development.

PESTEL analysis, as it stands, mainly provides a general idea about the macro-environmental conditions and situation of the organization. This model helped to address problems encountered in the measurement and evaluation process of PESTEL analysis. The integrated structure of PESTEL factors and sub-factors was modeled by AHP (Analytic Hierarchy Process) and ANP (Analytic Network Process) techniques. The PESTEL analysis model proposed and determined the extent to which the macro environment of the organization provided suitable conditions to achieve the aims of the project (Yüksel, 2012)

According to Li and Shi (2010), PESTEL was used to understand the basic situation of the community methadone maintenance treatment, to explore the risk factors related to the methadone maintenance treatment dropping out, and provided the basis for carrying out the work of methadone maintenance treatment. Meanwhile, Li and Shi further stated that for the maintenance of treatment, patient family members should also strengthen their relationship and communication, which was advantageous in preventing methadone treatment patients' dropping out.

The behavior of police was an important factor in drug users' access to preventive and therapeutic health services, like police arresting drug users in the ghetto discourages methadone adherence (Meng and Burris, 2013). The PESTEL analysis was applied in the Butabika MAT clinic setting in a way that the political part revised policies and guidelines that support adherence to

methadone treatment, and economic clients were empowered to earn a living by being them or being recommended for employment.

Furthermore, socially clients were linked back to their families and communities. Using phone call technologies followed up clients that had missed methadone dose hence improving their attendance and in turn good adherence. Lastly but not list clients were legally supported especially those arrested by police and in prisons which resulted in clients not missing methadone does hence good adherence.

On the other hand, SWOT Analysis is an analysis method used to evaluate the 'strengths', 'weaknesses', 'opportunities', and 'threats' involved in an organization, a plan, a project, a person, or a business activity (Namugenyi, Nimmagadda, and Reiners, 2019). The SWOT analysis was probably the most common and widely recognized tool for conducting a strategic audit. SWOT analysis has been praised for its simplicity and practicality, and as a framework that has been widely adopted and generally accepted uncritically. It was timely to reappraise its value as a strategic management tool.

According to Brad and Brad, (2015), SWOT analysis was the classical tool for framing the key elements of problem design/development in various fields of activity and at various levels of interest like leadership, strategy, and operational management among others. This framework brought innovation in the early phase of the planning process of the envisaged system, thus minimizing the risk of defining ineffective areas of intervention.

In the Butabika MAT clinic, the SWOT analysis was used to increase awareness of the factors that helped in the decisions on the internal and external capabilities of the organization toward the success of the project. The SWOT analysis was done successfully due to the application of other additional tools, which included the PESTELI and the 7S model.

7S was the new terminology consists of the seven phases namely Sort, set in order, Shine, Standardize, Sustain or Self Discipline, Safety and Spirit. The model explained the methodology, action steps, resources required and target outcomes for the implementation of 7S as a tool.

The 7S methodology as a systematic approach to increasing efficiency, quality, and safety performance in modern organizations through setting the stage for effective leaning and continuous improvement efforts, stressing a tidy, safe, and organisation working environment. The study's findings revealed the elimination of problems such as delays, underused space, and non-conformance to safety measures through a holistic application of 7S.

The 7S model was used to identify organisational strengths and weaknesses by considering links between each aspect of the 7S. The 7s also assumed that changes made in one aspect affect all other aspects. Therefore,

effectively planned changes require other changes with other in other aspects.

Action plan

An action plan is a list of tasks or steps you need to complete to achieve your goals. Action Plans were useful because they gave you a framework for thinking about how the project was completed efficiently. They help you finish activities in a sensible order, and they help you ensure that you don't miss any key steps. Therefore, before implementing activities, a developed action plan should be in place showing activities, the responsible persons for the action, a timeline, and the resources needed to implement the actions. The action plan for the Butabika MAT clinic project for improving adherence to methadone treatment is attached in detail in Appendix 1.

