A NURSING INTERVENTION MODEL FOR THE CARE OF PSYCHOACTIVE SUBSTANCE DEPENDENT PATIENTS IN NAIROBI, KENYA

A RESEARCH THESIS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN NURSING [MENTAL HEALTH AND PSYCHIATRIC NURSING] OF THE UNIVERSITY OF NAIROBI

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To all psychoactive substance dependent persons determined to stop psychoactive substance dependence.
ACKNOWLEDGEMENT

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LIST OF ABBREVIATIONS AND ACRONYMS

ADSS  Alcohol and drug Services Study
APA   American Psychiatric Association
AIDs  Acquired Immunodeficiency Syndrome
CICA  Conventional Institutional Care Approach
CWA   Child Welfare Association
DSM-IV Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
HIV   Human Immunodeficiency Virus
KNH   Kenyatta National Hospital
MoH   Ministry of Health
NACADA National Agency for the Campaign Against Substance Abuse
NIDA  National Institute on Drug Abuse
PAS   Psycho-Active Substance
TC    Therapeutic Community
SRIM  Syombua Rehabilitation Intervention Model
UNDCP United Nations Substance Control Program
USA   United States of America
WHO   World Health Organization
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OPERATIONAL DEFINITION OF TERMS

Compulsive Psychoactive Substance Taking Behaviour: repetitive, intrusive and unwanted urge to abuse a psychoactive substance (Bradley, 1999).

Conceptual Framework is used in research to outline possible courses of action or to present a preferred and reliable approach to an idea or thought. It acts like a map that gives coherence to empirical inquiry (Botha, 1989).

Control: psychoactive substance depended patients who received nursing care guided by Conventional institutional care approach.

Culture: The place, class, or time, beliefs, customs, practices, and social behaviour as an identity of a particular group of people. It is a system of patterns of beliefs and behaviour that shape the worldview of the member of a society. As such, it serves as a guide for action, a cognitive map, and a grammar for behaviour (Heath, 2001).

Detoxification: a process of medical care and pharmacotherapy that seeks to help the psychoactive substance dependent patient to achieve abstinence and physiologically normal level of functioning with minimum emotional and physical discomfort (Margolin & Kosten 1991).

Experimental Group: psychoactive substance depended patients who received nursing care guided by innovative nursing intervention model guided care.

Framework is a basic conceptual structure used to solve or address complex issues (Botha, 1989).
Model: a framework that provides a broad frame of reference for systematic approaches to the phenomena with which the discipline is concerned (Botha, 1989).

Nursing Intervention Model: a framework that provides different views of nursing practices through the interrelationship of concepts in the structure (Botha, 1989).

Psychoactive Substance Abuse: use of psychoactive substance for wrong purpose or substance dependence incorrectly with significant adverse consequences related to psychoactive dependence (Bradley, 1999).

PAS Dependence: uncontrolled compulsive psychoactive substance taking, repeated administration and craving for more of the psychoactive substance leading to increased physiological tolerance to exposure (Bradley, 1999).

Relapse: failure to maintain behaviour change over time, the event of resumption of a pattern of PAS dependence. A relapse can be defined as a return to behaviour which has been previously stopped. For the alcoholic, a relapse means drinking alcohol again. For the cocaine addict, a relapse is the abuse of cocaine again (Bradley, 1999).

Stable families: a family that has no history of divorce, separation or single parenting.

Theory: a group of related concepts that propose actions that guide practice (Botha, 1989).

Tolerance: characteristics of psychoactive substance dependency that refers to the progressive need for more of the substance to achieve the desired effect.
Withdrawal Syndrome: occurrence of specific physical symptoms when a person who is physically dependent to a psychoactive substance discontinues its abuse (Gowing, Ali & White, 2000).

Young Adults: according to Erik Erikson's stages of human development, first enumerated in Childhood and Society (1950), a young adult is generally a person between the ages of 19 and 40 years (Briner & Erickson, 1999).
ABSTRACT

The difficulties experienced by nurses in providing care to clients with substance dependency within rehabilitation institutions have been clearly identified in the literature (Brenda, 2007). Nurses form a core component in healthcare system; hence their role in the management of patients suffering from psychoactive substance dependence related problems is critical (Murray & Andrews, 2002). For a long time, health care provision strategies have not clearly defined the care approach that nurses should use to complement the care provided by other healthcare team members in the management of psychoactive substance dependent patients.

This multi-design study comprised of two phases. The phase one of the study entailed a desktop review of patients’ records, telephone interview of participants and cross sectional study for the nurses, while phase two was an innovative-intervention study that utilized a two group randomized experimental study design.

The aim of the study was to innovate and implement a nursing intervention model for the care of institutionalized psychoactive substance dependent patients. The objectives of the study included; to describe the characteristics of psychoactive substance dependent patients, to establish the effectiveness of the Conventional Institutional Care Approach (CICA) provided to these patients in the study sites, and finally to innovate, implement and evaluate a nursing intervention model for the care of institutionalized psychoactive substance dependent patients.

The study was conducted in the city of Nairobi at four study sites that provide institutionalized care for psychoactive substance dependent patients. These sites were
Asumbi Treatment Centre, Brightside Treatment Centre, The Retreat Centre and Mathari Hospital Substance Rehabilitation Units. The study population comprised of psychoactive substance dependent patients admitted in these institutions for care and rehabilitation. During the phase one of this study, records of 143 patients who had been discharged earlier than 8 weeks and not later than five months prior to commencement of the study were reviewed and telephone interviewing of participants was done. Data were also collected from all the nurses in direct care of psychoactive substance dependent patients. During the phase two of the study, simple random sampling was utilized to obtain the experimental and control group samples. The experimental group (n=119) was managed using the innovated nursing intervention model named Syombua Rehabilitative Intervention Model (SRIM), while the control (n=119) group was managed using the CICA.

In each phase, the collected data were cleaned, sorted and coded for easy of entry. Data were entered using Epi-info software 2009 Version 3.5.1, and analyzed using both descriptive and inferential statistics including standard deviation, mean, mode, Chi-square, t-test. Multiple regression analysis was utilized to show relationships between variables.

Results indicated that, majority of the psychoactive substance dependent patients were males (phase one males were 80.4% (n=115), while in phase two they were 82.7% (n=197)). Almost 78% (n=132) of the psychoactive substance dependent patients were aged between 21 and 40 years. Age at starting abuse of PAS ranged between 13 to 35 years. A total of 88% (n=125) started PAS dependence between the age of 16 and 25 years with a mean of 20.9 years. The PAS dependence relapse rate within 8 weeks of discharge was 69% (n=99) for phase one group, 64% (n=76) for phase two control group and 34% (n=40) for
phase two experimental group. The level of satisfaction among nurses who administered the SRIM was 78.9% compared to 45% satisfaction with the CICA.

This study concluded that; PAS dependence relapse is high among patients managed using the CICA. Patients managed using the SRIM approach had significantly lower relapse rate (RR = 0.53, chi-square = 27.70, P < 0.00001). Nursing staff expressed higher satisfaction with the SRIM than with the CICA.

Based on the findings of this study, the investigator makes the following recommendations;

- There is an urgent need for revision and restructuring of the CICA in the management of psychoactive substance dependent patients.
- The institutions providing psychoactive substance management services may consider incorporating the SRIM approach in the management of psychoactive substance dependent patients.
- The SRIM approach be implemented in the management of PAS dependent patients in other institutions across the country to establish its usefulness in management of these patients.
CHAPTER ONE: INTRODUCTION

1.1 Introduction and Background Information

Literature defines psychoactive substance (PAS) dependence as a cluster of cognitive, behavioral, and physiological symptoms where a person continues to abuse PAS despite significant substance-related problems. The patient engages in a pattern of repeated self-administration of PAS that usually results in tolerance, withdrawal syndrome and/or compulsive PAS taking behavior (American Psychiatric Association, 2000).

A United Nations report on substance abuse estimates that; at least 25 million people (0.6%) aged between 15-64 years are dependent on PAS and that about 200 million people are dependent on some types of substances of dependence (World Substance Report, 2007). Psychoactive substances are more widely abused among males (7.2%) than females (3.9%) and among young people than older people (Greenfacts, 2006). In Kenya, it is estimated that one in every fifteen Kenyan high school and college students is taking PAS (Child-Welfare Association, 2004). A research conducted in one of the private international Kenyan universities, shows that 5.7% of male students are more likely to abuse PAS as compared to 2.2% of female students. It was also a concern of the investigator that the dependence on PAS is increasing at an alarming rate (Odek-ogunde & Pande-leak, 1999).

Dependence on PAS poses a significant threat to health, economic and social sectors of the community. In 2005, the World Health Organization (WHO) raised a concern that health problems associated with PAS dependence had reached alarming levels because PAS dependence contributes to a wide range of health problems and high-risk behaviors. These health problems include mental disorders, road traffic injuries, sexually transmitted diseases,
and other blood-borne infections like hepatitis B and C (WHO, 2005). Buddy (2008) reported that most of PAS dependent persons end up into mental hospital, either because of PAS-induced depression or psychosis.

Nurses have a 24 hour care of patients, and have a unique opportunity presented through their physical interactions with young people, families and significant others (Cohen & Struening, 1992). Previous studies indicated that nurses have inadequate knowledge (Mutunga, et al., 2006) and have deficient scientific approach in caring for PAS dependent patients (Mutunga & Karani, 2007). These findings indicate the need for specific strategic measures encompassing development of innovative nursing interventions, and taking a leading role in management of PAS dependent patients, while considering their cultural beliefs on the abuse of addictive substances (Murray & Andrews, 2002).

Different approaches have been used in the care of PAS dependent patients as shown by literature. One of the approaches is the therapeutic community (TC) PAS dependence treatment model described by Woodhams (2001). This is a therapeutic approach in which staff members interact with PAS dependent residents in an environment where "community approach" is the organizing principle. This community is assumed to be responsible for one another's treatment, having an equal role in the treatment process rather than staff bearing the primary responsibility for treatment.

The staff’s role is to facilitate the implementation of TC principles by behaviour modeling and reinforce the community concepts and philosophy in the community's decision-making process. Within the TC approach, health care staff and community members believe that addiction problems are centered within the individual, physiological symptoms exhibited are
secondary, and treatment plans are individually tailored. However, the TC approach also appreciates that addicts often share certain characteristics, such as low self-esteem, lack of impulse control, low tolerance for frustration, inability to cope with feelings, dishonesty, poor interpersonal skills, immaturity, and feelings of being a victim.

Psychiatrists have always used biomedical model of care which is limited to prescription of antidotes to the substances of dependency and symptomatic management of withdrawal symptoms (Fava & Sonino, 2008). In the USA, a report by the United States National Institute of Substance dependence shows that, most of the treatment approaches are community-based where general health education on substance dependence is given. Sometimes they rehabilitate in the hospital where detoxification is done during which time the nurse receives instruction from the general practitioner. In this kind of management approach, the unique role of the nurse is not defined (United States National Institute of Substance Abuse, 2006).

Nurses form a core component in healthcare system; hence their role in the management of patients suffering from PAS dependence related problems is critical (Murray & Andrews, 2002). Nurses are unable to use nursing process in psychiatric unit setting including the care of PAS dependent patients (Mclaughlin, et al., 2000) this may be due to lack of care guidelines for nurses in the care of PAS depended patients. Nurses should therefore, develop nursing intervention strategies to play a leading role in the management of PAS dependent patients (Hoffman & Heinemann, 1997). In Kenya, the National Agency for the Campaign against PAS dependence (NACADA) has raised a concern that, there are no set guidelines and standards by health providers for management and rehabilitation of PAS dependent persons (NACADA, 2002).
There is also an agreement by the Ministry of Health, Kenya that all health personnel should be well-involved in the treatment of mental disorders and PAS dependence, in accordance to the mental health policy (MoH, 2004). The mental health policy in Kenya too recommends that, well-trained mental health nurses should be deployed to handle patients suffering from PAS dependent disorders in all health institutions (MoH, 2004). To make nursing care responsive to the PAS dependent patient’s needs, nursing care delivery must consider cultural approaches in the care of PAS dependent patients.

A report released by NACADA in 2002 indicated that there was a need to develop strategies to stem down PAS dependence in the country so as to save the young adults, as well as the nation, from the disaster. In the same breath, NACADA has raised concern that the healthcare system in Kenya is no longer able to cope with the extra-demand of PAS dependent patients load (NACADA, 2002). Nurses in Kenya face a challenge during the care for the PAS dependent patients due to lack of a psychiatric nursing intervention model guiding the care of PAS dependent patients. Therefore, there is need to innovate a nursing intervention model that can be used by the psychiatric nurses in the care of PAS dependent patients. It is expected that the nursing intervention model will reduce relapse rate and readmission of PAS dependent patients significantly.

1.2 Statement of the Problem

Evidence suggests that PAS dependence and its deleterious effects are widespread both in the developed and developing countries. In Kenya for instance, a review of admission records of patients admitted with PAS related problems at Mathari hospital reveal an upward trend (See table 1.1 (Mathari hospital, 2008; Mathari hospital, 2010).
Table 1.1: Annual Trend of PAS In-patients (Mathari hospital)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total No. of patients admitted</th>
<th>Number of PAS dependent patients</th>
<th>Admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>New</td>
</tr>
<tr>
<td>2005</td>
<td>7620</td>
<td>352 (4.62%)</td>
<td>217</td>
</tr>
<tr>
<td>2006</td>
<td>7710</td>
<td>315 (4.10%)</td>
<td>159</td>
</tr>
<tr>
<td>2007</td>
<td>7754</td>
<td>578 (7.4%)</td>
<td>164</td>
</tr>
<tr>
<td>2008</td>
<td>8012</td>
<td>656 (8.2%)</td>
<td>178</td>
</tr>
<tr>
<td>2009</td>
<td>8505</td>
<td>648 (7.6%)</td>
<td>164</td>
</tr>
<tr>
<td>2010</td>
<td>8428</td>
<td>712 (8.4%)</td>
<td>206</td>
</tr>
</tbody>
</table>

Despite extensive review of literature, scanty information exist on the effectiveness of the CICA management modalities administered to these patients in terms of recovery, prevention of relapse and prevention of readmission. Furthermore, literature reveals that nurses employed within psychiatric healthcare settings consider caring for patients with PAS dependent problems to be a difficult and unpleasant experience (Bartek et al, 1986; Carroll, 1995a, Carroll, 1996; Moodley-Kunnie, 1988; Murphy, 1989; Riley, 1996; Satterthwaite, 1990).

Nurses form a core component in healthcare system, hence their role in the management of patients suffering from PAS dependence related problems is critical (Murray & Andrews, 2002). This is because nurses are with the patients in the rehabilitation centres for 24 hours each day (Cohen & Struening, 1992).

Studies have consistently indicated that; the level of therapeutic interaction between psychiatric nurses and PAS dependent patients is often limited, and many patients experience a lack of involvement and engagement in the planning and implementation of their own care (Rassool, 1993). One of the most consistent complaints made by patients is that; too little effort is made to engage with them in their own care (Laurence, 2002).
In view of the forementioned information from the literature, the investigator postulates that there exist gaps in the CICA that are giving rise to the mentioned shortcoming. Consequently, these gaps could be impacting negatively on the quality of care given to PAS dependent patients and; hence contributing to the upward trend of admissions of patients with PAS dependence.

This study is purposed at identifying these gaps in the CICA so as to innovate a more appropriate nursing intervention model; aimed at optimising the quality of care given to patients with PAS dependence.

1.3 Justification of the Study

The high incidence of PAS dependency and its morbidity has subsequently led to a rise in the need for nursing care approach and rehabilitation of PAS dependent patients (Hoffman & Heinemann, 1997). WHO (2008) emphasises in its discussion paper, on the principles of substance dependence treatment; that “Nothing less” must be provided for the treatment of substance dependence than a qualified, systematic, collaborative, science-based approach such as that developed to treat other chronic diseases. Most of the management approaches in the past have explored aspects of psychologists’ management of alcohol dependence (Finney et al., 2006). With such a limited approach, the war against PAS dependence cannot be successful. There is therefore; an urgent need to improve the care given to patients suffering from PAS dependence. Nurses being the core of health care delivery system; innovation and implementation of an appropriate nursing intervention model will go a long in improving the quality of care administered to these patients.
1.4 **Main Objective**
To innovate and implement a nursing intervention model that will improve the quality of care administered to patients with PAS dependence in Nairobi, Kenya.

1.5 **Specific Objectives**
I. To describe the characteristics of the PAS dependent patients admitted in PAS care centres in Nairobi.

II. To describe the CICA provided to PAS dependent patients admitted in PAS care centres in Nairobi.

III. To describe the effectiveness of the CICA provided to PAS dependent patients admitted in PAS care centres in Nairobi.

IV. To innovate a nursing intervention model that can be used to meet the needs of PAS dependent patients admitted in PAS care centres in Nairobi.

V. To evaluate the effectiveness of the SRIM in the care of PAS dependent patients admitted in PAS care centres in Nairobi.

1.6 **Expected Benefit of the Study**
i. The outcome of the SRIM will be used to recommend guidelines of nursing care that will give nurses a unique opportunity to play a more pro-active role in the care of PAS dependent patients.

ii. The nursing intervention model will also provide a link between nursing and other professions in the care of PAS dependent patients.

iii. The patients may benefit from a nursing intervention model that they have never been exposed to in their care.
iv. More so, the SRIM will provide a research base for other related studies attempting to contribute to the care of PAS dependent patients.

v. The SRIM can be used by the government in the development of clinical guidelines for use by the nurses in the management of PAS dependent patients.

1.7 Hypothesis

i. Phase 1: Patients who receive care guided by Conventional Institution Care Approach (CICA) do not relapse.

ii. Phase 2: Null hypothesis: there is no statistically significant difference between the two interventions: CICA and SRIM in terms of relapse and readmission prevention
CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction
Psychoactive substances have been abused for many years. Alcoholic beverages have been fermented from an array of plants and fruits since at least 4000 BC (Heath, 2001). PAS dependence, now in epidemic proportions in many cultures, is of major concern internationally and across cultures. In Kenya PAS dependence has grown in recent years, leading some to demand that the president and prime minister declare PAS dependence a national disaster (Mwivano, 2011).

2.2. Studies reviewed
A study done in Northern Ireland reports that, PAS dependent patients are loathed and feared by the healthcare staff. The staff also admitted to be lacking in the knowledge and skills necessary for the delivery of care to PAS dependent patients (McLaughlin, et al., 2000). Payne in his project designed to measure knowledge, confidence and attitude of nurses towards PAS dependent persons before and after health training. The study showed that only 20% of nurses had adequate knowledge, confidence and attitude in the care of PAS dependent patients though they were not able to integrate nursing process in the care (Payne, 2000).

In Sweden, a study revealed that PAS dependent inpatients spent an average of 60.8% of time alone, while only 20% of their daily time was spent with the nurses (Kristiansen et al., 2005). Kristiansen in his research also noted that there is little agreement in the nursing literature on how PAS dependent inpatient nursing interventions should most effectively be structured (Kristiansen, et al., 2005). An Australian study by Johnson in 1997 points out that psychiatric
nurses lack proper culturally sensitive intervention approach in the care of PAS dependent patients. Johnson also noted that, nurses only experience PAS patients in crisis, when intoxicated or in withdrawal states. This often results in PAS patients being confronted with a punitive response from nurses (Johnson, 1997).

Murray and Andrews in their review of the literature on the opportunities for an improved role for nurses in PAS patients care, suggested that future nursing care directions should focus on developing skills for critical thinking, preventive and therapeutic interventions. Murray and Andrews also felt that barriers such as culture, scope of practice, authority, ethical and legal issues surrounding healthcare for PAS dependence need to be addressed (Murray & Andrews, 2002).

In Africa, the problem of PAS dependence is increasingly becoming a serious threat to the lives of the young adults of the continent. The young people are the most affected in the dependence of substances (Asuni, 1996) which could be attributed to the African culture, as the culture allows abuse of substances for socialization. PAS dependence is a cause of concern for health services, policy-makers, health promotion workers, the criminal justice system, youth workers, teachers and parents. It is manifested in several ways, but most evidently among PAS dependants are those who follow deviant lifestyles, whose criminality derives not from PAS dependence alone but also from peer influences and cultural attributes that lead to substance dependence (Ongwen, 2003). There is no supportive literature in Africa related to the intervention models guiding the nursing care of PAS dependent patients.

In his study on psychiatric nursing coping in South Africa, Rubbin in 2004 revealed that majority (72%) of nurses felt that they were not very useful to the patients post the acute state
of substance withdrawal. Ten percent of the nurses were of the view that nurses should not be deployed in the substance rehabilitation wards (Rubbin, 2004). Substance use in Kenya is shifting from licit social substances to illicit substances. Clement and Barry reported that recent shifts in pattern of substance dependency from smoking to injecting heroin is taking place in Kenya (Clement and Barry, 2006). Maxwell in 1995 felt that health workers consider PAS dependent aspect of mental healthcare ignored. This impact negatively in terms of nurse’s morale and motivation in the care of PAS dependent patients. He further said that for effective management of PAS dependence persons in the country, a guided treatment approach is needed (Maxwell, 1995).

A country-wide needs assessment study undertaken in 1994 by the government of Kenya and UNDCP and reported by Mwenyesi in 1996, revealed that PAS dependence has permeated all strata of Kenyan society, adolescents and young adults being the most affected groups. The assessment stresses the need for reassessment of government policy on the treatment of addicts, and suggests that the establishment of non-stigmatizing culturally sensitive treatment and rehabilitation approaches should be considered. It concludes that, PAS dependent patients are unlikely to be given special attention in health facilities and also the respondents describes the treatment offered to PAS dependent patients as inadequate. The health professionals especially nurses, need a specialized training in the management of PAS dependence (Mwenesi, 1996). Mwai in his presentation, ‘substance abuse in Kenya’, reported that among the Kenyan population aged between 15 to 65 years, show a high prevalence of PAS abuse among males (5.7%) than females (3.1%) (Mwai, 2004).
2.3. **Duration of Management**

A study by Florentine and others indicated that longer lengths of stay in rehabilitation centres and more frequent treatment contacts are associated with better treatment outcomes (Florentine, et al., 1997) therefore there is a need for post-treatment follow-up. The WHO recommends that residential treatment for PAS patients should not be less than 90 days in length, and outpatient treatment duration should be 3-6 months (WHO, 2001).

2.4. **Factors that Hinder Success of Management Modalities**

Factors that hinder success of management approaches may arise from the caregiver or the patient. In India, Rawlins, et al., points out several factors that hinder the success of management modalities. For example, Emotional dimension of caregiver whereby; the caregiver should be aware of their own values, attitude and feelings about substance dependence which depends on the carer’s past experience and religious orientation (Rawlins, et al., 2000). Rawlins also talks of social dimension that; the substances are readily available hence it is important to assess the clients’ addiction behaviour and source of substances (Rawlins, et al., 2000).

2.5. **Other Models**

Nursing discipline is a melding of knowledge from the physical sciences, humanities, social sciences, and clinical competencies to meet the individual needs of the client. Psychiatric nursing began as a desire to keep people healthy mentally and physically and provide comfort, care and assurance to the mentally sick (Donahue, 1995). A historical review demonstrates that nursing has developed a growing body of knowledge. In the past decade, many writers have stressed that nursing theories should be practice-oriented. A theory of
practice consists of a set of interrelated theories of action that will under the relevant circumstances yield the intended consequences (Meleis, 1985).

Nursing concepts and theories have evolved since the time of Nightingale, who in establishing the discipline of nursing spoke with firm conviction about the nature of nursing as a profession that requires knowledge distinct from medical knowledge (Drefus, 2006). Nightingale’s views on nursing were derived from spiritual philosophy. She viewed nursing as a search for truth in finding answers to healthcare issues and using God’s law of healing in nursing practice. She viewed nursing as a field oriented towards providing fresh air, light, warmth, cleanliness, quiet environment and adequate nutrition (Drefus, 2006). This theory cannot be used in the care of PAS dependent patients. The law of the action of nature might not be of much help to the PAS dependent patients. Levin supports the need for a variety of nursing theories as there is no global theory of nursing that fits every situation (Levin, 1995).

From Margaret Newman’s perspective, nursing is the study of caring in the human health experience. The role of the nurse in this experience is to help clients recognize their own patterns of interacting with environment. Insight into these patterns provides client with illumination of action possibilities which then opens the way for transformation to occur, (Gustafson, 1990). Hildegard Peplau’s theory in 1952 focuses on individual client, nurse and interactive process (Aggleton & Chalmers 1989). According to this theory, a client is an individual with felt need, and nursing is an interpersonal and therapeutic process. When a client seeks help, the nurse first discusses the nature of the problem and explains the services available. As nurse-patient relationship develops, the nurse and the client mutually define the problem and potential solutions. Peplau’s theory and ideas were developed to provide a design for practice of psychiatric nursing (Aggleton & Chalmers 1989). This theory might
not be applicable in caring for PAS dependent patients as the nurse does not first assess patients holistically and also it assumes that the nurse is aware of the patient’s health problems. It does not give the nurse time to internalize/blend with the patient’s situation. The theory was tested on psychiatric patients suffering from conditions not associated with PAS dependence. The test demonstrated that, when a nurse and the psychiatric client mutually define the problem and potential solutions, the psychiatric client tend to respond better (Aggleton & Chalmers 1989).

Solution-focused brief therapy developed by De Shazer and colleagues at the Brief Family Therapy Centre in Milwaukee, USA utilizes questions designed to help the client to formulate solutions to his/her problems rather than dwell on those problems. The therapeutic process is structured around using questions to identify client strengths, resources and their vision of a future when their problems are solved or at least not present. The therapist using this approach needs to follow two key steps during a first meeting namely; To establish where the client wants to get to, and to identify what the client has already done or is already doing which is likely to help them attain their goals (Trepper et al., 2005).

Additionally, the client can think about an unlimited range of possibilities as they move beyond their current problems to a more satisfying life (De Jong & Berg, 2002). Socio-cultural theory considers factors such as prevalence, economics, substance availability and cultural attitudes as factors that explain the variability of addiction in different cultures and age groups (Hughes, 1989).

Biopsychosocial approach puts it that biological, psychological and social factors play a significant role in human functioning in the context of disease and illness. Biopsychosocial
model was selected due to its relevance to this study as the care of PAS dependent patients requires biological, psychological and socio-cultural approaches. The biopsychosocial model presumes that it is important to handle the three together. Literature suggests that, patient perceptions of health, threat of disease and barriers in sociocultural environment; influence the likelihood that a patient will engage in health-promoting or treatment behaviours like medication taking, proper diet, and engaging in physical activity (Bruns & Disorbio, 2006).

The biopsychosocial model is both a philosophy of clinical care and a practical clinical guide. Philosophically, it is a way of understanding how suffering and illness are affected by the organization, from the society to the molecular level. At the practical level, patient’s subjective experience is an essential contributor to accurate diagnosis, personal care and health outcomes.

In the mid-1970s, George Engel, developed a "biopsychosocial model" of medicine. According to this approach, illness has not only physical aspect but also psychological and social aspects (Engel, 1977). Weiss in 1980 suggested that the psychiatrist ought to move from biomedical care of mind-body to biopsychosocial model of care approach ‘the care of the body, the mind and social aspects of human’. This has not been the case since the psychiatrists use biomedical approach and and ignore social aspects of the patients. Almost all the experts in the measurement of quality of care include, as a major factor, patient satisfaction. This fact may push psychiatric care faster in adopting the biopsychosocial model to offer a holistic care to the patient.

The biopsychosocial component of framework consists of (1) biological support, (2) psychological support, and (3) social support. The biological support within the framework
refers to the psychiatric illness affecting an organ. This illness will be managed by use of biological approaches like ECT, antidepressants, antipsychotics and/or mood stabilizers with an aim of eliminating the problem. The biological support also covers the nutritional status and safety of the individual (Slade, 2002). Psychological support in the framework is concerned with reduction or increase of psychological stimulation and counselling. This aims at increasing self awareness by the patient (Slade, 2002). Social support within the framework recognizes the importance of the family and the society in mental illness. It encourages the family and society’s participation in the care of the patients (Slade, 2002). Acute illness within the framework elaborates the interventions that can be of priority during an emergency when the patient has severe form of symptoms. Growing awareness in the framework refers to the means of creating knowledge in the patients pertaining to their illnesses and the intervention modalities.

Recovery and hope in this framework refer to the decisions made during the treatment period. The caregiver decides to give medication or refers the patient for further management or discharge the patient to the community. Holistic treatment is a philosophy of healthcare that takes care of the physical, mental and spiritual aspects of life as important approaches to treatment as defined by WHO in 1986. Holistic healthcare consists of management of illness and the restoration of mental, physical and spiritual health through holistic methods. It brings harmony to the physical, nutritional, environmental, psychological and spiritual aspects of the individual’s life and encourages healing and wholeness (Conner & Norman, 2006).

WHO in 1986 put holistic concepts of health as related to achieving and maintaining good health. It also incorporates aspects such as cultural, emotional and spiritual wellbeing. The goal is a wellness that encompasses the entire person. This means that not feeling sick, does
not necessary mean one is well. It is often used in contrast to the medical model that focuses on treating symptoms without attempting to address functioning beyond the absence of disease; the holistic approach focuses on the whole. In holistic healthcare, there is a strong emphasis on personal responsibility. The patient is an active participant in healthcare-plan. The relationship between the patient and the healthcare provider is that of cooperation and complementary. The patient is the authority on his/her body and becomes an expert in self-care (Conner & Norman, 2006).
Table 2.1 Classification of Personal Needs of a PAS Dependent Patient and how the Needs Are dealt with

<table>
<thead>
<tr>
<th>Psychoactive substance</th>
<th>Psychological needs</th>
<th>Biological needs</th>
<th>Social needs</th>
<th>Cultural needs</th>
<th>Economic needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psycho-stimulants</td>
<td>Need</td>
<td>Solve</td>
<td>Need</td>
<td>Solve</td>
<td>Need</td>
</tr>
<tr>
<td>E.g. Cocaine, marijuana</td>
<td>Identity, purpose</td>
<td>Peer group, define purpose</td>
<td>Food, shelter, sleep, work</td>
<td>Feed, House sleep, work</td>
<td>Friends, intimacy, belonging, leisure</td>
</tr>
<tr>
<td>Licit substances e.g.</td>
<td>Identity purpose</td>
<td>Peer group, define purpose</td>
<td>Food, shelter, sleep, work</td>
<td>Feed, House sleep, work</td>
<td>Friends, intimacy, belonging, leisure</td>
</tr>
</tbody>
</table>

Maslow’s hierarchy of needs: (Maslow, 1971)

If these needs are not met, a person gets frustrated and depressed, leading to behaviour to seek for satisfaction or to mask the need (e.g. substance abuse) therefore use the substances. After the fulfillment of the needs, the individual is ready to avoid the behaviour (Max-Neef, 1991).
CHAPTER THREE: FRAMEWORKS

3.1 Theoretical Framework

To address all the aspects of needs in the psychiatric patient, the researcher combined the concepts of the Engel (1977) biopsychosocial model and WHO (1986) holistic treatment to provide a framework for this study. The researcher is convinced that the combination of the biopsychosocial model and holistic treatment framework would provide a comprehensive view of the care of PAS dependent patients. The researcher considered expansion of the biopsychosocial model and suggested ways that it can be a guide for applying psychiatric knowledge to meet the needs of each PAS dependent patient.

According to these suggestions, caregiver should:

I. Be aware of him/herself, physically, mentally, culturally, and spiritually in order to be aware of patient needs, recognize errors, and act compassionately.

II. Be aware of the patients, physically, mentally, culturally, and spiritually through collection of both subjective and objective data in order to plan for the patient’s care.

III. Create an atmosphere of trust with patients.

IV. Create their own awareness pertaining to the problems of the patient.

V. Create the patient’s awareness pertaining to the patient’s problem.

VI. Allow the patients to participate in the planning of their care.

VII. Be aware of any bias they might have toward a patient.

VIII. Learn new emotional skills to help diagnose conditions and form stronger relationships with patients.

IX. Communicate clinical findings to the patient in a way that is understandable to the patient.
The derived framework was used to measure the care modalities and the PAS dependent patients' characteristics at Mathari Hospital and the three private PAS rehabilitation units in Nairobi: Brightside Treatment Centre, The retreat centre and Asumbi Treatment Centre-Karen in Nairobi. Biological, psychological, sociological, cultural and spiritual aspects and their relation to the caregiver's awareness, patient's awareness, patient's illness. The study borrowed biological, psychological, sociological, cultural and spiritual aspects and their relation to the patient's awareness, patient's illness, and the patient's recovery and hope from the psychosocial model. In addition, the spiritual and social part of holistic care was incorporated. The researcher also considered the awareness and the cultural background of both the caregiver and the patient in this model.

Kenya, nurses have based the care of PAS dependent patients on the models developed by earlier psychiatric nurses whose ideas were based on other psychiatric conditions not related to PAS dependence and also did not put into consideration the Kenyan cultural setting. The literature reviewed showed that there was no culturally sensitive framework available to be used in the care of substance dependent patients. This study focused on the development of a nursing intervention model that can be used to provide culturally sensitive nursing care to PAS dependent patients in Kenya. In Phase I of this study was based on biopsychosocial approaches and holistic treatment approaches.
Figure 3.1: Conceptual Framework

- Biological aspect
- Psychological aspect
- Sociocultural spiritual aspect

- Caregiver's awareness
- Patient's illness
- Patient awareness

Positive outcome
Negative outcome

Evaluation ➔ Evaluation ➔ Evaluation
Table 3.1: Operational Framework

<table>
<thead>
<tr>
<th>Biological aspect</th>
<th>Caregiver’s awareness</th>
<th>Patient’s illness</th>
<th>Patient awareness</th>
<th>Recovery and Hope</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Taking necessary history related to patient’s illness e.g. previous medical condition, previous psychiatric related admissions and their management approaches.</td>
<td>Sedating medication</td>
<td>Increased stimulation</td>
<td>Counselling and support the patient, discuss the experience, reflect on how the experience can help wellness and recovery plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appropriate psychotropic medication, Antidepressant medication, ECT</td>
<td>Increasing levels of self responsibility</td>
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<tr>
<td></td>
<td></td>
<td>Nutrition and safety</td>
<td>-Begin supportive counseling</td>
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<td></td>
<td></td>
<td></td>
<td>-Case management</td>
<td></td>
</tr>
<tr>
<td>Psychological aspect</td>
<td>Choose a pattern of interaction with the patient. -Get more information about patient’s illness and services required. -Understand patient’s cultural and spiritual background -Be aware of any bias caregiver might have toward the patient -Create atmosphere of trust with patient</td>
<td>Provide safety Acknowledge their emotional impact (e.g. fear) Participate in plan and implementation of their care -Referral of family to appropriate supports -Information related to their mental illness and service system -Emotional support</td>
<td>Increased stimulation Increasing levels of self responsibility</td>
<td>Counselling and support the patient, discuss the experience, reflect on how the experience can help wellness and recovery plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Begin supportive counseling</td>
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<td></td>
<td>-Case management</td>
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<td></td>
<td>-Develop wellness recovery plan and implementation</td>
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<td></td>
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<td></td>
<td>-Link into support networks</td>
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<td></td>
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<td></td>
<td>-Develop Strategy to support recovery</td>
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<td></td>
<td></td>
<td></td>
<td>-Discuss their experience</td>
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<td></td>
<td>-Health education on their condition</td>
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<td></td>
<td></td>
<td></td>
<td>-Application of wellness recovery plan</td>
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<td></td>
<td></td>
<td></td>
<td>-Support networks</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>-Keeping in touch with new information</td>
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</tbody>
</table>

Socio- Be aware of their Hospitalization or -Engagement with -Increased
4.2 Study Design

This mixed-method study comprised of two phases. Phase one of the study entailed a retrospective review of patient records and descriptive cross-sectional study on cases while phase two was an innovative intervention study that utilized a two-group randomized experimental study design.

4.3 Study Area

The study was carried out within Nairobi, the capital city of Kenya. Nairobi had a population of slightly over 3.5 million people according to the 2009 census (Kenya Bureau of Statistics, 2010). Nairobi city was chosen as the area of study because of its representation of the country and its geographical location (being approximately central) within the country. This geographical representation which is considered more representative of most of Kenya's ethnic and cultural groups compared to any other city in the country.

Within the area, the participants were recruited from specific PAs and institutions including: Ashanti Treatment Centre, Krista Anglogia Treatment Centre, The Institute Centre and Municipal Hospital Substance Rehabilitation Centre.
CHAPTER FOUR: METHODS AND MATERIALS

4.1 Introduction
This chapter describes the methods and material used in the study. It entails; the study area, study design, study population, inclusion and exclusion criteria, sampling, variables, data collection, data management, development and implementation of the nursing intervention model, minimizing errors, ethical consideration and limitations.

4.2 Study Design
This multi-design study comprised of two phases. The phase one of the study entailed a desktop review of patients’ records and descriptive cross sectional study on nurses while phase two was an innovative-intervention study that utilized a two group randomized experimental study design.

4.3 Study Area
The study was carried out within Nairobi, the capital city of Kenya. Nairobi had a population of slightly Over 3 million people according to the 2009 census (Kenya Bureau of Statistics, 2010). Nairobi city was chosen as the area of study because of its size (being the largest city in the country) and its geographical location (being approximately central) and its heterogeneous composition which is considered more representative of most of Kenya’s ethnic and cultural groups compared to any other town in the country.

Within the city, the participants were recruited from four PAS care institutions namely: Asumbi Treatment Centre-Karen, Brightside Treatment Centre, The Retreat Centre and Mathari Hospital Substance Rehabilitation Units.
4.4 Study Sites

4.4.1 Mathari Hospital

Mathari Hospital is located approximately 8 kilometres north of the city centre. The facility has a 700-bed capacity, with an average 650 bed occupancy and is divided into two sections; the civil section, with a 316 bed capacity for ordinary patients and 34 amenity (private) beds while the maximum-security unit for mentally disordered offenders who are accused of capital offences and for other mentally disordered offenders referred for assessment and treatment within the criminal justice system, comprises a 350 bed capacity.

In addition, it has special clinics for children and adolescents that cater for medical related conditions. Within the same facility, there is a 46 bed capacity PAS rehabilitation unit for both male and female patients. All the PAS dependence patients are first admitted in the other wards for detoxification before they are transferred to PAS rehabilitation unit.

There are 252 nurses in total; 88 Kenya Registered Community Health Nurse and 164 Enrolled Community Health Nurses. Out of these nurses only 11 nurses are working in PAS rehabilitation wards. Mathari Hospital Was selected because it is a referral and teaching mental hospital and more so it serves all the socio-economic classes. The private institutions mostly serve middle and high socio-economic groups.

4.4.2 Brightside Treatment Centre

A private substance rehabilitation institution located about 10 kilometres west of the City centre. It comprises 35 bed capacity with 35 bed occupancy. It admits both female and male patients with any type of PAS dependency. The centre does not admit patients diagnosed with any psychiatric condition apart from substance dependency. The institution has three
qualified nurses and 2 counsellors. Brightside Treatment Centre was selected because it has in-patient substance rehabilitation services.

4.4.3 The Retreat Centre

This rehabilitation centre is located 14 kilometres west of the city centre. It has a bed capacity of 35 beds with 35 bed occupancy. It admits only male PAS dependent patients, with 2-3 months duration of admission. The institution has four (4) qualified nurses with 2 trained counsellors. The Retreat Centre was selected because it has in-patient substance rehabilitation services.