Monitoring and Evaluation Framework

Evaluation is a process that critically examines a program. It involves collecting and analyzing information about a program's activities, characteristics, and outcomes. Its purpose was to make judgments about a program, to improve its effectiveness, and/or to inform programming decisions (Patton, 1987).

Project evaluation was a central element of risk management for information technology and process redesign projects. These evaluations were intended to identify the main risks associated with the project so they may be avoided or the impacts mitigated.

Monitoring was the systematic and routine collection of information from projects for four main purposes, to improve practices and activities in the future, to had internal and external accountability of the resources used to the obtain results and to take informed decisions on the future of the initiative. Monitoring was checking progress against plans. The data acquired through monitoring was used for evaluation.

According to Kusek and Rist (2004), an effective monitoring and evaluation system was fundamental if the goals of a project were to be achieved. Furthermore, Project monitoring and evaluation (M&E) information systems (IS) were a requirement for projects and were believed to inform the reporting process. The logical framework approach (LFA) was widely used throughout the project industry for project design and appraisal, although much of the literature also promotes the use of the LFA for M&E (Crawford and Bryce, 2003). Through setting up proper monitoring and evaluation systems, planning, efficiency, and proper funds utilization can be achieved, thus enhancing the performance of projects (Njama, 2015)

Therefore, the adherence improvement project at Butabika Hospital employed a periodic M&E approach where monitoring was done every month, whereas the evaluation was done every quarter to find a basis for

improvement to the required standard stipulated in the MAT SOP-2020. The M&E plan included activities, indicators of improvement, baseline data, targets, and means of verification. This was done in line with the current schedule of data collection and reporting systems, hence minimizing the cost of conducting it independently (this was shown clearly in Appendix 1 in the logical framework)

CHANGE MANAGEMENT PROCESS IN PROJECTS

Kotter's change management theory

Kotter's change management model appears to derive its popularity more from its direct and usable format than from any scientific consensus on the results (Appelbaum et al., 2012). Three of the most well-known were Kotter's strategic eight-step model for transforming organizations (Mento et al., 2002).

The main theories and approaches to organizational change management as an important first step towards constructing a new framework for managing change (By 2005).

Kotter's eight stage process for creating a major change was one of the most widely recognized models for change management. Although Kotter's process emphasizes a top-led model for change, the change team found it was necessary to engage at many levels of the organisation to implement the organizational change.

Managing the change required the change team to facilitate multiple concurrent instances of Kotter's process throughout the organisation, to re-create change that was locally relevant to participants in the change process (Pollack and Pollack, 2015). Correspondingly, Galli (2019) stated that it was much more effective to adopt Kotter's change model when the organizational change starts with the senior management.

At Butabika hospital MAT clinic adherence to methadone treatment was improved by creating urgency to improve adherence to methadone treatment which was at 51% by then by initiating honest dialogues and discussions among the key stakeholders to make them think over the poor adherence at the MAT clinic and examining the potential opportunities and threats that can affect the effective interventions.

Also working as, a team and forming coalitions with the community wing which was UHRN to communicate information among the community members about methadone treatment adherence and the concerns or issues about the MAT program. This was important in way that all the misconceptions about methadone treatment which would act as barriers for seeking the service were cleared hence improving adherence to methadone treatment.

Lewin's change management model.

Kurt Lewin was one of the prominent figures in the field of social psychology and had extensively researched the aspect of human change. The theory of change proposed by Lewin has been utilized extensively in previous empirical research for examining organizational changes, either locally or internationally (Santhidran et al., 2013; Norshidah, 2011; Soumyaja et al., Foster, 2010; Walker et al., 2007; Armenakis & Bedeian, 1999; Armenakis et al., 1993).

Besides, the local research related to education changes also refers to Lewin's model of change (Azni, 2015; Tai, 2012; Norshidah, 2011; Tan, 2010). Lewin explained in his theory that organizational changes were able to change the attitude and behavior of the organization. Furthermore, the Lewin Model of Change had three basic levels in the process of efficient change implementation, which were the unfreeze, moving, and refreeze was regarded by many as the classic or fundamental approach to managing change (Cummings, Bridgman, and Brown, 2016).