4.4.4 Asumbi Treatment Centre-Karen

A substance rehabilitation centre located approximately 20 kilometers south of the city centre. The centre admits only male PAS dependent patients. It has a bed capacity of 30 beds and 25 bed occupancy. The institution has four (4) qualified nurses. Asumbi Treatment Centre-Karen was selected because it has in-patient substance rehabilitation services.

4.5 Study Population

Phase one: The target population was:

i. Documented data of PAS dependent patients discharged from the study sites 8 weeks and not later than 5 months before commencement of the study.

ii. Nurses taking care of the PAS dependent patients

Phase two:

i. All newly admitted patients suffering from PAS dependency at the study sites.

ii. Nurses who were trained to administered care using the SRIM guideline.
4.6 Inclusion and Exclusion Criteria

4.6.1 Inclusion Criteria

Study participants had to fulfill all of the following inclusion criteria:

Phase one:

i. Documented records for all patients suffering from PAS dependence and had been discharged earlier than 8 weeks and not later than five months prior to commencement of the study.

ii. Nurses in direct care of patients suffering from PAS dependence and with a minimum work experience in a PAS care unit of 1 year.

Phase two:

i. Newly admitted patients suffering from PAS dependence following detoxification process at the study sites during the implementation of the innovated nursing intervention model.

ii. Patients suffering from PAS dependence who gave informed voluntary consent to participate in the study. This consent was reinforced by an informed voluntary consent by the patient’s significant other (parents, spouse, adult son or daughter, or legal guardian).

iii. Nurses who gave informed voluntary consent to participate in implementation of the innovated nursing intervention model.

iv. Nurses who participated in training and implementation of the innovative nursing intervention model.

4.6.2 Exclusion Criteria

Any potential participant found to possess any of the following characteristics was excluded from the study.

Phase one:
i. Documented data on psychiatric patients fulfilling diagnostic criteria for a psychotic disorder, organic disorder or any other psychiatric condition according to DSM-IV TR.

ii. PAS dependent patients admitted within 8 weeks before commencement of study and earlier than 5 months before commencement of the study.

iii. Nurses who were not working in the rehabilitation units

Phase two:

i. Psychiatric patients fulfilling diagnostic criteria for a psychotic disorder, organic disorder or any other psychiatric condition according to DSM-IV TR.

ii. PAS dependent patients, who declined to give informed voluntary consent to participate in the study.

iii. Patient’s significant other (parents, spouse, adult son or daughter, or legal guardian) declined to consent to patient’s participation in the study.

iv. Nurses who declined to give informed voluntary consent to participate in implementation of the innovated nursing intervention model.

v. PAS dependent patients admitted before the commencement of the implementation of the innovated nursing intervention model.

4.7 Sampling

4.7.1 Sample Size Determination

This study was designed with the purpose of comparing two proportions in the target population i.e. experimental and control groups. The two groups were compared with $\chi^2$ test or z test. Hence the following formula was used as recommended by Sylvester M.P (2007).

$$N = 2 \left[ z_{crit} \sqrt{2p'(1-p')} + z_{pwr}\sqrt{p_1(1-p_1) + p_2(1-p_2)} \right]/D^2$$

Where $p_1$ and $p_2$ pre-study estimates of the outcome of interest in the two proportions
D = |p₁ - p₂| which is the minimum expected difference between CICA and SRIM in terms of relapse prevention

\[ p^1 = \frac{(p_1 + p_2)}{2} \]
\[ p_1 = 0.90, \quad p_2 = 0.80 \]
\[ D = |0.90 - 0.80| = 0.10 \]
\[ p^1 = \frac{(0.90 + 0.80)}{2} = 0.85 \]

The researcher desired relapse prevention rate of at least 90% (p₁) among the patients suffering from PAS dependence who had received care using the innovated nursing intervention model. It was assumed that the prevalence of the characteristic of interest (prevention of PAS dependence relapse in response to care provided using the CICA) was 80% i.e. p₂. The two groups were to be equal in number. Two-tailed statistical analysis was to be used. The N depended on both the difference in outcomes between the two proportions and the magnitude of the proportions themselves.

A significant criterion \((z_{crit})\) of 0.05 (95% C.I. =1.96 for two tailed test)

\[ z_{pwr} = \text{power of detecting a clinical difference if it exists set at 80\%} = 0.8 \]

\[ N = 2 \left[ z_{crit} \sqrt{2p^1(1-p^1)} + z_{pwr} \sqrt{p_1(1-p_1) + p_2(1-p_2)} \right] / D^2 \]

\[ N = 2[1.960 \sqrt{2} x 0.85(1-0.85) + 0.8 \sqrt{0.80(1-0.8) + 0.90(1-0.90)}]/0.10^2 = 238/2 = 119 \]

\[ N = 2[0.834 + 0.320 + 0.036]/0.10^2 = 238/2 = 119 \]

Equation yielded a sample size of 238.

The two groups were equal in number (119 experimental and 119 control groups). Two-tailed statistical analysis was used. Therefore, a total of 238 patients were enrolled: whereby, 119 Patients suffering from PAS dependence (experimental group) received care based on the...
SRIM while the other 119 patients suffering from PAS dependence (control group) received care based on the CICA.

Phase one:

i. Patients sample size was determined based on the phase two minimum sample size calculation (119).

ii. All the nurses at the study sites involved in direct care of patients suffering from PAS dependence were included in the study.

Table 4.1 Distribution of Nurses per Study Site

<table>
<thead>
<tr>
<th>Study Site</th>
<th>Number of Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathari Hospital</td>
<td>11</td>
</tr>
<tr>
<td>Brightside Treatment Centre</td>
<td>3</td>
</tr>
<tr>
<td>The Retreat Centre</td>
<td>4</td>
</tr>
<tr>
<td>Asumbi Treatment Centre-Karen</td>
<td>4</td>
</tr>
<tr>
<td>Sample Size for the Nurses</td>
<td>22</td>
</tr>
</tbody>
</table>

iii. Patients with PAS dependence admitted within 8 weeks before commencement of study and earlier than 5 months before commencement of the study.

4.7.2 Sampling Method

Phase one:

i. Patient participants:

All documented records of patients suffering from PAS dependence who had been discharged earlier than 8 weeks and not later than five months prior to commencement of the study were included. This gave a total of 170 potential participants. Upon trying to contact them through the contacts they had given in the files, 15 could not be reached while 12 declined to
participate in the study. One hundred and forty three could be reached and gave consent to participate in the study.

ii. Nurse participants:

All the nurses at the study sites who were involved in direct care of patients suffering from PAS dependence were included in the study.

Phase two:

A simple random method was used where pieces of paper written either 'E' for experimental or 'C' for control were folded and put in a bowl. They were then thoroughly mixed. All newly admitted patients picked a piece of paper from the bowl in each study site and were assigned to the study group written on the paper that they picked. This procedure was repeated until the full sample of 119 experimental and 119 control group was obtained and distributed in study sites (See table 4.2).

Table 4.2 Distribution of the Sample Size in the study sites for Phase two of Study

<table>
<thead>
<tr>
<th>Institution</th>
<th>Average monthly admissions</th>
<th>Proportionate distribution</th>
<th>Participants (experimental group)</th>
<th>Participants (control group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathari Hospital</td>
<td>40</td>
<td>3</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>Brightside Treatment Centre</td>
<td>25</td>
<td>2</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>The Retreat Centre</td>
<td>32</td>
<td>2.5</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Asumbi Treatment Centre-Karen</td>
<td>25</td>
<td>2</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>122</td>
<td>119</td>
<td>119</td>
<td>119</td>
</tr>
</tbody>
</table>

Patient participants in the experimental group were managed using the SRIM while those in the control group were managed using the CICA.
4.8 Variables

4.8.1 Dependent Variables

Phase one: relapse to PAS and readmission rate due to substance use.

Phase two: relapse to PAS and readmission rate due to substance use for both experimental and control groups.

4.8.2 Independent Variable

Phase one:
- Conventional institutional care approach
- Socio-demographic information (age, gender, occupation)
- Socio-economic factors (source of income, social class,)
- Socio-cultural factors (cultural beliefs and practices pertaining to PAS dependence)

Phase two:

Management modalities administered to patients suffering from PAS dependence
- Conventional institutional care approach
- SRIM approach

4.9 Data Collection Procedures

4.9.1 Pre-Testing

To test for the reliability and validity of the study tools, both for phase one and two, a pre-test was carried out at Embu Provincial Hospital. The hospital was selected because it is a referral and a training hospital with a psychiatric unit. Appropriate modifications of the tools were effected before data collection was executed.
4.9.2 Data Collection

Phase one:

Review of patients’ records

A structured checklist was used in the review of documented records for all patients suffering from PAS dependence who had been discharged earlier than 8 weeks and not later than five months (20 weeks) prior to commencement of the study. This yielded quantitative data. The patient and his/her significant other person (parent, spouse, adult son/daughter, and legal guardian) were contacted via telephone to establish their current PAS dependence status. The patient’s significant other person was contacted to corroborate the information given by the patient. Where there was conflict/ inconsistency of information given by the patient, the investigator relied on the information given by the patient’s significant other person.

Nurse participants:

A semi-structured questionnaire was administered to the nurse participants. This yielded both qualitative and quantitative data.

Phase two:

Bio-data were collected upon admission for both controls and experimental groups and then more data were collected from the experimental group during administration of care.

Post care follow up data: Commencing 8 weeks post discharge, a semi-structured questionnaire was used to record information during the post care follow up of patients. The investigator contacted the patient and his/her significant other person (parent, spouse, adult son/daughter, legal guardian) through use of telephone to establish their current PAS dependence status. The patient’s significant other person was contacted to corroborate the information given by the patient. Where there was conflict/ inconsistency of information
given by the patient, the investigator relied on the information given by the patient’s significant other person.

The investigator has been verifying from the study sites whether these patients have been readmitted. Further the investigator has been in contact with patient support groups that were formed as part of the SRIM and this has enabled the investigator to remain up dated on the current PAS dependence status of the patients.

4.10 Data Management: Data Cleaning, Entry, Analysis and Presentation

At the end of each data collection session, the filled out data collection tool were checked out for completeness and consistency. Data collection tools that were found to be incomplete or inconsistent were discarded.

In each phase, the collected data were were handled confidentially, cleaned, sorted and coded for easy of entry. Data were entered using Epi-info software 2009 Version 3.5.1, and analyzed using both descriptive and inferential statistics including standard deviation, mean, mode, Chi-square, t-test. Multiple regression analyses were utilized to assess relationships between variables.

The qualitative data collected was processed to make it ready for analysis. Processing was done through editing, coding, classification and tabulation. Editing involved careful scrutiny of the collected data to ensure that data was correct, accurate and consistent. The edited data was arranged and entered in the computer Microsoft office to facilitate coding and tabulation. Coding entailed assigning symbols to responses so that they can be put into a limited number of categories or classes or themes. Classification involved arranging data in groups or classes
on the basis of common characteristics. Tabulation involved summarizing raw data and displaying it in form of statistical tables for further analysis. The processed data was entered into computers as back up to the hard copies.

The results were presented in tables of frequency distributions, pie chart, percentages, graphs, frequency polygons and narrative form.

Phase two: During the testing of the intervention model, collected data were assembled at the end of each week and checked for completeness. The qualitative data were extracted from the tools and assigned to categories after thorough familiarization with the responses. The different categories were coded and entered into a computer. From the categories, themes were identified and then the researcher evaluated and analyzed the data using Epi-info software 2009 version 3.5.1 and standard normal distribution. Chi-square was applied to test significance and association between variables. The statistical analysis of the data was done with the assistance of a statistician. The researcher determined the adequacy of the information and credibility, usefulness, consistency and validation or non validation of the assumptions. The results were presented in tables of frequency distributions, pie chart, percentages, graphs and narration.

Bi-variate analysis was done to check for the effect of the innovative nursing intervention approach on relapse as an outcome. Relapse was defined as a patient who had taken a substance at least on one occasion within 8 weeks after discharge from the hospital after rehabilitation. The innovative nursing intervention approach effect was measured using relative risk of relapse between the experimental and the control groups. A relative risk greater than one was interpreted that the innovative nursing intervention approach increased
the risk of relapse (positive association or a risk effect). A relative risk of one was interpreted that the innovative nursing intervention approach has no association on the risk of relapse. Relative risk below one means that the innovative nursing intervention approach reduced the risk of relapse (negative association or a protective effect).

Chi-square test of statistical significance was used to test the significance of any observed association between the innovative nursing intervention approach and relapse. t-test was used to test for significance of any association with continuous data. The effect of other factors on relapse independent of the innovative nursing intervention was also checked using bivariate analysis. Factors which had a p-value of less than 0.05 were checked for their potential confounding effect on the association between innovative nursing intervention approach and relapse. This was checked by conducting stratified bi-variate analysis and unconditional logistic regression multivariate analysis.

In stratified analysis for categorical variables, chi-square for differing odds ratio by strata was used to check whether the effect of any variable on the outcome was significantly different between the experimental and control groups for all potential confounders.

ANOVA parametric test was used to test for difference in population means among the experimental and control groups for continuous variables. A small p-value (less than 0.05) suggested that the variances were not homogeneous between the experimental and the control group.

Unconditional logistic regression was done through backward elimination process to further control for multiple potential confounders. All variables which had a p-value of <0.05 in bivariate analysis were entered into the logistic regression model. The variables which were
tested for potential confounding effect using stratification and multivariate analysis were: age, gender, religion, family stability, institution, PAS dependence, duration of PAS
dependence, abuse of multiple substances. The potential public health impact of the
innovative nursing intervention approach on the risk of relapse was calculated using the
following measures of potential public health impact:

1. Relapse risk difference – this is the relapse risk difference between relapse risk in the
experimental group and relapse risk in the control group = relapse risk among the control
group –(minus) relapse risk among the experimental group

2. Relapse prevented fraction /percentage among exposed: This is the proportion of relapse
cases which would have been prevented if all the controls had been exposed to the innovative
nursing intervention approach.

\[
\text{Relapse prevented fraction/percentage among exposed} = \frac{\text{relapse risk in control group} - \text{relapse risk in experimental group}}{\text{relapse risk in control group}} \times 100
\]

Interpretation, conclusion and recommendations were drawn mainly on the basis of the
findings after data analysis.

4.11 Development of SRIM
The findings from the phase one of the study were used by the investigator to identify gaps
that existed in the CICA. Further literature review was conducted to establish the current
practices elsewhere in the world on management of patients with PAS dependence. This
information was then used to derive the innovated nursing intervention model.

4.12 Implementation of SRIM
Each participant in the experimental group was managed using SRIM for 14 weeks after
which post care follow up was instituted for the next 8 weeks.
4.13 Control of Biases and Errors
The investigator strived to minimize errors and biases first by ensuring that appropriate sampling procedures were followed. Secondly, by pretesting and effecting necessary changes to strengthen data collection techniques to ensure maximum accuracy, reliability and validity of data collected. Research assistants were adequately trained and supervised.

4.14 Ethical Considerations
The ethical clearance to conduct this research was obtained from the ethics and research committee of Kenyatta National Hospital, University of Nairobi. The investigator also obtained authority from the Ministry of Medical Services on behalf of the Government of Kenya to conduct this research study in Mathari Hospital, Asumbi Treatment Centre, Brightside Treatment Centre, The Retreat Centre. Confidentiality of the study participants was ensured. All the information obtained was used only for the purpose of this study. Study participants were required to give their own individual voluntary informed consent prior to enrollment into the study.

4.15 Study Limitations
One of the difficulties encountered during the execution of this study was in recruitment of research subjects to participate in the phase 2 of the study. This was due to the fear of unknown as the patients had no idea of the advantages of the innovated nursing intervention model. To this end, the investigator strived to use interpersonal skills to establish rapport with potential research subjects and their families. Another limitation of the study pertained to limited resources available to the investigator. Although the investigator would have liked to increase the sample size and widen the sampling frame to include other towns in the country, this was not possible at this point in time.
Lastly, it was not within the scope of this study to investigate the quality of nursing care provided to patients during detoxification period. This could be accomplished by further future research studies.

4.16 Assumptions

Prior to and during the execution of this study, the investigator had made the following assumptions:

i. The Mathari Hospital management and the administrators of PAS management centres will consent to implementation of the SRIM in their institutions.

ii. The potential participants will consent to participate in the study and remain committed to completion.
CHAPTER FIVE: PHASE ONE RESULTS

This chapter will present the findings of phase one of the study. The results will be presented in four sections; section one is on the socio-demographic profile of the PAS dependence patients, section two present findings pertaining to their PAS dependence, section three present findings on post care follow up and section four is on the responses of nurses in direct care of PAS dependent patients.

Secondary data were extracted from a total of 143 admission files of PAS dependent patients who were previously hospitalized in the four study sites, and had been discharged earlier than 8 weeks and not later than five months prior to commencement of the study. These were the patients who could be reached and gave consent to participate in the study. The distribution of the sample among the four study sites was as depicted in the Table 5.1.

Table 5.1: Distribution of study participants in the study sites

<table>
<thead>
<tr>
<th>Study site</th>
<th>Number of patients' files</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asumbi Treatment Centre-Karen</td>
<td>30</td>
<td>21</td>
</tr>
<tr>
<td>Brightside Treatment Centre</td>
<td>29</td>
<td>20</td>
</tr>
<tr>
<td>The Retreat Centre</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>Mathari Hospital Rehabilitation Ward</td>
<td>58</td>
<td>41</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>100</td>
</tr>
</tbody>
</table>

5.1 Socio-demographic Profile of Study Participants

5.1.1 Participants' Gender Distribution

Majority of the study participants were males comprising 80.4% (n=115), while 19.6% (n=28) were females. The gender distribution of study participants per study site (See Table 5.2)
Table 5.2: Participants’ gender distribution per institution

<table>
<thead>
<tr>
<th>Institution</th>
<th>Female Frequency</th>
<th>Male Frequency</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asumbi Treatment Centre-Karen</td>
<td>0</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Brightside Treatment Centre</td>
<td>6</td>
<td>23</td>
<td>29</td>
</tr>
<tr>
<td>The Retreat Centre</td>
<td>0</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>Mathari Hospital Rehabilitation Ward</td>
<td>22</td>
<td>36</td>
<td>58</td>
</tr>
<tr>
<td>Total</td>
<td>28 (19.6%)</td>
<td>115 (80.4%)</td>
<td>143</td>
</tr>
</tbody>
</table>

### 5.1.2 Age of Study Participants

The age of the study participants ranged between 17 and 62 years with a mean of 32 years, median of 30 years. Majority (80%, n = 114) of the PAS dependent patients were aged between 21 and 40 years. The mean age of the female PAS dependent patients was 36.1 with a range of 17 to 56 while that of the male PAS dependent patients was 36.2 with a range of 17 to 62 years (See Figure 5.1).

![Figure 5.1: Age of the PAS Dependent Patients per Gender](image)
5.1.3 Marital Status

About half (53%, n=76) of the participants were single, 26% (n=37) were married, 20% (n=29) were divorced while 1% (1) was widowed (See Figure 5.2).

Figure 5.2: Participants’ Marital Status

5.1.4 Birth Order of Participants

Figure 5.3: Birth order of participants
A total of 18.8% (n=27) of the PAS dependent patients were first born, 39% (n=56) were second born, 22.9% (n=32) were third born, 11.2% (n=16) were fourth born while 8.3% (n=12) in the birth order (See Figure 5.3).

5.1.5 Educational Status of Participants

Table 5.3 depicts the highest level of education that the study participants had attained.

<table>
<thead>
<tr>
<th>Education</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Primary</td>
<td>47</td>
<td>32</td>
</tr>
<tr>
<td>Secondary</td>
<td>61</td>
<td>43</td>
</tr>
<tr>
<td>Mid-level college</td>
<td>24</td>
<td>17</td>
</tr>
<tr>
<td>University</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>100</td>
</tr>
</tbody>
</table>

Forty three percent (n=61) had attained secondary education, 32% (n=47) had attained primary education, 17% (n=24) had attained middle level college education while a minority 5% (n=7) had attained university education and 3% (n=4) were non-literate (See Table 5.3).

5.1.6 Province of Residence of Participants

Most (45%, n=64) of the PAS dependent patients were from Nairobi, 20% (n=29) were from Central Province, 11% (n=16) were from rift valley province, 9% (n=13) were from coast province, 8% (n=11) were from Eastern province, while the remainder 7% (n=10) were from Western, Nyanza and North eastern (See Figure 5.4).
5.1.7 Ethnic Background of Participants

Slightly over half (57%, n=81) of the participants were of Kikuyu ethnic background, 12% (n=17) were from Kamba ethnic background, 8% (n=11) were of Luhyia ethnic background, while the rest were from a combination of Meru, Somali, Luo, Kisii, Kalenjini, Embu, Borana and Giriama (See Figure 5.5).

5.1.8 Religious Affiliation of Participants

About 81% (n=116) of the study participants belonged to Christian faith, 9% (n=13) were Muslims, 5% (n=6) were traditional while the rest were Hindu and Atheist (See Table 5.4).
Table 5.4: Religious affiliation of participants

<table>
<thead>
<tr>
<th>Religion</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christians</td>
<td>116</td>
<td>81.1</td>
</tr>
<tr>
<td>Muslim</td>
<td>13</td>
<td>9.1</td>
</tr>
<tr>
<td>Hindu</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>Traditional</td>
<td>6</td>
<td>4.2</td>
</tr>
<tr>
<td>Atheist</td>
<td>5</td>
<td>3.5</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>100</td>
</tr>
</tbody>
</table>

5.1.9 Family Background

Table 5.5: Parental family background

<table>
<thead>
<tr>
<th>Parental family background</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable parental background</td>
<td>29</td>
<td>20</td>
</tr>
<tr>
<td>Unstable (divorced, separated or single)</td>
<td>114</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>100</td>
</tr>
</tbody>
</table>

A total of 80% (n=114) of the participants were from unstable families (divorced, separated or single) while 20% (n=34) were from stable families (See Table 5.5).

5.1.10 Main Sources of Income of Participants

About 23.4% (n=33) had employment as the main source of income, 46.6% (n=67) had illegal (conning, lying, pick pocketing) sources of income, 19.2% (n=27) the main source of income is from the parents while 10.8% (n=16) main source of income to fund substance dependence was from their spouses (See Figure 5.6).
Figure 5.6: Participants’ main source of income

5.1.11 Participants’ Employment Status

About two thirds (69%, n=99) of study participants were not employed. Fourteen percent (n=20) were self-employed while 17% (n=24) were engaged in formal employment (See Figure 5.7).

Figure 5.7: Participants’ employment status
5.2 PAS Dependence Information of Study Participants

5.2.1 Participant reason for admission is PAS dependence

All (100%, n=143) of the participants were admitted due to PAS dependence and had not suffered from psychiatric illness before starting PAS dependence.

5.2.2 Age at Debut of PAS Dependence by participants

Majority (77%, n=110) of study participants began PAS dependence when they were aged between 16 and 25 years with a mean age of 19 years. The age of starting regular use of substances for all the participants ranged between 13-35 years (See Figure 5.8).

Figure 5.8: Age at debut of PAS dependence by participants
5.2.3 Participant's PAS Dependence Prior to Admissions

Table 5.6: Participants' PAS taken by the patients

<table>
<thead>
<tr>
<th>PAS taken</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>8</td>
<td>5.6</td>
</tr>
<tr>
<td>Tobacco</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>Cannabis</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>Heroin</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td>Cocaine</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>Morphine</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>Multiple substances</td>
<td>111</td>
<td>77.6</td>
</tr>
<tr>
<td>Total response</td>
<td>143</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 5.6 shows that, 77.6% (n=111) of the participants were taking multiple PAS, 5.6% (n=8) were using purely alcohol, 4.9% (n=7) were using tobacco and the rest were taking cannabis, heroin, cocaine, or morphine without combining with any other PAS.

5.2.4 Participants' Main Source of PAS Dependence Influence

Table 5.7 shows that, 40% (n=57) of the participants were mainly influenced by friends to PAS dependence, 22% (n=31) were mainly influenced by siblings, 30% (n=43) were mainly influenced by their parents while 8% (n=11) could not point out the specific source of influence to PAS dependence.

Table 5.7: Participants' PAS dependence influence

<table>
<thead>
<tr>
<th>PAS dependence influence</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associates</td>
<td>57</td>
<td>39.8</td>
</tr>
<tr>
<td>Siblings</td>
<td>31</td>
<td>21.7</td>
</tr>
<tr>
<td>Parents</td>
<td>43</td>
<td>30.1</td>
</tr>
<tr>
<td>None</td>
<td>12</td>
<td>8.3</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>100</td>
</tr>
</tbody>
</table>
5.2.5 Quality of Relationship of Participants with Others

Approximately, 73.5% (n=105) of the participants had a poor relationship with family members, 71% (n=101) had a poor relationship at school, 24% (n=34) had a good relationship with family members and others at school (See Table 5.8).

Table 5.8: Participants’ relationship at home and at school

<table>
<thead>
<tr>
<th>Relationship with others</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family members</td>
<td>24% (n=34)</td>
<td>2.5% (n=4)</td>
<td>73.5% (n=105)</td>
</tr>
<tr>
<td>At school</td>
<td>23.9% (n=34)</td>
<td>5% (n=7)</td>
<td>71.1% (n=101)</td>
</tr>
</tbody>
</table>

5.2.6 Participants’ Main Cultural Reasons for PAS Dependence

About 43% (n=61) of the participants indicated that the community belief that PAS is for social purpose, 14% (n=20) PAS helps one to concentrate, 11% (n=16) PAS reduces stress, 18% (n=26) PAS help one to feel high while 14% (n=20) do not know what the community beliefs about PAS (See Table 5.9).

Table 5.9: Participants’ cultural beliefs pertaining to PAS dependence

<table>
<thead>
<tr>
<th>Participants’ cultural beliefs pertaining to PAS</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social purposes</td>
<td>61</td>
<td>43</td>
</tr>
<tr>
<td>PAS help one to concentrate</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>PAS reduces stress</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>Take PAS to feel high</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.7 Participants’ Culturally Condoned PAS

About 79% (n=113) of the participants indicated that the culturally accepted PAS is local brew, 18% (n=26) indicated Khat (miraa), while 3% (n=4) indicated cannabis as culturally accepted PAS (See Table 5.10).
Table 5.10: Participants' culturally condoned PAS

<table>
<thead>
<tr>
<th>Culturally condoned PAS</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local brew (alcohol)</td>
<td>113</td>
<td>79</td>
</tr>
<tr>
<td>Khat</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>Cannabis</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.8 Participants' Main Reasons for PAS Dependence

About 36% (n=51) of the participants were dependent on PAS to socialize, 25% (n=36) were dependent on PAS as a stress coping mechanism, 22% (n=31) were dependent on PAS due to peer influence while 4% (n=6) were dependent on PAS because the PAS was available (See Table 5.11).

Table 5.11: Participants' main reasons for PAS dependence

<table>
<thead>
<tr>
<th>Participants' Reasons for taking PAS n=143</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socialize</td>
<td>51</td>
<td>36</td>
</tr>
<tr>
<td>Stress coping strategy</td>
<td>36</td>
<td>25</td>
</tr>
<tr>
<td>Peers influence</td>
<td>31</td>
<td>22</td>
</tr>
<tr>
<td>Addiction</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>Availability</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

5.2.9 Participants' Engaged in Illegal Activities to Obtain PAS

About 67% (n=96) of participants had conned people to obtain PAS, 36% (n=51) could sell household items, while 49% (n=70) could steal to obtain PAS (See Figure 5.9).
Participant Engaged illegal activities to obtain PAS

5.2.10 Participant Ever Arrested For Possession of Illegal Substances

Fifty-three percent (n=76) of the participants had previously been arrested due to possession of illegal PAS while 47% (n=67) had never been arrested.

5.2.11 Participant Lost a Job Due to Substance Dependence

About 20% (n=28) of participants had lost a job previously due to PAS dependence while 80% (n=115) had not.

5.2.12 Participants’ Length of Admission in Days

The number of days that the participants stayed for PAS dependent rehabilitation ranged from 4 to 117 days, with a mean of 45 days and a mode of 30 days. About two thirds (68%, n=97) were admitted for less than 60 days (2 months), 27% (n=39) were admitted for 60-90 days while 5% (n=7) were admitted for more than 90 days (See Table 5.12).
Table 5.12: Participant length of admission in days

<table>
<thead>
<tr>
<th>Participants length of admission in days</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;60 days</td>
<td>97</td>
<td>68</td>
</tr>
<tr>
<td>60-90</td>
<td>39</td>
<td>27</td>
</tr>
<tr>
<td>90 and more</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Total responses</td>
<td>143</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.13 Participant’s Treatment Modalities Received

Figure 5.10 shows that, 60% (n=86) of the participants had received detoxification, 55% (n=79) received routine nursing care, 64% (n=91) had group therapy sessions, 7% (n=10) had received individual therapy sessions, while 2% (n=3) had received electroconvulsive therapy.

Figure 5.10: Participant treatment modalities received
5.3 Participants post care follow up

5.3.1 Proportion of PAS dependent patients who relapsed

Table 5.13: Proportion of PAS dependent patients who relapsed

<table>
<thead>
<tr>
<th>Institution</th>
<th>Relapsed</th>
<th>Not relapsed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asumbi Treatment Centre</td>
<td>73% (n=22)</td>
<td>27% (n=8)</td>
<td>(n=30)</td>
</tr>
<tr>
<td>Brightside Treatment Centre</td>
<td>66% (n=19)</td>
<td>34% (n=10)</td>
<td>(n=29)</td>
</tr>
<tr>
<td>Chiromo Lane-Retreat Centre</td>
<td>65% (n=17)</td>
<td>35% (n=9)</td>
<td>(n=26)</td>
</tr>
<tr>
<td>Mathari Hospital Rehabilitation Ward</td>
<td>71% (n=41)</td>
<td>29% (n=17)</td>
<td>(n=58)</td>
</tr>
<tr>
<td>Total</td>
<td>69% (n=99)</td>
<td>31% (n=44)</td>
<td>(n=143)</td>
</tr>
</tbody>
</table>

Data collection was done concurrently with the tracing/contacting the patients and the relatives to establish the current PAS dependence status. When the PAS dependent patients were contacted, about 69% (n=99) of the participants had relapsed to PAS dependence, while 31% (n=44) had not relapsed (See Table 5.13).

5.3.2 Proportion of PAS dependent patients who were readmitted

When the post care follow up (contacting the PAS dependent patients or significant other) was done, 27.4% (n=39) of the participants had been readmitted for PAS rehabilitation while 72.6% (n=104) had not been readmitted (See Figure 5.11).
4.1.1 Participant’s Satisfaction with the Care Received at Selected Rehabilitation Centres

More than three quarter, (84.7%, n=121) of the participants were not satisfied with the care received at the rehabilitation facility while only 15.3% (n=22) were satisfied.

4.2 Phase one Finding for Nurses

4.2.1 Proportion of those who participated in the study according to the treatment centre

Figure 5.11: Proportion of PAS dependent patients who were readmitted

Figure 5.12: Proportion of those who participated in the study according to the treatment centre
Data were collected from 22 nurses in direct care of PAS dependent patients. These are all the nurses taking care of the PAS dependent patients in the four institutions as follows: 18% (n=4) of the participants were from Asumbi Treatment Centre-Karen, 18% (n=4) from Brightside Treatment Centre 14% (n=3) from The Retreat Centre and 50% (n=11) from Mathari Hospital Rehabilitation Ward (See Figure 5.12).

4.2.2 Participant’s Socio-demographic Data

4.2.2.1 Participants Age

The nurses’ ages ranged between 26 and 55 with a mean age of 37 years, median age was 34 years. A total of 81% (n=17) of the participants’ age ranged between 26 and 45 years as illustrated in Figure 5.13.

![Figure 5.13: Participants’ age](image)

4.2.2.2 Participants’ Gender

More than half, 64% (n=14) of the participants were females while 36.4% (n=8) were male nurses.
4.2.2.3 Participants’ Marital Status

The marital status varied, 68% (n=15) of the Participants were married 27% (n=6) were single while 5% (n=1) were separated (See Table 5.14).

Table 5.14 Participants’ marital status

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>15</td>
<td>68</td>
</tr>
<tr>
<td>Single</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>Separated</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

4.2.2.4 Participants’ Professional Qualification

Figure 5.14 shows that, 68% (n=15) of the participants had not been trained as psychiatric nurses while 32% (n=7) had been trained as psychiatric nurses.

Figure 5.14: Participants’ psychiatric training

3.1.1.1. Participants’ experience caring for PAS dependent patients

Table 5.15 shows that, the duration of years of providing nursing care to PAS dependent patients ranged between 1 year to 20 years with a mean of 8.9. 36% (n=8) of the participants had the experience of taking care of PAS dependent patients of between 1-5 years, 41% (n=9)
had experience of between 6-10 years, 5% (n=1) had experience of 11-15 years, while 18% (n=4) had experience of between 16-20 years.

Table 5.15: Participants’ experience caring for PAS dependent patients

<table>
<thead>
<tr>
<th>Number of years caring for PAS dependent patients</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>6-10</td>
<td>9</td>
<td>41</td>
</tr>
<tr>
<td>11-15</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>16-20</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

4.2.3 Participant’s Knowledge

4.2.3.1 Participant’s Identification of PAS Formulation and Administration

A total of 68% (n=15) of the participants correctly identified the formulation of heroin, 68% (n=15) correctly identified the formulation of cocaine, 82% (n=18) correctly identified the formulation of morphine while fifteen patients (68%) correctly identified the route of administration of heroin, 68% (n=15) correctly identified the administration of cocaine,
91% (n=20) correctly identified the administration of morphine and 86% (n=19) correctly identified the administration of cannabis (See Figure 5.15).

4.2.4 PAS Dependence Patient Care

4.2.4.1 The nursing interventions given to PAS dependent patients at the rehabilitation centres

About 9% (n=2) of the participants indicated that they reassure the patients, 4% (n=1) give group health education, 45% (n=10) manage withdrawal symptoms, while 41% (n=9) do routine nursing care to the PAS dependent patients (See Figure 5.16).

![Bar chart]

Figure 5.16: The nursing intervention given to PAS dependent patients at the rehabilitation centres.

4.2.4.2 Participants’ Ways Improving Nursing Care

Nurses gave different views on the ways of improving care of PAS dependent patients. see Figure 5.18. About 50% (n=11) of the participants said that nursing counselling will greatly
improve the care, 41% (n=9) suggested involvement of the PAS dependent patient in their care, 4.5% (n=1) suggested post care follow up of the patients post discharge, while 4.5% (n=1) did not know what can be done to improve the care (See Figure 5.17).

Figure 5.17: Participants’ ways of improving nursing-care
CHAPTER SIX: PHASE ONE DISCUSSION

6.1 Introduction

This study aimed at developing a Nursing Intervention Model for the nursing care of PAS dependent patients. The aim of this phase was to outline the characteristics of PAS dependent patients, to find out the CICA offered at the study sites and the effectiveness of the care offered to the PAS patients. Data collection in this phase was done for two months. Secondary data were extracted from a total of 143 admission files of PAS dependent patients who were previously hospitalized in the study sites and discharged earlier than 8 weeks and not later than five months prior to commencement of the study. Mathari Hospital had the highest admission in the three months. This may have been due to fact that, Mathari Hospital is a referral psychiatric hospital and with a large bed capacity of 46 beds compared to private institutions that have less than 35 beds. The findings of this study outlined a variety of factors associated with PAS dependence.

6.2 Socio-demographic Profile of Study Participants

The study found that majority were males as some centres admit purely men and even those institutions admitting both male and female patients, male patients are the majority. This is reflected in a research by Bachman (2003) that men make up about two-thirds and women account for one-third of the public substance treatment system admissions. The low turn-up of women could be associated with socio-cultural environment where PAS dependence is considered more stigmatizing and disgracing among the women leading to women shying off from presenting for rehabilitation as mentioned by McLellan and Myers (2004). Majority of the PAS dependent patients were aged between 21 and 40. This agrees with findings by
Bachman (2003) where majority were aged between 25 to 35 years with a mean of 30. This is very alarming for a nation as most of young adults might drop out of their studies and career progression to dependence on PAS hence becoming less productive in the society.

The year of starting PAS dependence was more or less the same for both gender; male patients started using PAS at the age of 13 and female started at 15 years. The mean age at starting regular abuse of PAS was 21.8 among females and 20.4 among males. These findings are consistent with national epidemiologic data on PAS dependence from the Young adults Risk Behaviour Survey conducted by Dr. Simkin who found that, majority of PAS dependent persons were the youth of between ages 15-30 years, and that males started using PAS at an earlier age compared to females (Simkin, 2002). Also Lee et al., in the alcohol and drug Services Study (ADSS) Phase II reported that, the mean age at first PAS dependence tends to occur during the teenage years (Lee et al., 2004).

The study revealed that, only 26% had stable marriages. Stable marriages in this research meant that there was no divorce. Separation or single parental background. This was in contrast from the finding by Muhammad, et al., (2004) done in Pakistan where there was 50% of PAS abusers were married. Perhaps PAS abuse is causing family instability.

PAS dependence could be having some negative impacts on progression in education. The study showed that, more than three quarter of the PAS dependent patients had not gone beyond secondary level of education and only 22% of the PAS dependent patients had tertiary education.
In this study, the patients were from 8 different provinces in Kenya with each province represented. Majority, (45%) of the patients were from Nairobi and 20% from Central Province. This was expected since the research was conducted in Nairobi. Westermeyer (1999) observed that access and attendance for treatment is facilitated by locating treatment facilities in easily accessible geographical areas. The patients were from 14 different ethnic groups with majority from Kikuyu community. Participants from Kikuyu community were the majority; this could be due to the close proximity between Central and Nairobi provinces, thereby overriding the co-existence of the communities in Nairobi. The ethnic diversity was expected as Kenya is made up of 52 ethnic tribes who co-exist and the study being in Nairobi, the capital city whereby most of the ethnic communities are represented. This gave a wider coverage of most of the ethnic groups in Kenya. This was important in the development of care guidelines for the care of PAS dependent patients as put by Schmidt and Mulia that understanding how ethnic groups differ in the need for treatment and how different groups obtain (or fail to obtain) treatment for their PAS dependence is critical to achieving greater equality in health care and health outcomes (Schmidt & Mulia, 2009). Most of the participants belonged to Christian faith. This could be attributed to the fact that Kenya is composed of 78% Christians and 10% Muslims (Gonza, 2009).

6.3 PAS Dependence Information of Study Participants

The survey also showed that, 78% of the PAS dependent patients were taking multiple PAS, this agrees with findings by Bachman (2003) in his research on PAS dependence community treatment services where majority of the PAS dependent patients were on poly-substance abuse. Also findings by Adlaf, Smart, and Walsh (2004) showed that majority of PAS abdependent persons were using at least two PAS.
6.3.1 Socio-economic Factors

This study has shown that; the participants were engaged in illegal methods like conning and stealing to fund their substance dependence behavior. This agrees with findings by Gossop (2008) in his research on addiction, treatment and outcome that majority of the PAS dependent persons abused illegal and crude methods to obtain PAS. About 20% had lost a job previously due to PAS dependence. Working while under the influence of PAS has never been accepted by many employers. Larson, et al., in 2007 found that PAS dependence was more among the unemployed and that PAS abdependent persons were more likely to have their services terminated at the work place.

6.3.2 Socio-cultural Factors

Socio-cultural beliefs can shape the approach to and behaviour regarding PAS dependence. Culture plays a central role in forming the expectations of individuals about potential problems they may face with PAS dependence (Heath, 2001). For many social groups, this may provide a protective factor. An example is the abuse of alcohol by the ancient Aztecs before any contact with white settlers. Their abuse of alcohol was heavily regulated and was only for ceremonial purposes. Non-ceremonial abuse of alcohol was strictly forbidden under penalty of death (Abbott, 1996, Paredes, 1975).