The levels of change by Lewin (1951) that were explained by Burke (2008) stated that the first stage of the change process, the unfreeze stage occurs. The unfreeze refers to the process of 'melting' the behavior, beliefs, or established status quo in certain organizations or particular individuals to decrease the obstructive factor towards the change process.

This first stage was the foundation for preparing oneself to accept the occurring change. In this stage, the willingness to move towards the change point was catalyzed by the motivational desire of wishing to change, due to the sense of necessity to make certain new changes or substitute the previous behavior. In this stage, clients were assessed for adherence to methadone, and it is at this stage that all factors causing poor adherence were identified in a client.

In the second stage, the change occurred whenever any affected organization moves towards the desired change, hence giving the impact on the role, value, attitude and the restructuring of the organization in achieving the aim. At this stage, the organization experiences the restructuring and needs to be equipped with the needed sources and technology in assuring the efficiency of the executed changes.

At this point at Butabika MAT clinic there was change in way group sessions were conducted for staff led to client led which improved the client's adherence. Also introduction of contingency management resulted in improved adherence to methadone treatment since clients were appreciated for the good behavior that was related to adherence.

The third stage is a refreeze that takes place after the new change is successfully absorbed and stable, resulting in a new culture and practices in an organization. However, to reach this stage, it usually requires plenty of time. Briefly,

based on Kurt Lewin's Model of Change, the changes taking place in the organization were from the static position to the continuous changing and moving again to the static point where the culture in the organization was reformed.

According to Šuc, Prokosch, and Ganslandt (2009), based on the project experiences, we consider Kurt Lewin's approach applicable to change management projects in the hospital sector without a requirement for substantial additional resources. The Lewin model of change helped guide, create, and maintain a foundation of office-wide culture and structural support to meet the twin goals of safe Opioid prescribing and treating patients with OUD (Sokol et al., 2020).

Furthermore, Lewin's change model indicates different stages of organizational change for drug users (Husain et al., 2018; Baker, Boggs, and Lewin, 2001). Also, Sarayreh, Khudair, and Barakat (2013) highlighted that Change management was a process of planning, controlling, coordinating, executing, and monitoring changes that affect an IT service delivery environment.

Similarly, the use of the Lewin's Theory of Planned Change as a strategic resource to mobilize the people side of change (Shirley, 2013). However, the pace, complexity, and scope of change in the environment demands an organization change approach that was pervasive, complex, agile, and integrated (Worley and Mohrman, 2014).

Also, the Kurt Lewin change model was good and is still used all these years later because it's based upon sound behavioral psychology that was designed to understand why people resist change and put the forces in place to drive people to change acceptance and support. A change model helped to identify potential areas of resistance and implement strategies designed to reduce or eliminate resistance before the change process started.

In addition to the above, an aligned benefit was that a model of change helped to create an effective communication strategy. Lewin's change management model was a three-stage model which can be easily adopted by any organisation entity when compared with the Kotter's theory which had eight stages of change that require a lot of time to effect change.

The three stages were unfreezing, changing, and refreezing. The model allowed organizations to adapt quickly in challenging and rapidly evolving environments. Therefore, the Lewin model was the best compared to Kotter's when improving adherence to methadone treatment because of the above-mentioned advantages.

Management of Resistance to Change

Resistance to change was an unwillingness to adapt to new circumstances or ways of doing things. This can happen with individuals, relationships, or within

organizations. However, resistance to change can be overcome through effective engagement, implementing change in several stages, and effectively communicating changes among others.

The sources of resistance differ most, according to the scope of change, offering hints about where organizations should pay special attention when initiating a change process (del-Val and Fuentes, 2003). Investigating resistance to change could be done comprehensively, paying attention to differences in professional cultures in cross-functional (project) teams (Pieterse, Caniëls, and Homan, 2012).