The study findings have shown that some of the PAS dependent persons engage in PAS dependence for social purposes as also stated by Heath (2001). Availability of PAS was shown as an issue that also encourages PAS dependence. Parental family stability seems to have some influence on PAS dependence as most of the PAS dependent persons were from unstable parental families (divorced, separated, single parents). Involvement with the criminal justice system is one of the problems often associated with PAS dependence. In this
study, about half of the patients had previously been arrested due to possession of illegal PAS. Similar findings were reported by Lee et al., 2004 in alcohol and drug services study that 92% of clients had arrests prior to admission while 34% had a prison or jail record prior to admission; and 46% entered treatment as a condition of probation.

Availability of a PAS seems to play a big role in the type of PAS abuse by the community as 79% indicated that the community takes local brew. This study revealed that some PAS users were influenced by the parents to use PAS. This was also revealed by Markel in 2005 that parents who use PAS put 50% of the nation's children at increased risk of PAS dependence and of physical and mental illness. Peer pressure was an important factor in the spread PAS dependence this was previously noted by Muhammad, et al., (2004). This also agrees with an observation by NACADA (2003) that the abuse of alcohol, bhang (Cannabis) and khat has indigenous roots and that the three PAS have been widely used in the indigenous society.

The survey showed that most of the participants had a poor relationship with family members and at school.

6.3.3 CICA

The number of days that PAS dependent patients stayed for treatment ranged from 4 to 117, with a mean of 45.2. Studies have shown that, those patients requiring rehabilitation are more likely to benefit from a rehabilitation centre after admission of more than 60 days (Florentine, et al., 1997). Majority were admitted for less than 60 days and most of those who relapsed had stayed for less than 60 days. This supports the findings by Florentine, et al., (1997) that indicated longer lengths of stay and more frequent treatment contacts are associated with better treatment outcomes. The WHO recommends that residential treatment should not be less than 90 days in length and outpatient treatment 3-6 months (WHO, 2001).
The findings showed that about a third of participants had received detoxification from PAS. This was comparable to the findings by Barnes in 2002 that showed that PAS detoxification, alone or in combination with psychological and psychiatric evaluation and therapy, was documented for 38% of admissions.

6.3.4 Follow-up

When the patients were contacted eight weeks after discharge, 69% had relapsed to PAS dependence; these findings are not very different from that of Walsh, et al., (2004) who found that 50% of patients relapse four weeks after discharge. The findings of the study showed that majority (66%) had no evidence of follow-up. This puts the patient at risk of relapse as put by Cheyne & Kinn (2001) that if follow-up treatment is not provided or accepted as recommended, rapid relapse is the rule. The findings of the research revealed that, 27% had been readmitted for PAS rehabilitation eight weeks after discharge.

6.4 Nurses' Knowledge on PAS Abuse

Data were collected from 22 nurses in direct care of PAS dependent patients. These were all the nurses taking care of the PAS dependent patients in the four institutions as follows: Asumbi Treatment (Karen), Brightside Treatment Centre, The Retreat and Mathari Hospital PAS rehabilitation wards.

Despite the fact that these facilities deal mainly with patients with mental problems, only 32% had post-basic psychiatric training. This could probably be a reflection of the low rates of specialization in psychiatry by nurses. Post-basic psychiatric training impacts heavily on the knowledge, attitude and skills of nurses in the management of PAS dependent patients (Mutunga & Karani, 2007).
The participants had a moderate working experience with 41% of the participants having worked in PAS dependent rehabilitation centre for duration of between 6 and 10 years. These were few years of experience considering the result of the study by Elliott and Frank (2000) where majority of the participants had worked for 25 years and above. This study found that the duration of years of nursing PAS dependent patients ranged between 3 years to 20 years with a mean of 8.9. Duration of working experience varied from institution to institution. Majority correctly identified the formulation and administration of cannabis. This was reflected by a study done by Mutunga and Karani in 2007 on the effect of psychiatric nursing training on management of PAS dependent patients that demonstrated that 76% of all the participants knew about cannabis.

Majority, 41% of the nurses indicated that they do routine nursing care during detoxification period but they could not point out the specific care they provide to the PAS dependent patients after detoxification. Detoxification takes at most two weeks and the PAS dependent patients on average are admitted not less than 8 weeks. Therefore during the PAS dependent patient’s admission, a nurse will be actively involved in the care only a quarter of the duration. Nurses form a core component of many healthcare systems so their role in responding to problems related to PAS dependence is crucial (Murray & Andrews, 2002). Nurses gave interventions by psychiatric physicians as nurses’ own intervention (managing withdrawal symptoms during detoxification). This shows that nurses are not sure of the kind of care they give to PAS dependent patients post detoxication. In his study, Rubbin on psychiatric nursing coping in South Africa revealed that majority, (72%) of nurses felt that they were not very useful to the patients post detoxification period. Ten percent of the nurses supported that; nurses should not be deployed in the PAS rehabilitation wards (Rubbin, 2004)
Nurses gave different views on the ways of improving care of PAS dependent patients including nursing counselling, and involvement of the PAS dependent patients in the planning. These ideas given by the nurses were consistent with ideas from American nurses (American Psychiatric Association. 2000) who felt that, the nurses caring for PAS dependent patients should embrace psychoanalytic idea to involve the patient and the family in the care and do counselling of the patients.

From the result of phase one of this study, these are the conclusions:

I. PAS dependence is a problem affecting mainly the young adults and sets in early in life (adolescence stage).

II. Relapse rate is more than 50%. Therefore, more than half of the rehabilitated PAS dependent patients usually relapse.

III. Poor PAS dependent rehabilitation and discharge. PAS dependent patient follow-up was minimal.

7.3 Recommendations

From the results of phase one of this study, these are the recommendations:

I. A coping intervention model should be designed to be used by the nurses in the care of PAS dependent patients. It can help the nurses in two main ways:

II. A mechanism should be put in place to do reduce relapse rate.
CHAPTER SEVEN: PHASE ONE CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction
This chapter gives conclusion and recommendation of phase one of the study.

7.2 Conclusions
From the results of phase one of this study, these are the conclusion.

I. PAS dependence is a problem affecting mainly the young adults and sets in early in life (adolescence stage)

II. Relapse rate is more than 50%. Therefore more than half of the rehabilitated PAS dependent patients usually relapse.

III. Post PAS dependent rehabilitation and discharge, PAS dependent patient follow-up was minimal

7.3 Recommendations
From the results of phase one of this study, these are the recommendations.

I. A nursing intervention model should be designed to be used by the nurses in the care of PAS dependent patients. It can help the nurses in two main ways;

II. Measures should be put in place to do reduce relapse rate.
CHAPTER EIGHT: INNOVATION OF NURSING INTERVENTION MODEL

8.1 Introduction
The purpose of this study was to develop a nursing intervention model for the care of PAS dependent patients admitted at Asumbi Treatment Centre-Karen, Brightside Treatment Centre, The Retreat Centre and Mathari Hospital rehabilitation centres in Nairobi. From the perspective of substance use theory, PAS dependence is viewed as learned behaviour acquired through experience (Kadden, 2002).

8.2 PAS dependence Intervention
There is nothing easy about a PAS dependence intervention and a successful intervention should always be the focus in the PAS dependence rehabilitation process. The quality of a successful PAS intervention is predicated by the rate of relapse, and the duration taken before relapse occurs after discharge. A PAS dependence intervention only succeeds if the addicts are involved in the decision making, planning and implementation of care with the guidance of health personnel. PAS dependence interventions work by helping patients see the extent of their dependency and the damage it causes to the body, spirit and social life. PAS dependence intervention should aim at restoration of hope and relationships, facilitate healing, save lives, and give independence and will to decide.

8.3 Conducting a Successful Intervention
The goal of any PAS dependence intervention is to convince a PAS dependent patient to seek rehabilitation, and to remain PAS free after the rehabilitation period. Therefore, PAS dependence intervention should be implemented with compassion, empathy and support. The
aim of such intervention is to encourage the patient to remain free/clean of PAS dependence after the rehabilitation period. It requires the provider to understand self, be non-judgemental and with full commitment aim at seeing the patient as a PAS free person. A PAS dependence intervention can only succeed if it caters for the PAS dependence stopping needs of specific individual patient. Everyone experiences addiction differently, and everyone needs different kinds of help to achieve lasting sobriety. Finding a PAS intervention that addresses each of its residents as a unique individual is essential to the ultimate success of the PAS rehabilitation process.

8.4 After an Intervention
An intervention is the beginning of the PAS rehabilitation process, not the end (Smith, 2010); a successful intervention should aim at achieving a lasting sobriety. Any plan for an intervention guideline should focus beyond PAS rehabilitation process into post rehabilitation, discharge and follow-up.

8.5 Concepts from Phase one as per the Research Objectives

I. Characteristics of the Substance Dependent Patients Grouped into 4 Aspects
a. Demographic Characteristics
   - Majority, 67% (n=96) were males.
   - Age at debut of PAS dependence by participants ranged between 13 to 35 years.
   - Majority, 88% (n=126) started regular abuse of PAS between the age of 16 and 25 years with a mean of 20.9 years.
   - Majority, 80% (n=114) were less than 40 years.
   - About 53% (n=76) of the participants were single and 20% (n=28) divorced.
- Majority, 80% (n=114) had unstable parental families (divorced, separated) only 20% (n=28) were from stable parental families.

- Forty three percent (n=61) had attained secondary education, 32% (n=47) had attained primary education, 17% (n=24) had attained middle level college education while a minority 5% (n=7) had attained university education and 3% (n=4) were non-literate.

- 42% (n=60) were unemployed.

- About 20% (n=28) had lost a job previously due to PAS dependence.

- About 58% (n=83) had engaged in illegal activities to obtain PAS.

- 100% (n=143) were admitted due PAS dependence.

- 78% (n=111) of the patients were taking multiple PAS.

b. Socio-economic characteristics

- 23.4% (n=33) had employment as the main source of income, 46.6% (n=67) had illegal (conning, lying, pick pocketing) sources of income, 19.2% (n=27) the main source of income is from the parents while 10.8% (n=16) main source of income to fund substance use is from their spouses.

- 50% (n=72) have ever been arrested for possession of illegal PAS.

- About 25% (n=36) had engaged in illegal activities to obtain PAS.

- Majority rely on the family income to cater for the cost of daily living.

- 73.5% (n=105) had a poor relationship with family members.

- 71.8% (n=103) had parents taking PAS thus they had been exposed to PAS dependence early in life.

- About 25% (n=36) use PAS to reduced stress.

- 47.6% (n=68) were influenced by their peers to indulge into the PAS.
- 78% (n=111) of the patients were taking multiple PAS.

c. Developmental and Cultural Characteristics
- 90% (n=129) started regular abuse of PAS before 25 years of age.
- 45% (n=64) of the patients were from Nairobi.
- The patients had come from 14 different ethnic groups; Kikuyu (57%, n=82) Kisii (1%, n=1), Luo (3%, n=4), Luyia (8%, n=12) Maasai (2%, n=3), Meru (5%, n=7), Taita (1%, n=1), Somali (5%, n=7), Kalenjini (1%, n=1), Kamba (12%, n=17), Indian (2%, n=3), Giriama (1%, n=1), Embu (1%, n=1), Borana (2%, n=3).
- 41% (n=59) had indicated that the community use PAS for social purposes.
- 57% (n=81) indicated that the community takes local brew.

d. Religious Characteristics
- 81% (n=116) of the study participants belonged to Christian faith, 9% (n=13) were Muslims, 5% (n=6) were traditional while the rest were Hindu and Atheist.

II. The CICA Administered to PAS Dependent Patients
Routine nursing care:
- reassure the patients,
- group health education,
- manage withdrawal symptoms,
- do routine nursing care

III. Effectiveness of the CICA
- 69% (n=99) of the participants had relapsed to PAS dependence by the end of 8th week post discharge.
- 27.4% (n=39) of the participants had been readmitted for PAS rehabilitation while 72.6% (n=104) had not been readmitted within by the 8th week post discharge.

- Despite the care modalities in the current practice, the findings of the research show that relapse rate remain high (more than half), this justifies why a PAS dependent care model is required.
Table 8.1: Comparison Between Institution-Based Conventional Care and Suggested Care for the Culture-sensitive Nursing Intervention Model

<table>
<thead>
<tr>
<th>Caregiver’s self awareness (week 1)</th>
<th>Institution-Based care offered</th>
<th>Deficiencies</th>
<th>Suggested care inclusion for the model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-Nurses’ attitude towards these patients was poor. -Nurses’ knowledge on psychoactive substances not adequate -Nurses’ could not specifically point out the role they played in the care of SDPs</td>
<td>Positive attitude -68% (15) identified the formulation &amp; route of heroin administration. -nurses’ role in the care of SDPs</td>
<td>-On-job training sessions for the nurses on substances of abuse to improve their knowledge, skills and attitude</td>
</tr>
<tr>
<td>Patient assessment (week 2)</td>
<td>The nurse picks some information mainly on: demographic data, past psychiatric history</td>
<td>Past medical, social and developmental history, mental status assessment, physical exam, psychoactive substance use history</td>
<td>Comprehensive patient assessment: demographic data, past medical &amp; psychiatric history, social history, developmental history, MSA, physical exam, psychoactive substance use history (why, how long, provoking factors)</td>
</tr>
<tr>
<td>Nurse, patient and significant other collaborative care-plan (week 3)</td>
<td>The nurse applies the same care modality to all the SDPs.</td>
<td>-Specific patient focused care -involvement of patient &amp; significant others in the planning of care</td>
<td>-Take each patient as a single entity requiring unique care -Involve the patient in the planning and implementation of care at all stages -Involve the significant others in the planning &amp; implementation of care</td>
</tr>
<tr>
<td>Patient counselling (week 4)</td>
<td>General group therapy done by the nurse</td>
<td>Individual counselling on substance abuse - stimulation of patient’s reasoning to imagine being free from the psychoactive substance</td>
<td>Nursing individual counselling on PAS of abuse - Group therapy focusing on patients sharing specific characteristics: using similar substances, from geographical background &amp; exposure. - Use of miracle question to stimulate the patient to think out of the substance.</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Patient self-awareness (week 5)</td>
<td>Group therapy with no specific target</td>
<td>Individual health education on the PAS</td>
<td>Teach the patient on: positive &amp; negative effects of the specific PAS on their body and social life</td>
</tr>
<tr>
<td>Focused group therapy (week 6)</td>
<td>Group therapy with no specific target</td>
<td>Objectives of group therapy - Grouping and counselling stimulation techniques</td>
<td>- laid down objectives of group therapy - Grouping &amp; counselling patients depending on addiction needs - Use of miracle questions to stimulate the patients to think out of psychoactive substances.</td>
</tr>
<tr>
<td>Stimulation of the patients to think out of the PAS (week 7)</td>
<td>The stimulation techniques are not clear</td>
<td>Specific relapse prevention plans</td>
<td>- Encourage the patient to remain PAS free - Give some specific questions for the patient to think about. - Give some homework for the patient to sleep over &amp; receive the response the following week. - Obtain feedback on rehabilitation strategies received by the patient.</td>
</tr>
<tr>
<td>Relapse Prevention (week 8-9)</td>
<td>Group therapy with no specific target</td>
<td></td>
<td>- Plan on follow-up sessions with the patient - Actively telephone the patient to encourage them, find out on the status of PAS abuse from both the patient and the relatives. - Encourage patients with similar characteristics to form substance anonymous groups - Encourage the patients to remain PAS free.</td>
</tr>
<tr>
<td>Follow-up and Evaluation (week 10-14)</td>
<td>The patient is discharged home</td>
<td>Post-discharge follow-up is lacking</td>
<td></td>
</tr>
</tbody>
</table>
Figure 8.1: Conceptual Framework from Phase One Findings

- Unhealthy behaviour
  - Biological aspects
  - Socio-economic aspects
  - Developmental and cultural aspects
  - Spiritual aspects

Application of the Nursing Intervention Model
- Care giver's awareness
  - Positive Outcome
  - Negative Outcome
  - Follow-up and Evaluation

Recovery
Figure 8.2: Operational Framework from Phase one Findings

- Caregiver’s Self-awareness
  - Biological aspects
  - Socio-economic aspects
  - Developmental and Cultural beliefs
  - Spiritual beliefs
  - Personal values
  - Knowledge on PAS

- Biological Aspects
  - Age
  - Gender

- Socio-economic aspects
  - Level of education
  - Professional qualification
  - Emotional support

- Spiritual aspects
  - Religious beliefs and values

- Developmental and Cultural Aspect

Positive Outcome
- Reduced PAS dependence relapse rate
- Reduced readmission rate
- Increased post-discharge duration before relapse and readmission
- Adequate knowledge on effects of

Negative outcome
- No change in PAS dependence relapse rate
- No change in readmission rate
- No change in duration before relapse and readmission
- Inadequate knowledge on PAS dependence

Follow-up
- Overall evaluation
Figure 8.3: Conceptual framework for the SRIM

- Caregiver’s self-awareness
- Patient assessment
- Negative outcome
  - Follow-up
  - Evaluation
- Full recovery
- Positive outcome
- Patient care/intervention
- Patient’s self-awareness & PAS knowledge
- Nurse, patient and significant others collaborative care-planning
Figure 8.4: Operational framework for the SRIM

**Caregiver self awareness**

i. Biological aspects (age, gender)
ii. Socio-economic aspects (Level of education, Professional qualification, Emotional support)
iii. Developmental and cultural beliefs
iv. Spiritual beliefs, Personal values
v. PAS

**Patient Assessment**

- Biological aspects, socio-economic aspects, spiritual aspects, developmental and cultural aspects

**Nurse, patient and significant others**

Collaborative care-planning based on biological aspects, socio-economic aspects, spiritual aspects, developmental and cultural aspects, post care follow up

**Negative outcome**

- No change in PAS dependence relapse rate
- No change in readmission rate
- No change in duration before relapse and readmission

**Post care follow up and Evaluation**

- on biological aspects, socio-economic aspects, spiritual aspects, developmental and cultural aspects

**Patient care focusing on:**

- Biological aspects
- Socio-economic aspects:
- Spiritual aspects
- Developmental and cultural aspects
- Vision question, time management, Relapse prevention

**Patient self awareness** on biological aspects, socio-economic aspects, spiritual aspects, developmental, cultural aspects and PAS

**Positive outcome**

- Reduced PAS dependence relapse rate
- Reduced readmission rate
- Increased post-discharge duration before relapse and readmission
- Adequate knowledge on PAS

**Full recovery:**
- No relapse
8.6 Theoretical Framework for the SRIM

To address all the aspects of needs affected in the PAS dependent patient as revealed in phase one, the investigator has considered the concepts of the Engel’s (1977) biopsychosocial model, WHO (1986) holistic treatment framework and brief therapy approaches to provide a framework for phase II. The researcher is convinced that the combination of the biopsychosocial model, holistic treatment framework and brief therapy approaches will provide a culturally sensitive nursing intervention for the PAS dependent patients. According to these suggestions, the nurse should:

I. Be aware of themselves; physically, mentally, culturally, and spiritually in order to be aware of patient’s needs, recognize deficiencies, and act compassionately

II. Be aware of any bias the nurse might have toward a patient.

III. Be aware of the patient’s biological aspects, socio-economic aspects, spiritual aspects, developmental and cultural aspects.

IV. Perform patients’ assessment; physically, mentally, culturally, and spiritually through collection of both subjective and objective data in order to plan for the patient’s care.

V. Create their own awareness pertaining to the problems of the patient.

VI. Create an atmosphere of trust with patients and significant others.

VII. Create the patient’s awareness pertaining the patient’s problem.

VIII. Allow the patient to participate in the planning of their care.

IX. Learn new emotional skills to help diagnose conditions and form stronger relationships with patients.

X. Communicate clinical findings to the patient in a way that is understandable to the patient.
The derived framework as represented in the conceptual framework Figure 8.3 will be used to
guide nursing care of PAS dependent patients, measure the outcome of the nursing care
during and after rehabilitation at the psychiatric in-patient PAS rehabilitation hospitals.
Demographic information, socio-economic information, cultural background and religious
beliefs and their relation to the caregiver’s awareness, patient’s awareness, patient’s illness,
and the patient’s recovery and hope are all vital in this model. The innovative nursing
intervention model can be used to provide culturally sensitive nursing care to PAS dependent
patients in Kenya. Most studies in the area of psychiatric care models focus on the care of
general psychiatric conditions occurring due to other factors not related to substance
dependence.

This model provides the optimum choice for nurses looking for a respectful, practical and
effective approach to the care of PAS dependent patients. It is a radical and powerful model
of therapy and change, which emphasizes respectful collaboration with clients’ own strengths
and resources and a positive focus on emerging solutions based on biological aspects, socio-
economic aspects, spiritual aspects, developmental and cultural aspects. The literature
reviewed showed that there is no culturally sensitive framework currently available to be
used in the care of PAS dependent patients. The SRIM approaches will help nurses plan for
PAS dependent patients in the following ways:

- Focusing on resources rather than deficits.
- Looking for what is right rather than what is wrong.
- Negotiating effective goals and creating preferred futures.
- Building expectation of change rather than dwelling on unwanted pasts.
- Finding the client’s own way of changing.
In the SRIM, the caregiver must be aware of their biological aspects, socio-economic aspects, developmental and cultural beliefs, spiritual beliefs, personal values and PAS before doing the patient assessment that involves collection of pertinent data (biological aspects, socio-economic aspects, spiritual aspects, developmental and cultural aspects) that will guide the management. The nurse, the patient and significant others collaboratively plan for the care of the patients based on biological aspects, socio-economic aspects, spiritual aspects, developmental and cultural aspects. The patient is cared based on counselling techniques;

- Biological aspects: age, gender.
- Socio-economic aspects: level of education, professional qualification, emotional support.
- Spiritual aspects: religious, beliefs and values.
- Developmental and cultural aspects.
- Vision question.
- Relapse prevention.
- Time management

The counselling will help the patient to have self-awareness on biological aspects, socio-economic aspects, and spiritual aspects, developmental and cultural aspects and relapse prevention. The patient can have either positive or negative output. Positive output means that the patient has stopped PAS dependence while negative output implies that the patient relapses and continues PAS dependence that will call for a reassessment. Through post care follow up, a patient with a negative output can be assisted to quit PAS dependence hence positive output. The intervention model effectiveness will be assessed based on the rate of readmission, avoiding substance dependent friends, duration a patient stays PAS free post-discharge and rate of readmission in a specified period of time
CHAPTER NINE: EVALUATION OF SRIM

9.1 Overview of the SRIM

From the perspective of SRIM for the care of PAS dependent patients, PAS dependence is viewed as a learned behaviour that is acquired through experience. If a PAS provides certain desired results (like feeling high, etc.), it then propels the person to look for the substance to achieve the desired outcome. Any form of substance taken into the body has bad effects to the body as well. From this perspective, the main tasks of the SRIM are to (1) identify the specific characteristics (through proper history and assessment) of the PAS dependent persons, (2) identify the specific needs (through proper history and assessment) that PAS are being used to meet, (3) to highlight the specific bad effects that the PAS have into the body and social life, and (4) develop nursing approaches that can assist the patient to overcome relapse to the PAS.

The SRIM focuses attention on the biological aspects, socio-economic aspects, spiritual aspects, and developmental and cultural aspects. It employs several approaches of (1) interactive data assessment and plan of care (2) vision question, (3) relapse prevention (4) coping skills and (5) reinforcement to manage addictive disorders. The interactive assessment aims at collecting both objective and subjective data to guide individual patient focused plan of care. The vision question confirms to the patient that, it is possible to stop PAS dependence and also allow them to reflect on a life without PAS dependence. The Relapse Prevention Approach employed in the SRIM provides a systematic way of assessing all the advantages and disadvantages of PAS dependence that influence an individual’s relapse potential. Reinforcement Approach in the SRIM mainly focuses on the disadvantages of PAS dependence rather than on their advantages. The developed SRIM was tested in four study
sites: Mathari Hospital PAS rehabilitation ward, Brightside Treatment Centre rehabilitation centre, The Retreat Centre and Asumbi Treatment Centre.

The testing took 14 weeks whereby the PAS dependent patients received the care as guided by the SRIM. The effectiveness of the SRIM was determined by the assessment of the rate of relapse to PAS, avoiding the PAS dependent patients and the rate of readmission. This was done at the end of the eighth week post-discharge.

9.2 The Distribution of the Patients to the Experimental or Control Arm of the SRIM

9.2.1 Mathari Hospital

The average monthly admission is 40. During model testing period, 38 PAS dependent patients received the care guided by the SRIM while 38 substance dependent patients who received conventional treatment acted as controls (See Table 4.2).

9.2.2 Brightside Treatment Centre

The average monthly admission is 25. During model testing period, 25 PAS dependent patients received the care guided by the SRIM while 25 PAS dependent patients who received conventional treatment acted as controls (See Table 4.2).

9.2.3 The Retreat Centre

The average monthly admission is 32. During SRIM testing period, 31 PAS dependent patients received the care guided by the SRIM while 31 PAS dependent patients who received conventional treatment acted as controls (See Table 4.2).

9.2.4 Asumbi Treatment Centre-Karen

The average monthly admission is 25. During model testing period, 25 PAS dependent patients received the care guided by the SRIM while 25 PAS dependent patients who received conventional treatment acted as controls (See Table 4.2).
CHAPTER TEN: PHASE TWO FINDINGS

This chapter will present the findings of phase two of the study. The findings will be presented in four sections; section one is on the socio-demographic profile of the PAS dependence patients, section two presents findings pertaining to their PAS dependence, section three presents findings on responses elicited during administration of SRIM care to the experimental group, while section four is on patients’ post care follow up.

Nursing care was given to 238 PAS dependent patients admitted to the study sites. One hundred and nineteen received care guided by the current CICA (control group) while the other 119 received nursing care guided by SRIM (experimental group). The distribution difference among the study sites was not statistically significant. The distribution of the sample among the four study sites is as depicted in Table 10.1.

Table 10.1: Distribution of the Sample among the Four Study Sites

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Experimental</th>
<th>Control</th>
<th>x²</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Asumbi Treatment Centre</td>
<td>25</td>
<td>21</td>
<td>25</td>
<td>21</td>
</tr>
<tr>
<td>Brightside Treatment Centre</td>
<td>25</td>
<td>21</td>
<td>25</td>
<td>21</td>
</tr>
<tr>
<td>The Retreat Centre</td>
<td>31</td>
<td>26.1</td>
<td>31</td>
<td>26.1</td>
</tr>
<tr>
<td>Mathari Hospital</td>
<td>38</td>
<td>31.9</td>
<td>38</td>
<td>31.9</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

10.1 Socio-demographic Profile of Study Participants

10.1.1 Gender of the Participants

More than three quarters (82.4%, n=98) of participants for experimental group and 83.2% (n=99) for the control group were male while 17.6% (n=21) of experimental and 16.8%
(n=20) of the control group were females. The association between female and male participants for both control and experimental group was not statistically significant (chi-square 0.1098 p=0.3680) (See Figure 10.1).

![Gender of the participants](image)

**Figure 10.1: Gender of the participants**

### 10.1.2 Age of the Participants

<table>
<thead>
<tr>
<th>Age of the participants</th>
<th>Experimental</th>
<th>Control</th>
<th>(x^2)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>11-20</td>
<td>4</td>
<td>3.4</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>21-30</td>
<td>47</td>
<td>39.5</td>
<td>44</td>
<td>37</td>
</tr>
<tr>
<td>31-40</td>
<td>51</td>
<td>42.8</td>
<td>45</td>
<td>37.8</td>
</tr>
<tr>
<td>41-50</td>
<td>14</td>
<td>11.7</td>
<td>22</td>
<td>18.5</td>
</tr>
<tr>
<td>51-60</td>
<td>3</td>
<td>2.5</td>
<td>5</td>
<td>4.2</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

The age of the PAS dependent patients ranged between 16-57 years. Majority, 82.3% (n=98) of participants among the experimental and 74% (n=88) of the control were aged between 21
to 40 years, 11.7% (n=14) of the experimental and 18.5% (n=22) of the control group were aged between 41-50 years. The association between age of the participant and intervention group (control and experimental group) was not statistically significant (See Table 10.2).

10.1.3 Marital Status of Participants

![Marital Status of Participants](image)

Figure 10.2: Marital Status of Participants

Three quarters (75.7%, n=90) of the participants in experimental and 72.3% (n=86) of the control group were either separated or single, 21.8% (n=26) of the experimental and 26.9% (n=32) of the control were married while 2.3% (n=3) of the experimental and 0.8% (n=1) of the control were windowed. The association between marital status and intervention group (control and experimental) was not statistically significant chi-square 0.7421 p=0.2188 (See Figure 10.2).
10.1.4 Educational Status of Participants

Table 10.3: Highest level of education

<table>
<thead>
<tr>
<th>Highest level of education</th>
<th>Experimental</th>
<th>Control</th>
<th>$x^2$</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>University</td>
<td>3</td>
<td>2.5</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Mid-level college</td>
<td>35</td>
<td>29.5</td>
<td>38</td>
<td>31.9</td>
</tr>
<tr>
<td>Secondary</td>
<td>66</td>
<td>55.5</td>
<td>58</td>
<td>48.8</td>
</tr>
<tr>
<td>Primary</td>
<td>12</td>
<td>10</td>
<td>16</td>
<td>13.5</td>
</tr>
<tr>
<td>None</td>
<td>3</td>
<td>2.5</td>
<td>5</td>
<td>4.2</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

Fifty five percent (n=66) of the experimental and 48.8% (n=58) of the control group had attained secondary education, 29.5% (n=35) of the experimental 31.9% (n=38) of the control had attained middle level college education. A minority, 2.5% (n=3) of the experimental and 1.6% (n=2) of the control had attained university education, while 2.5% (n=3) of the experimental and 4.2% (n=5) of the control were non-literate. The association between highest level of education for both control and experimental group was not statistically significant (See Table 10.3).

10.1.5 Province of Residence of Participants

Most (46%, n=54) of the participants in the experimental group and 44% (n=53) of the control were from Nairobi, 13% (n=16) of the experimental and 11% (n=13) of the control were from Central Province, 13% (n=16) of the experimental and 10% (n=13) of the control were from rift valley province, 8% (n=10) of the experimental and 10% (n=12) of the control were from coast province, 9% (n=11) of the experimental and 11% (n=13) of the control were from Eastern province, while the rest were from Western, Nyanza and North eastern,
Tanzania and Uganda The association between province of residence and intervention group for both control and experimental group was not statistically significant (chi-square=0.1280 p=0.395) (See Figure 10.3).

![Figure 10.3: Province of residence of participants](image)

**10.1.6 Religious Affiliation of Participants**

Table 10.4: Religious affiliation of Participants

<table>
<thead>
<tr>
<th>Religion</th>
<th>Experimental</th>
<th>Control</th>
<th>x²</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christian</td>
<td>90</td>
<td>75.6</td>
<td>93</td>
<td>78.2</td>
</tr>
<tr>
<td>Muslim</td>
<td>18</td>
<td>15.4</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>Traditional</td>
<td>3</td>
<td>2.5</td>
<td>5</td>
<td>4.1</td>
</tr>
<tr>
<td>Hindu</td>
<td>3</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Atheist</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>1.7</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>
About 75.7% (n=90) of participants in the experimental and 78.2% (n=93) in the control group belonged to Christian faith, 15.4% (n=18) of the experimental and 16% (n=19) of the control were Muslims, 2.5% (n=3) of the experimental and 4.1% (n=5) of the control were traditional while the rest were Hindu and Atheist. The distribution difference in terms of religion among the intervention groups was not statistically significant (See Table 10.4).

10.1.7 Marital Status of Participants’ Parents

Table 10.5: Marital status of participants’ parents

<table>
<thead>
<tr>
<th>Marital status of participants’ parents</th>
<th>Experimental</th>
<th>Control</th>
<th>x²</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Had both parents</td>
<td>9</td>
<td>7.6</td>
<td>18</td>
<td>15.2</td>
</tr>
<tr>
<td>Parents divorced, separated or single</td>
<td>110</td>
<td>92.4</td>
<td>101</td>
<td>84.8</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

A total of 92.4% (n=110) of the participants in the experimental and 84.8% (n=101) of the control were from families whose parent(s) were divorced, separated or single, while 7.6% (n=9) of the experimental and 15.2% (n=18) of the control had been brought up by both parents. The association between marital status of participants’ parents for both control and experimental group was not statistically significant (See Table 10.5).

10.1.8 Participants’ Employment Status

About two thirds (63.1%, n=75) of study participants in the experimental and 60.5% (n=72) in the control group were not employed. Sixteen percent (n=20) of the experimental and 20.1% (n=24) of the control were self-employed while 20.1% (n=24) of the experimental and 19.4% (n=23) of the control were engaged in formal employment. The association between
participants’ employment status for both control and experimental group was not statistically significant (chi-square = 0.2276 p = 0.610 (See Figure 10.4).

![Graph showing employment status](image)

Figure 10.4: Participants’ employment status

### 10.2 PAS dependence Information of Study Participants

#### 10.2.1 Type of PAS abused

Table 10.6: Type of PAS abused

<table>
<thead>
<tr>
<th>Type of PAS abused</th>
<th>Experimental</th>
<th>Control</th>
<th>( \chi^2 )</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>103</td>
<td>109</td>
<td>0.2940</td>
<td>0.3041</td>
</tr>
<tr>
<td>Marijuana</td>
<td>60</td>
<td>58</td>
<td>0.3435</td>
<td>0.3548</td>
</tr>
<tr>
<td>Heroin</td>
<td>49</td>
<td>45</td>
<td>0.2554</td>
<td>0.3695</td>
</tr>
<tr>
<td>Cocaine</td>
<td>41</td>
<td>34</td>
<td>0.6780</td>
<td>0.3632</td>
</tr>
<tr>
<td>Miraa(Khat)</td>
<td>17</td>
<td>28</td>
<td>0.3567</td>
<td>0.3878</td>
</tr>
<tr>
<td>Tobacco</td>
<td>4</td>
<td>5</td>
<td>0.289</td>
<td>0.3195</td>
</tr>
<tr>
<td>Diazepam</td>
<td>4</td>
<td>0</td>
<td>0.4113</td>
<td>0.5682</td>
</tr>
<tr>
<td>Morphine</td>
<td>3</td>
<td>2</td>
<td>0.6259</td>
<td>0.1895</td>
</tr>
</tbody>
</table>
About 86.5% (n=103) of the participants in the experimental group and 91.5% (n=109) of the control group were taking alcohol, 50.4% (n=60) of the experimental and 48.7% (n=58) of the control group were using marijuana. Other substances used were Heroin, cocaine, khat, tobacco, diazepam and morphine. The association between type of substance abused and intervention group was not statistically significant (See Table 10.6).

10.2.2 Number of PAS abused by the Study Participants

About 12% (n=14) of the participants in the experimental group and 13% (n=15) of the control were using only one substance, 49% (n=59) of the participants in the experimental group and 53% (n=63) of the control group were combining 2 substances, 36% (n=43) of the experimental and 33% (n=40) of the control were combining three or four substances while 3% (n=3) of the experimental and 1% (n=1) of the control were combining five or more substances. The association between number of PAS used and intervention group was not statistically significant (chi-square= 0.4601 p=0.2017) (See Figure 10.5).

![Figure 10.5: Number of PAS abused by the study participants](image-url)
10.2.3 Duration of PAS abuse in Years

Table 10.7: Duration of PAS dependence in years

<table>
<thead>
<tr>
<th>Duration of PAS abuse in years</th>
<th>Experimental</th>
<th>Control</th>
<th>$x^2$</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>1-5</td>
<td>25</td>
<td>21</td>
<td>35</td>
<td>29.4</td>
</tr>
<tr>
<td>6-10</td>
<td>43</td>
<td>36.1</td>
<td>39</td>
<td>33</td>
</tr>
<tr>
<td>11-15</td>
<td>24</td>
<td>20.1</td>
<td>23</td>
<td>19.3</td>
</tr>
<tr>
<td>16-20</td>
<td>20</td>
<td>17</td>
<td>14</td>
<td>11.7</td>
</tr>
<tr>
<td>21-25</td>
<td>5</td>
<td>4.2</td>
<td>7</td>
<td>5.8</td>
</tr>
<tr>
<td>26-30</td>
<td>2</td>
<td>1.6</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

Duration of substance use ranged between 1-30 years. About 21% ($n=25$) of the participants in the experimental group and 29.4% ($n=35$) of the control group had used the substance for duration of between 1-5 years, 36.1% ($n=43$) of the experimental group and 33% ($n=39$) of the control group for a duration of between 6-10 years, while the rest had used substances for duration of between 10-30 years. The association between duration of PAS abuse and intervention group was not statistically significant (See Table 10.7).

10.3 Responses Elicited During Administration of SRIM Care to the Experimental Group

This section presents the responses elicited during administration of SRIM care to the experimental group. Some of this information was utilized during intervention while filling up the gaps identified in CICA.
10.3.1 PAS Users Mental Status

During the assessment of mental status of the patients, 98.3% (n=117) of the experimental group had a normal mental status while 1.3% (n=2) had a fair mental status (See Table 10.8).

Table 10.8: Patient mental status

<table>
<thead>
<tr>
<th>Patient Mental Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>Normal</td>
<td>117</td>
<td>98.3</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

10.3.2 Gordon’s Eleven Functional Health Patterns Assessment

From the assessment of the patients in the experimental group using Gordon’s eleven functional health patterns, 70.6% (84) of the patients in the experimental group had a fair functional health pattern (See Table 10.9).

Table 10.9: Gordon’s Eleven Functional Health Patterns Assessment

<table>
<thead>
<tr>
<th>Gordon’s Eleven Functional Health Patterns</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Fair</td>
<td>84</td>
<td>70.6</td>
</tr>
<tr>
<td>Poor</td>
<td>34</td>
<td>28.6</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

10.3.3 Previous PAS Related Medical Conditions

Table 10.10: Previous PAS related medical conditions

<table>
<thead>
<tr>
<th>Previous PAS related medical conditions</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>30</td>
<td>25.2</td>
</tr>
<tr>
<td>No</td>
<td>89</td>
<td>74.8</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

About 25% (n=30) of the participants in the experimental group pointed out that they ever suffered from medical conditions “chest problems, appendicitis, respiratory problems, liver
problems and others” that the health personnel advised that the cause could be associated with PAS dependence (See Table 10.10).

10.3.4 Participants’ Knowledge on Negative Effects of PAS on Social Life

All (100%, n=119) of the participants in the experimental group agreed that PAS dependence has psychosocial negative effects on emotional response, economic response, religious beliefs, professional qualification, socio-cultural factors and level of education, 6.8% (n=8) agreed that substance use causes confusion, 3.3% (n=4) agreed that substance use causes family problems while 0.8% (n=1) agreed that substance use cause memory loss (See Table 10.11).