According to Vales (2007), effectively engaging stakeholders played an active role in multiple change initiatives, including the rollout of a position and competency model, the reorganization of the technology organization, and several culture change initiatives. According to Ford, Ford, and D'Amelio (2008) ability to successfully involve clients in the changes that surround them is paramount as it makes them feel safe, valued, and wanted. Also, by doing so, uncertainty and resistance among clients may be reduced, and the probability of clients understanding why and what they will gain from changing behavior may be enhanced at the same time (Lines et al., 2015).

Engagement of clients while going through psychological states of denial, fear, and anger before eventually reaching a state of acceptance reduces resistance to change when faced with unwanted change (Sennels, 2011).

What's more, aspects of communication, such as information, feelings of belonging to a community, and feelings of uncertainty, influenced resistance to change, which will affect the effectiveness of the change effort (Elving, 2005; Matos Marques Simoes, and Esposito, 2014).

Another strategy for reducing resistance to change was to implement change in several stages. Introducing techniques and financial therapies helped navigate through the different stages of change (Klontz, Horwitz, and Klontz, 2015).

To help facilitate the change process, the client must believe he or she can change. A client's lack of confidence was one of the biggest obstacles they must overcome in order to change (Klontz et al., 2008). Your ability to help provided a sense of confidence within the client will be beneficial to the change process. In addition, Piderit (2000) affirms that minimizes the potentially debilitating effects of ambivalence reduces resistance to change.

Research in the field of Motivational Interviewing (MI), a psychological technique developed by Miller and Rollnick (2002), describes methods for facilitating change, including specific techniques for change-inspiring dialogue. Dialogue in a group will first assess it in terms of the interplay between its features and individual and/or organizational-level initial conditions

(Lapointe and Rivard, 2005). Resistance behaviors will follow if threats are perceived from the interaction between the object of resistance and the initial conditions. In the same line, attitudes and beliefs were cultivated, processed and then potentially changed through effective communication activities that were outlined and connections draw to practice. Furthermore, the power and persuasive influence of narrative communication were important in change and consumer behavior (Flynn, 2015).

Brăduțanu (2012) that reducing resistance to change by gaining client's support and change attachments was key so that clients would accept the new changes easier and not manifest too much resistance. As change leaders were usually the ones confronted with resistance from their subordinates, they must know exactly how to deal with it and when was the best moment to reduce it, depending on the type of change that was desired to be implemented.

Akan, Ülker, and Ünsar (2016) Resistance to change was a significant factor that had a direct effect on change efforts. If the clients were well-informed about the change process, and if their opinions were asked regarding the decisions to be taken in explanation of the change process, the clients would adopt the change process, and it would help break their resistance to change. However, resistance is not necessarily bad, and if used appropriately, it can represent an asset (Brăduțanu, 2015).

According to Eghbali et al. (2013), group interventions increase the effectiveness of methadone treatment by reducing relapse and remaining in treatment. Reducing disruption in MAT services, like the effects of regulatory changes to MMT programs on those receiving treatment, can result in resistance (McNeil et al., 2015). Similarly, Khan, Khan, and Kolb (2021) said alleviating barriers to medication access impacts adherence in care, had meaningful implications for Opioid use disorder patients since it was the source of resistance.

On the other hand, Bell (2000) mentions the negative community attitudes toward heroin addicts and methadone treatment as major obstacles to providing good treatment. The expression of client behaviors—in anxiety and defensiveness about treatment, in client ambivalence about the value of methadone, and extreme cases, in cynical and suboptimal treatment practices. These issues were not merely theoretical barriers to quality but had contributed to serious problems in the quality and effectiveness of treatment.

Equally, Lundy and Morin (2013) found that an engaging leadership style, developed through proper training, effectively reduced resistance to change. Other factors, such as the inclusion of affected people in the decisions, as well as a formal project management methodology, were instrumental in reducing resistance. Alike, Darmawan, and Azizah (2020) examine more closely

what factors can cause resistance to change and what strategies can overcome resistance to change.