Table 10.11: Participant knowledge on negative effects of PAS on social life

<table>
<thead>
<tr>
<th>Psychosocial negative effects of substances on social life</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional response</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Economic resources</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Religious beliefs</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Professional qualification</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Social life</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Level of education</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Confusion</td>
<td>8</td>
<td>6.8</td>
</tr>
<tr>
<td>Family problems</td>
<td>4</td>
<td>3.3</td>
</tr>
<tr>
<td>Memory loss</td>
<td>1</td>
<td>0.8</td>
</tr>
</tbody>
</table>

10.3.5 Patient Knowledge on Negative Physical Effects of PAS to the Body

Majority, 68.2% (n=81) of the participants had no idea of any bad physical effect of PAS into their bodies, 29.4% (n=35) were aware that PAS dependence may cause physical disease while 2.4% (n=3) did not know if PAS had any physical effect (see Figure 10.6).
10.3.6 Patients’ Motives for PAS dependence

About 33.7% (n=40) participants in the experimental group said that PAS dependence makes them feel high, 5.8% (n=7) PAS dependence makes them to relax, 0.8% (n=1) PAS dependence has no effect while 59.7% (n=71) had no idea of effects of PAS into their lives (See Figure 10.7).
10.3.7 Participants’ Relationship with Family Members

About 3% (n=4) had a good family relationship, 32.3% (n=38) had a fair family relationship while 64.7% (n=77) had a poor relationship with family members (See Table 10.12).

Table 10.12: Relationship with Family Members

<table>
<thead>
<tr>
<th>Relationship with Family Members</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Fair</td>
<td>38</td>
<td>32.3</td>
</tr>
<tr>
<td>Poor</td>
<td>77</td>
<td>64.7</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

10.3.8 Sources of Funds for PAS

About 75.4% (n=90) of the participants in the experimental group admitted that their main source of funds to buy the PAS is through conning people, 77.3% (n=92) get PAS funded by friends, 85.7% (n=102) sell household properties while 22.7% (n=27) use the money they get from their work (See Figure 10.8).

Figure 10.8: Sources of funds for PAS
10.3.9 Participation of the Patients in Planning of their Care

Table 10.13: Participation of the Patients in the Planning of their Care

<table>
<thead>
<tr>
<th>Participation n=119</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient involvement in care-plan</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Significant other involvement in the care-plan</td>
<td>113</td>
<td>95</td>
</tr>
<tr>
<td>Focused group therapy</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

All (100%, n=119) of the participants in the experimental group participated in the planning of their care and focused group therapy. A total of 95% (n=113) of the experimental group had their significant others participate in the plan of their care (See Table 10.11).

10.3.10 Vision Response on 5 Years PAS dependence Focus

Figure 10.9: Vision Response on 5 Years PAS Abuse Focus

Majority (95.7%, n=114) of the participants imagined being PAS free in 5 years time, 0.8% (n=1) imagined they will still be taking PAS while 3.3% (n=4) could not decide (See Figure 10.9).
10.3.11 Participants’ Perception of the Factors that Trigger Relapse

Table 10.14: Participants’ perception of the factors that trigger relapse

<table>
<thead>
<tr>
<th>Participants’ perception of the Factors that trigger relapse</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistent thought about the PAS</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>access to PAS vendors</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Familiar bar</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Emotional disturbance</td>
<td>119</td>
<td>100</td>
</tr>
<tr>
<td>Interaction with PAS dependent persons</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

All (100% n=119) of the participants in the experimental group agreed that persistent thought about the PAS, access to PAS vendors, emotional disturbance, and interaction with PAS dependent persons trigger relapse (See Table 10.14).

Provoking factors to PAS abuse

Table 10.15: Provoking Factors to PAS Use

<table>
<thead>
<tr>
<th>Provoking Factors to PAS Use</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>92% (n=109)</td>
<td>8% (n=10)</td>
<td>100% (n=119)</td>
</tr>
<tr>
<td>Stress</td>
<td>74% (n=87)</td>
<td>26% (n=32)</td>
<td>100% (n=119)</td>
</tr>
<tr>
<td>Others</td>
<td>2% (n=2)</td>
<td>98% (n=117)</td>
<td>100% (n=119)</td>
</tr>
</tbody>
</table>

Ninety two percent (n=109) of the experimental group identified the availability of the PAS as the main provoking factor to use PAS (See Table 10.15).

10.3.12 Experimental Group, Most Helpful about Intervention

The experimental group on the feedback concerning the Innovative Nursing Intervention, 83.7% (n=99) felt that vision question was very helpful and 73.6% (n=88) found ideas on time management also helpful (See Table 10.16).
Table 10.16: Experimental Group, Most Helpful about Intervention

<table>
<thead>
<tr>
<th>Most Helpful about Intervention</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision Question</td>
<td>83.7% (n=99)</td>
<td>16.3% (n=20)</td>
<td>100% (n=119)</td>
</tr>
<tr>
<td>Time Management</td>
<td>73.6% (n=88)</td>
<td>26.4% (n=31)</td>
<td>100% (n=119)</td>
</tr>
<tr>
<td>Patient Involvement in Care Plan</td>
<td>69.9% (n=84)</td>
<td>30.1% (n=15)</td>
<td>100% (n=119)</td>
</tr>
<tr>
<td>Relapse Prevention Steps</td>
<td>61.5% (n=73)</td>
<td>38.5% (n=46)</td>
<td>100% (n=119)</td>
</tr>
</tbody>
</table>

10.3.13 Likert’s Scale on Causes of Relapse Self-Assessment

Table 10.17: Likert’s scale on causes of relapse self-assessment (n=119)


<table>
<thead>
<tr>
<th>Causes of Relapse Self-Assessment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Self-Esteem</td>
<td>1% (n=1)</td>
<td></td>
<td>75.6% (n=90)</td>
<td>23.6% (n=28)</td>
<td></td>
</tr>
<tr>
<td>Feeling of Anxiety</td>
<td></td>
<td>2% (n=2)</td>
<td>79% (n=94)</td>
<td>19.3% (n=23)</td>
<td></td>
</tr>
<tr>
<td>Feelings of no Hope in Life</td>
<td>1% (n=1)</td>
<td></td>
<td>75.7% (n=90)</td>
<td>23.5% (n=28)</td>
<td></td>
</tr>
<tr>
<td>Feelings of Excessive Shame</td>
<td>2% (n=2)</td>
<td>2% (n=2)</td>
<td>70.6% (n=84)</td>
<td>26% (n=31)</td>
<td></td>
</tr>
<tr>
<td>Unable to Manage Anger</td>
<td>1% (n=1)</td>
<td>1% (n=1)</td>
<td>67% (n=80)</td>
<td>31.2 (n=37)</td>
<td></td>
</tr>
<tr>
<td>Peer Pressure to Use substances</td>
<td>1% (n=1)</td>
<td>2% (n=2)</td>
<td>68.9% (n=82)</td>
<td>29.4% (n=35)</td>
<td></td>
</tr>
</tbody>
</table>

Almost all (99.2%, n=118) of the participants in the experimental group agreed that they take PAS due to low self esteem, 98.3% (n=117) take PAS when they have anxiety, 99.2% (n=118) take PAS when they feel no hope in life, 96.6% (n=115) take PAS when they feel excessive shame, 98.2% (n=117) take PAS when they are unable to manage their anger while 98.3% (n=117) take PAS due to peer pressure (See Table 10.17).

10.3.14 Self-Assessment Scale on Problems Faced After Taking PAS

Table 10.18 shows that 97.5% (n=116) of the participants in the experimental group agreed that, when they use PAS, they have difficulties relating with family members, 97.2% (n=116)
have problems relating with peers, 95.8% (n=114) the family seem not to understand them while 98.3% (n=117) agreed that they are unable to manage their finances.

Table 10.18: Self Assessment scale on problems faced after taking substances

<table>
<thead>
<tr>
<th>Self Assessment on some of problems faced after taking substances</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties Relating With Family Members</td>
<td></td>
<td>2.5%(n=3)</td>
<td>79%(n=94)</td>
<td>18.5%(n=22)</td>
<td></td>
</tr>
<tr>
<td>Problems Relating With Peers</td>
<td></td>
<td>2%(n=2)</td>
<td>1%(n=1)</td>
<td>67%(n=80)</td>
<td>30.2%(n=36)</td>
</tr>
<tr>
<td>My Family Seems not to Understand Me</td>
<td></td>
<td>2%(n=2)</td>
<td>2.5%(n=3)</td>
<td>66.4%(n=79)</td>
<td>29.4%(n=35)</td>
</tr>
<tr>
<td>Problem Managing My Finances</td>
<td></td>
<td>2%(n=2)</td>
<td>65.5%(n=78)</td>
<td>32.8%(n=39)</td>
<td></td>
</tr>
</tbody>
</table>

10.3.15 Participants’ Opinion on Care Received Based on SRIM

Figure 10.10: Participants’ opinion on Care Received Based on SRIM

Majority, 83.7% (n=99) of the participants in the experimental group felt that the 5 years Vision Question was most helpful, while 73.6% (n=88) found training on personal time management helpful. A further 69.9% (n=84) of participants indicated that involvement in
their own care was helpful, while 61.5% (n=73) indicated that training on relapse prevention was helpful (See Figure 10.10).

10.4 Post-discharge Follow-up

10.4.1 Participants’ Length of Admission in Days

All 100% (n=119) of the participants in experimental and 21% (n=25) of the control group were admitted for more than 90 days. The difference in length of admission in days for both control and experimental groups was statistically significant (chi-square = 25.87 p=0.0001) (See Table 10.19).

Table 10.19: Length of admission in days

<table>
<thead>
<tr>
<th>Length of admission in days</th>
<th>Experimental</th>
<th>Control</th>
<th>x²</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;60 days</td>
<td>0</td>
<td>62</td>
<td>25.87</td>
<td>0.00001</td>
</tr>
<tr>
<td>60-90</td>
<td>0</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90 and more</td>
<td>119</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total responses</td>
<td>119</td>
<td>119</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10.4.2 PAS dependence Relapse Status

Table 10.20: PAS dependence Relapse Status

<table>
<thead>
<tr>
<th>PAS dependence Relapse Status</th>
<th>Experimental</th>
<th>Control</th>
<th>x²</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=119</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relapse</td>
<td>40</td>
<td>76</td>
<td>25.49</td>
<td>0.00001</td>
</tr>
<tr>
<td>No relapse</td>
<td>79</td>
<td>43</td>
<td>20.85</td>
<td>0.00002</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>119</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
About 66.4% (n=79) of the participants in the experimental and 36.1% (n=43) of the control group had not relapsed while 33.6% (n=40) in the experimental and 63.9% (n=76) of the control had relapsed to PAS dependence. The difference in relapse among the control and experimental groups was statistically significant (chi-square =25.49 p=0.00001). See Table 10.20.

10.4.3 Avoided PAS Dependent Associates

Three quarters (76.5%, n=91) of the participants in the experimental group and 52.9% (63) of the control had avoided the former PAS dependent associates. The association between avoided substance abuse associates and intervention group was statistically significant for experimental group (See Table 10.21).

Table 10.21: Avoided PAS Dependent Associates

<table>
<thead>
<tr>
<th>Avoided PAS Dependent Associates</th>
<th>Experimental</th>
<th>Control</th>
<th>( x^2 )</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Yes</td>
<td>92</td>
<td>77.3</td>
<td>63</td>
<td>52.9</td>
</tr>
<tr>
<td>No</td>
<td>27</td>
<td>22.7</td>
<td>56</td>
<td>47.1</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

10.4.4 Relationship with Family Members

Seventy three percent (n=87) of the participants in the experimental group and 22.7% (n=27) of the control had a good relationship with family members, 25.2% (n=30) in the experimental group and 75.6% (n=90) of the control had a fair relationship with family members while 1.7% (n=2) in the experimental group and 1.7% (n=2) of the control had a poor relationship with family members. The difference of having a good relationship with family members in the intervention groups was not statistically significant (See Table 10.22).
Table 10.22: Relationship with family members

<table>
<thead>
<tr>
<th>Relationship with family members</th>
<th>Experimental</th>
<th>Control</th>
<th>( x^2 )</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Good</td>
<td>87</td>
<td>73.1</td>
<td>27</td>
<td>22.7</td>
</tr>
<tr>
<td>Fair</td>
<td>30</td>
<td>25.2</td>
<td>90</td>
<td>75.6</td>
</tr>
<tr>
<td>Bad</td>
<td>2</td>
<td>1.7</td>
<td>2</td>
<td>1.7</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

10.4.5 Participants Readmission Status

About 3.2% (n=4) of the participants in the experimental group and 25.2% (n=30) of the control had been readmitted 8 weeks post discharge while 96.8% (n=115) in the experimental group and 74.8% (n=89) of the control had not been readmitted. The difference in readmission among the control and experimental groups was statistically significant (chi-square= 20.155 p=<0.00001) (See Figure 10.11).

Figure 10.11: Participants readmission status
10.4.6  Satisfaction Level of the Care Received at Study Sites by the Participants among Experimental and Control Group

About 74.8% (n=89) of the experimental group and 19.3% (n=23) of the control group were satisfied with the care they received at the rehabilitation centres. This difference in the level of patients’ satisfaction with care they received was found to be statistically significant (P=<0.0001, chi-square 6.42) (See Table 10.23).

Table 10.23 Satisfaction level of the care received at study sites by the patients suffering from PAS dependence among experimental and control group

<table>
<thead>
<tr>
<th>Satisfied with care</th>
<th>Experimental</th>
<th>Control</th>
<th>Chi-square</th>
<th>OR</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>74.8%(n=89)</td>
<td>19.3%(n=23)</td>
<td>6.42</td>
<td>12.38</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>No</td>
<td>25.2%(n=30)</td>
<td>80.7%(n=96)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10.4.7  Satisfaction Level by Nurses in Direct Care of Patients Suffering from PAS dependence among Experimental and Control Group

Table 10.24: Likert’s Scale on satisfaction level by nurses in direct care of patients suffering from PAS dependence using the SRIM.


<table>
<thead>
<tr>
<th>Nurse's satisfaction level on SRIM N=5</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>It easy to use</td>
<td></td>
<td></td>
<td>20%(n=1)60%(n=3)20%(n=1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is adequate in addressing needs of the patients</td>
<td></td>
<td></td>
<td>20%(n=1)80%(n=4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is friendly in time duration required to administer care</td>
<td></td>
<td></td>
<td>20%(n=1)80%(n=4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is cost effective in terms of manpower required</td>
<td></td>
<td>20%(n=1)20%(n=1)60%(n=3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is cost effective in terms of finances required</td>
<td></td>
<td>40%(n=2)60%(n=3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is cost effective in terms of materials required</td>
<td></td>
<td>40%(n=2)60%(n=3)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
About 80% (n=4) of the nurses who administered care to experimental group agreed that; SRIM is easy to use, it is adequate in addressing needs of the patients and also friendly in time duration required to administer care (See Table 10.24).

Table 10.25: Likert’s Scale on satisfaction level by nurses in direct care of patients suffering from PAS dependence using the CICA.

<table>
<thead>
<tr>
<th>Satisfaction level on the CICA n=119</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>It easy to use</td>
<td>60%(n=3)</td>
<td>20%(n=1)</td>
<td>20%(n=1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is adequate in addressing needs of the patients</td>
<td>60%(n=3)</td>
<td>40%(n=2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is friendly in time duration required to administer care.</td>
<td>60%(n=3)</td>
<td>20%(n=1)</td>
<td>20%(n=1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is cost effective in terms of manpower required</td>
<td>80%(n=4)</td>
<td>20%(n=1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is cost effective in terms of finances required</td>
<td>20%(n=1)</td>
<td>80%(n=4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is cost effective in terms of materials required</td>
<td>20%(n=1)</td>
<td>40%(n=2)</td>
<td>40%(n=2)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

More than 60% (n=3) disagreed that CICA is easy to use, it is adequate in addressing needs of the patients and also friendly in time duration required to administer care. See Table 10.25.

10.5 Statistical Analyses on Relapse, Avoidance of PAS Dependent Associates and Readmission Rate as the Intervention Outcome

10.5.1 Association between the intervention group and Relapse

The relapse risk among the experimental group (34%) was much lower compared to the relapse risk among the control group (64%). Exposure to the SRIM approach was significantly protective against the risk of relapse (relative risk =0.5, confidence interval= 0.4 – 0.7, chi-square= 27.7, p-value= <0.0001) (See Table 10.26).
Table 10.26: Association between exposure to intervention group and relapse

<table>
<thead>
<tr>
<th>Association between exposure to intervention group and relapse</th>
<th>Relapse</th>
<th>No Relapse</th>
<th>Risk of Relapse (%)</th>
<th>Relative Risk</th>
<th>Confidence Interval</th>
<th>Chi-Square</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>40</td>
<td>79</td>
<td>34</td>
<td>0.53</td>
<td>0.40 - 0.70</td>
<td>27.70</td>
<td>&lt;0.00001</td>
</tr>
<tr>
<td>Control group</td>
<td>76</td>
<td>43</td>
<td>54</td>
<td>0.8148</td>
<td>0.50 - 1.31</td>
<td>0.7825</td>
<td>0.37638</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>122</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10.5.2 Impact of SRIM on Relapse

The relapse prevented fraction in the experimental group was 48%. This is the proportion of potential relapse cases in experimental group which was prevented as a result of exposure to the SRIM. In the entire sample (experimental and control), the relapse prevented fraction was 24%. This is the proportion of relapsed cases which would be avoided if all the PAS dependent patients were exposed to the SRIM approach (See Table 10.27).

Table 10.27 Potential public health impact of the SRIM on relapse

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Preventive Fraction Estimate</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk in the experimental group (%)</td>
<td>33.61</td>
<td>25.7 - 42.51</td>
</tr>
<tr>
<td>Risk in the control group (%)</td>
<td>63.87</td>
<td>54.9 - 71.95</td>
</tr>
<tr>
<td>Overall risk (%)</td>
<td>48.74</td>
<td>42.5 - 55.059</td>
</tr>
<tr>
<td>Risk ratio</td>
<td>0.53</td>
<td>0.40 - 0.70</td>
</tr>
<tr>
<td>Risk difference (%)</td>
<td>-30.25</td>
<td>-42.36 - -18.15</td>
</tr>
<tr>
<td>Prevented fraction in the population (PFp) (%)</td>
<td>23.68</td>
<td>14.60 - 31.02</td>
</tr>
<tr>
<td>Prevented fraction in the exposed (PFe) (%)</td>
<td>47.37</td>
<td>2 - 60.47</td>
</tr>
</tbody>
</table>

10.5.3 Association between Relapse and Categorical Variables

The association between relapse and categorical variables (using multiple PAS p=0.3302, belonging to unstable family p=0.2080, male gender p=0.365, study site p=0.903) was not
statistically significant while association between relapse and being a Christian \( p = 0.0042 \) was statistically significant (See Table 10.28).

Table 10.28: Association between relapse and categorical variables

<table>
<thead>
<tr>
<th>Categorical variables</th>
<th>Frequency (%)</th>
<th>Risk Ratio</th>
<th>Confidence Interval</th>
<th>Chi-Square (Mantel Hanzel)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using multiple substances</td>
<td>49.3% (n=103)</td>
<td>1.0994</td>
<td>0.71-1.68</td>
<td>0.2014</td>
<td>0.3302</td>
</tr>
<tr>
<td>Being a christian</td>
<td>77.2% (n=183)</td>
<td>0.6829</td>
<td>0.529-0.88</td>
<td>7.0185</td>
<td>0.0042</td>
</tr>
<tr>
<td>Belonging to unstable family</td>
<td>51.4% (n=19)</td>
<td>1.2604</td>
<td>0.725-2.19</td>
<td>0.7057</td>
<td>0.2080</td>
</tr>
<tr>
<td>Male gender</td>
<td>48.2% (n=95)</td>
<td>1.0621</td>
<td>0.76-1.48</td>
<td>0.1214</td>
<td>0.365</td>
</tr>
<tr>
<td>Study site</td>
<td>48.7% (n=116)</td>
<td>0.6800</td>
<td>0.70-1.681</td>
<td>0.5691</td>
<td>0.903</td>
</tr>
</tbody>
</table>

Therefore, being a Christian had the potential to have influenced the association between the intervention and relapse. Stratified analysis for the variable using the therapy and the control groups as different strata (per institution) was done to check for any potential confounding.

The variable (being a Christian) was also included in the multivariate analysis model.