CONCLUSION

There was sufficient evidence that psychosocial support intervention improves adherence among clients aged 20-35 years on Methadone treatment. Psychosocial support facilitated and strengthened resilience within individuals, families, and communities to recover from drug use and adapt to critical changes. Psychosocial support thus promotes the restoration of social cohesion and infrastructure.

As the healthcare system makes the transition from its traditional, one-size-fits-all approach toward a personalized medicine paradigm, it will be necessary to overcome challenges in several areas. Some strategies involving activities, programs, and policies, such as those related to education awareness and patient empowerment, can be implemented.

Also, dispensing methadone through mobile vans can help in providing methadone maintenance treatment to large numbers of patients with Opioid dependence compared with stationary clinic-based dispensing of methadone. This approach can also help in improving Opioid users' adherence to methadone treatment.

For MAT clients, the provision of individual therapy where trained professionals help clients to work through personal issues that affects methadone adherence. This was an effective treatment strategy for improving adherence to methadone through educating, empowering patients to understand the treatment regimen and its benefits and reducing barriers to obtaining medication.

RECOMMENDATIONS.

The clinical psychologist and social counselors should draw a psycho-social treatment plan by identifying their social needs and conducting individual, group, and family sessions.

The Butabika hospital with funding from IDI should implement the promotion desired behavior through contingency management. This will improve the adherence rate of clients on methadone treatment by promoting daily dose attendance.

The Butabika hospital, with funding from IDI, should implement the mobile van dispensing, which will reduce the number of missed doses of methadone, hence improving adherence rates to methadone treatment.

The MAT staff should provide individual treatment to clients where trained professionals help clients work through personal issues that affect methadone adherence. Handling clients individually will improve the adherence rates to methadone treatment.

List of Abbreviations

IDI	-Infectious Diseases Institute
PEPFAR	- The U.S. President's Emergency Plan for AIDs Relief
CDC	- Centers for Disease Control and Prevention
MAT	- Medically Assisted Treatment
MMT	-Methadone Maintenance Treatment
MoH	- Ministry of Health
SOP	- Standard operating procedure
HIV	- Human Immunodeficiency Virus
WHO	- World Health Organization
EBC	- Education Behavioral Counseling
CM	- Contingency Management
CBT	- Cognitive Behavioral Therapy
MI	- Motivational Interviewing
GDC	- Group Drug Counseling
CP	- Counseling Psychology
PPI	- Positive Psychological Intervention
SUD	- Substance Use Disorder
ART	- Antiretroviral Therapy
COVID-19	- Coronavirus Disease
OTP	- Opioid Treatment Program
PE	- Psycho-Education
MT	- Methadone Treatment
PWID	- People who inject with Drugs
ODU	- Opioid Use Disorder
TRH	- Treatment Recovery Home
OH	-Oxford House recovery home
US	-United States
SWB	- Subjective well-being
NJ-MATI	- New Jersey Medication-assisted treatment
OAT	- Opioid Agonist Treatment
PWUDS	- People Who Use Drugs
SAMHSA	- Substance Abuse and Mental Health Services Administration
PCP	- Primary Care Providers
BHP	-Behavioral Health providers
GBOT	-Group based Opioid Treatment
EBNA	-Evidence-Based Needs Assessment
RCA	- Root Cause Analysis
PESTELI	- Political, Economic, Social, Technological, Legal, and Environmental
7S	- sort, set, shine, standardize, sustain
SWOT	- Strengths, Weaknesses, Opportunities, and Threats
M&E	- Monitoring and Evaluation
LFA	-Logical framework approach
UHRN	-Uganda Harm Reduction Network
CEPA-	Communication, Education, and Public Awareness
OAT-	Opioid agonist treatment (OAT)
MMU-	Mobile Medication Units.

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Conflict of interest

The author declares no conflict of interest.

Data availability

Data is available upon request.

Informed consent

All the study participants consented to this study.

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