10.5.4 Association between factors and relapse among those exposed to therapy and the controls

Table 10.29: Association between other variables and relapse among the experimental and the controls

<table>
<thead>
<tr>
<th></th>
<th>crude RR</th>
<th>adjusted risk ratio</th>
<th>Adjusted C.I</th>
<th>chi-square</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple substance abuse</td>
<td>1.0994</td>
<td>0.7176</td>
<td>1.6842</td>
<td>2.0369</td>
<td>0.1535</td>
</tr>
<tr>
<td>Family stability</td>
<td>0.8148</td>
<td>0.7156</td>
<td>0.4479, 1.1433</td>
<td>1.0280</td>
<td>0.3106</td>
</tr>
<tr>
<td>Gender</td>
<td>1.0621</td>
<td>1.0719</td>
<td>0.7805, 1.4723</td>
<td>0.1348</td>
<td>0.7135</td>
</tr>
<tr>
<td>Being a Christian</td>
<td>0.6829</td>
<td>0.6624</td>
<td>0.5201, 0.8438</td>
<td>1.4578</td>
<td>0.2273</td>
</tr>
</tbody>
</table>
Considering the potential confounders, there was no significant difference among the experimental and the control stratum as demonstrated using the chi-square for differing odds ratio by stratum in the Table above. For example, being a Christian (adjusted risk ratio =0.7176, chi-square= 1.4578, P-value=0.1535) (See Table 10.29).

10.5.5 Association between Relapse and Continuous Variables

The association between relapse and duration of PAS dependence (t-test =1.058, P= 0.29) and the age of the participant (t-test =0.465, P=0.6419) was not statistically significant (See Table 10.30).

Table 10.30: Association between age and duration of PAS dependence with relapse

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>T-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of PAS dependence</td>
<td>10.9828</td>
<td>1.0584</td>
<td>0.2910</td>
</tr>
<tr>
<td>Age</td>
<td>33.5259</td>
<td>0.4657</td>
<td>0.6419</td>
</tr>
</tbody>
</table>

10.5.6 Association between SRIM and Readmission Rate

Table 10.31: Association between the two groups and readmission rate

<table>
<thead>
<tr>
<th></th>
<th>Readmission</th>
<th>Not readmitted</th>
<th>Relative Risk</th>
<th>Confidence Interval</th>
<th>Chi-Square</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>4</td>
<td>115</td>
<td>0.1368</td>
<td>0.049–0.377</td>
<td>20.155</td>
<td>&lt;0.00001</td>
</tr>
<tr>
<td>Control group</td>
<td>30</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>204</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The likelihood of someone exposed to the SRIM being readmitted was significantly lower than those who were given the CICA care (RR=0.14, CI=0.04–0.38, p-value =<0.00001). See Table 10.31.
CHAPTER ELEVEN: PHASE TWO DISCUSSION

11.1 Introduction

The purpose of this phase was to test the SRIM for the care of PAS dependent patients admitted at Asumbi Treatment Centre, Brightside Treatment Centre, The Retreat Centre and Mathari Hospital PAS rehabilitation unit. A total of 238 PAS dependent patients seeking PAS rehabilitation treatment at the study sites admitted from 03-06-2010 to 07-10-2010 were randomly assigned to either experimental or control group to the SRIM. One hundred and nineteen PAS dependent patients were exposed to the care guided by SRIM while the controls were 119 who received CICA.

For the experimental group, individual treatment sessions were offered once a week for 14 weeks. The patient and a significant other participated in the plan of care while the patient was fully involved in the implementation. Sessions of group therapy were also included in which case patients addicted to similar PAS(s) were grouped. Group sessions were once a week from week 5-10.

The patients in the experimental group after discharge were contacted weekly for eight weeks to encourage them to remain PAS free. This means that the total duration of the intervention and contact was 20 weeks. Researchers have shown that longer periods of stay and contacts (more than 10 weeks) with PAS dependent patients undergoing addiction rehabilitation, are associated with better treatment outcomes, therefore the need for post-treatment follow-up (Florentine, et al., 1997). All the patients (experimental and the control group) were contacted after eight weeks to find out their relapse status, avoided substance dependent associates and readmission status. This was confirmed with a significant other to the patient.
11.2 Socio-demographic Data

The age of the PAS dependent patients ranged between 16-57 years. Majority of participants among the experimental and control groups were aged between 21 to 40 years. This is reflected in a study by Briner and Erickson that showed that PAS dependency affects the young adults, person between the ages of 19 and 40 (Briner & Erickson, 1999). This was also discovered in a study by Muhammad and others in Pakistan that, majority of PAS dependent persons were aged 21 to 30 years (Muhammad et al, 2004). The study showed that, most of the participants both in experimental and control group were either separated or single, as also reflected by Lee et al in 2004 that, majority (71%) of the patients were either separated or single. In both experimental and control group, there was no significant difference in marital status of the participants therefore the two groups were homogenous.

Literacy level was very poor with very few participants in both experimental and control had attained university education as also reflected in a study by Wendy and Hartford on the relationships between literacy and substance abuse in American students, their study revealed that substance abuse exacerbates academic failure (Wendy & Hartford, 2002). The difference in literacy among the experimental and control groups were not statistically significant.

The participants were from different provinces of Kenya with majority coming from Nairobi. In both experimental and control group, there was no significant difference in the province of origin.

Majority of participants in the experimental and control group belonged to Christian faith. Others belonged to Muslims, traditional indigenous religions, Hindu and Atheist. U.S. Department of State report on international religious freedom in Africa shows that
approximately 80% of the Kenyans are Christians, 10% Muslim, less than 1% is Hindu, Sikh, and Baha’i, while the remainder follows various traditional indigenous religions (U.S. State Department of State, 2008).

The family background of most of the patients was unstable (divorced, separated or single parental relationships). A total of 92.4% of the participants in the experimental and 84.8% of the control were from unstable parental families (divorced, separated or single). Family instability has been identified as a factor that may cause one to turn into substance use. This was reported in a study by Kugula in a workshop by NACADA that revealed, 15% of PAS dependent persons started PAS dependence due to parental family problems like divorce, separation or single parent (Kugula, 2011).

About two thirds of study participants in the experimental and more than half in the control group were not employed. Alcohol and drug Services Study (ADSS) Phase II done by Lee et al in 2004 found that 42% of patients were unemployed.

11.3 Responses on PAS

In this research, poly-PAS dependence was common as majority of the patients were using combination of 2 or more types of PAS. More than 88% of the PAS dependent patients in the experimental group and 87% of the controls were using multiple PAS. This was echoed by NIDA in 2009 that most people with addiction are poly- PAS dependent persons.

Majority of the participants in the experimental group and also in the control group were taking alcohol. Other substances abused were Heroin, marijuana, cocaine, khat, tobacco, diazepam and morphine. In most communities in Kenya, alcohol is readily available and
acceptable as reported by Birgen and Oteyo in a workshop by NACADA that revealed alcohol was available and acceptable by the community (Birgen & Oteyo, 2011). This was unlike the findings by Shastri and Kolhatkar in Bombay who noted that the PAS addicts were taking either cannabis or heroin (Shastri and Kolhatkar, 2011). Studies have shown that alcohol is a licit PAS taken for socialization factors (Collins, et al., 1989). Alcohol and drug Services Study done by Lee et al, reported that most discharged clients had abused alcohol at some point in their lives prior to admission and also that majority of discharged clients (54%) were in treatment for combined alcohol and drug dependence (Lee et al, 2004).

PAS dependency is actually a chronic medical diseases (McLellan, et al., 2000), in this research; most, 73.2% of the patients in the experimental group and 64% of the control had abused the PAS for duration of between 6-20 years thus PAS dependence qualifies to be termed as a chronic illness. This study also showed that, about 25.2% of the PAS dependent patients in the experimental group pointed out having ever suffered from medical conditions "chest problems, appendicitis, respiratory problems, liver problems and that the doctor advised that the cause could be associated with PAS dependence. As noted by Dickey and associates that PAS dependence is associated with medical illnesses (Dickey, et al., (2002),).

All of the participants in the experimental group agreed that PAS dependence has psychosocial negative effects on emotional response, economic response, religious beliefs, professional qualification, socio-cultural factors and level of education. More so, 6.8% agreed that substance dependence causes confusion; some agreed that substance dependence causes family instability while others agreed that substance dependence cause memory loss. Interestingly, 68.2% of the participants did not know of any bad physical effect of PAS on their bodies. Researchers have shown that PAS dependent persons are not aware of the
negative consequences of PAS on the body (American Nurses’ Association, 1999). Interestingly, more than half of the PAS dependent persons could not point out the good effects the substances have in their lives. About 34% of the experimental group said that PAS dependence made them feel high and 59.7% had no idea of any good effects of PAS into their lives. As also reported by Kugula that 7.5% take substance to feel high (Kugula, 2011).

Most of the participants in the experimental group identified the availability of the PAS as the main provoking factor to PAS dependence. Otieno and Ofulla in their study on drug abuse in Kisumu town, Kenya found that 8.7% of PAS dependent persons were influence by friends. This study also found that majority of participants had a poor relationship with family members. This was reported by NACADA in 2007 in their situation assessment report that showed substance dependent persons were violent towards their family members. Majority of the participants in the experimental group admitted that their main source of funds to buy the PAS is through conning people, with 85.7% who sell house hold properties. NACADA also noted that PAS dependent persons steal money to finance their drug taking habits (NACADA, 2007). This was unlike a study done by Muhammad et al., in 2004 that showed that, 64% of PAS addicts were spending their own money for this habit.

Both the patient's immediate family and extended family are significant and should be involved in the intervention process because PAS dependence can erode important family and social ties, and restorative efforts to repair an individual's familial and social network can buffer the effects of PAS (Abbott & Trujillo, 1996). In our research, the patients and a significant other were involved in the plan of care. We recognized that the patient has the right to make decisions about the plan of care before and during the course of treatment and to refuse a recommended treatment or plan of care permitted by law and hospital policy
(National Institute of Occupational Safety & Health, 2011). The diagnosis and treatment the PAS dependent patients receive has an effect on their lives and therefore, the best approach for them is when the medical expertise is combined with the patient’s experience. All of the PAS dependent patients in the experimental group participated in the planning of their care and focused group therapy. Majority of the participants in the experimental group had their significant others participate in the plan of their care. Antle, and Carlin (2010) felt that patients have the greatest knowledge of their unique lifestyle, personal goals and overall life expectations.

Majority of the participants imagined of being PAS free in 5 years time. NACADA in the situation assessment report indicated that at least one in every 5 dependent persons of any substance is willing to stop taking the substance (NACADA, 2007). All of the participants in the experimental group agreed that persistence thought about the PAS, looking for PAS vendors, craving for PAS and access to PAS dependent persons trigger relapse. Almost all of the participants in the experimental group agreed that they take PAS due to low self esteem.

Majority of the participants in the experimental group agreed that, when they use PAS, they have difficulties relating with family members and others have problems relating with peers. This could be due to substance related violence as reported by NACADA in 2007 that dependent persons of alcohol, bhang and cocaine reported to have been violent towards family members. Managing finances is a difficult task for PAS dependent persons as almost all agreed that they are unable to manage their finances. This could be due to the fact that PAS dependent persons give purchasing of substance the first priority before meeting the basic needs. All of the participants in the experimental group agreed that the provoking
factors to abuse PAS are familiar bar, emotional disturbance, seeing your dealer and peer influence.

Majority of the PAS dependent patients in the experimental group, PAS dependence was introduced by associates as noted by Muhammad and others in their research on characteristics of PAS dependent persons admitted in PAS dependence treatment centres at Peshawar, Pakistan that, 63% of the patients were introduced to PAS dependence by associates (Muhammad et al., 2004). Several researchers (Muhammad et al., 2004) have shown that after 5 years of PAS abstinence, relapse is rare. When the patients in the experimental group were asked to imagine 5 years from the time of intervention on the PAS dependence status, majority, imagined of being PAS free while a few had not made up their mind.

All the PAS dependent patients in the experimental group agreed that persistence thought about the PAS, looking for PAS vendors, craving for PAS and looking for PAS dependent persons trigger relapse. Witkiewitz, and Marlatt, in 2004 noted that craving for PAS and higher physiological response play a bigger role in triggering relapse. PAS relapse prevention was quite challenging to the caregivers and the experimental group due to individualized care and commitment to remain PAS free. This was mentioned by McKay, et al., in 1997 who noted that the relapse prevention participation required a higher level of involvement and commitment from PAS dependent patient than the standard group counselling.

In the mental status assessment, the study revealed that majority had a normal mental status. This means that after detoxification period the patients had a stable mental status ready for
rehabilitation and could make informed decision pertaining dependence on PAS and rehabilitation.

In the assessment of the patients guided by eleven functional health patterns, the study revealed that majority had fair functional health pattern. These patterns are very important for normal functioning of a social being.

In the general commends by the patients on what was more helpful in the care, majority of the participants in the experimental group felt that vision question was very helpful, others found ideas on time management helpful, while still others felt that patient involvement was helpful.

11.4 Follow-Up

After eight weeks post-discharge, majority of the experimental more than control group had avoided the former PAS dependent friends. Zurko in her newsletter reiterated that to stay PAS free, an addict has to let go of the associates that are still using the PAS (Zurko, 2011). The information about the patient’s relapse status and whether avoided PAS dependent associates were confirmed with the relatives and PAS dependent group leaders. The difference in avoiding the former PAS dependent friends for both experimental and control group was significant.

About 33.6% of the experimental and 63.9% of the control had relapsed to PAS dependence. Majority of the experimental group and only 22.7% of the control had a good relationship with family members during follow-up. Studies have shown that PAS dependence causes a hostile relationship between the patient and the family members (home intervention system, 2005). The relationship seems to improve as the patient stop using the PAS. The readmission
status of the PAS dependent patients was also evaluated and the study revealed that 3.2% of the participants in the experimental group and 25.2% of the control had been readmitted 8 weeks post discharge. The readmission rate was evidently high among the control group.

The experimental group had a lesser relapse relative risk than the controls therefore the participants who received the innovative nursing model approach were less likely to relapse. This means that exposure to the SRIM approach was significantly protective against the risk of relapse. The relapse prevented fraction in the experimental group was 48%. This is the proportion of potential relapse cases in experimental group which was prevented as a result of exposure to the SRIM approach. In the entire population, the relapse prevented fraction was 24%. This is the proportion of relapsed cases that would be avoided if all the patients were exposed to the SRIM approach.

This study has demonstrated that the SRIM approach would significantly contribute to the reduction of relapse among PAS dependent patients. The SRIM approach reduced the likelihood of relapse among the experimental group by about half. The prevented relapse proportion among the experimental group demonstrates that up to 48% of the controls who relapsed to PAS dependence would have been prevented if they were exposed to the SRIM approach.

Considering the variables (age, duration of PAS dependence, multiple PAS dependence) that could affect the rate of relapse, only being a Christian was independently significantly associated with relapse. Therefore being a Christian had the potential to reduce relapse in both the experimental and control groups. The duration of PAS dependence, the age of the participant and other variables had no direct effect (not significantly associated) on the
relapse to PAS dependence in both the experimental and control groups therefore the two groups were homogenous.

11.5 Level of Satisfaction by Both the Nurses and Patients in the Care at the Rehabilitation Centres

Majority of the experimental group who received care guided by SRIM as compared to those who received CICA were satisfied with the care they received at the rehabilitation centres. This difference in the level of patients’ satisfaction with care they received was found to be statistically significant. The nurses who administered care to patients suffering from PAS dependence using the SRIM approach evaluated both the SRIM and CICA. Almost all of the nurses who administered care to experimental group agreed that the SRIM is easy to use, it is adequate in addressing needs of the patients and also friendly in time duration required to administer care. More than half of nurses disagreed that the CICA is easy to use, it is adequate in addressing needs of the patients and also friendly in time duration required to administer care.
CHAPTER TWELVE: PHASE TWO CONCLUSION AND RECOMMENDATIONS

12.1 Introduction

This chapter outlines the conclusion and recommendation of phase two.

12.2 Conclusion

- Findings suggest that PAS dependency mostly affects the young adults and that most of the patients admitted for PAS rehabilitation are willing to stay PAS free.

- This study has demonstrated that the SRIM approach would significantly contribute to the reduction of relapse among PAS dependent patients.

- The findings of this study are promising given that this was the first testing. Further refining of the PAS nursing care intervention (factoring in the comments and suggestions from the nurses who participated in this study and feedback from the patients) is likely to significantly increase the efficacy.

12.3 Recommendations

Based on the findings of this study, the investigator makes the following recommendations;

- There is an urgent need for revision and restructuring of the CICA of management of PAS dependent patients.

- The institutions providing PAS management services may consider incorporating the SRIM approach in the management of PAS dependent patients.

- The SRIM approach is more useful and should be implemented in the management of PAS dependent patients in other institutions across the country.
REFERENCES


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Dear Respondent,

I am a Postgraduate nursing student in the School of Nursing, University of Nairobi pursuing Ph.D in Nursing Sciences.
I am carrying out a research for the development of a Nursing Intervention Model for the care of PAS dependent patients in Kenya.
This research is for academic purposes and inferences drawn from the findings will be used to make contributions and positively influence changes in the nursing care of PAS dependent patients. Your response to all questions will be kept confidential. Do not therefore write your name anywhere in this questionnaire.

Your participation is voluntary.

Investigator’s name: Catherine S. Mutunga Mwenda
Appendix II: Phase one Research Tool Objective Data (Checklist)

CHECKLIST (patient profile and care modalities)

Checklist Code ..............................................

SECTION I

Demographic and Socio-Economic Data

1. Age of the patient..........................................................

2. Gender: Male................................................. Female..........................

3. Marital status..............................................................

4. Highest level of education...........................................

5. Ethnic group..............................................................

6. Religious affiliation..................................................

7. Sources of income...................................................

8. Employment status
   • Employed................................................................
   • Unemployed..........................................................

SECTION II

1. Reason for admission..............................................

2. Length of admission................................................

3. Age at debut of abuse of substances..........................

4. Family background..................................................

5. Quality of relationship with family members. Good....... Fair......... Bad..........................

6. Relationship at school with teachers and other students Good....... Fair....... Bad..........

7. Cultural reasons for substance dependence..........................

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8. Culturally condoned PAS

9. Type(s) of PAS used

10. Patient's reasons for PAS dependence

11. Ever engaged in illegal activities to obtain PAS

12. Ever been arrested due to possession of illegal PAS

13. Ever lost a job because of PAS dependence

Treatment modalities

14. Management approaches

Post care follow up telephone call

15. Patient:
   - Within the first 8 weeks after discharge had you taken any PAS? Yes....... No .......
   - Were you satisfied with the care you received at the rehabilitation centre Yes... No ...
   - Readmitted within the first 8 weeks post last discharge Yes..... No.......... 

16. Significant other:
   - Is the patient (name) using any PAS? Yes ........... No ............
   - Readmitted within the first 8 weeks post last discharge Yes..... No........

End of the checklist

Thanks
Appendix III: Phase one Questionnaire for Nurses

Instructions:

Please don’t write your name on the questionnaire.

Please put a tick (✓) in the box that indicates your appropriate response.

Where no choices are given, please write / fill in the appropriate answer.

Social Demographic Data

1. Age? ......................................................................................................................

2. Gender: Male or Female?

   1) Male............................................................... 2) Female.................................

3. What is your marital status?

   I. Single..............................................................................................................

   II. Married/ Widowed..................................................................................

   III. Separated.................................................................................................

   IV. Others (specify) .......................................................................................

4. What is the level of your education?

   I. Secondary......................................................................................................

   II. University..................................................................................................

   III. Others specify...........................................................................................

5. What is your professional qualification?

   I. Kenya enrolled nurse/ midwife.................................................................

   II. Kenya enrolled nurse..............................................................................

   III. Kenya registered nurse / midwife.........................................................
IV. Kenya registered nurse

V. B.Sc. (nurse)

VI. Others (specify)

6. How many years have you cared for PAS dependent patient? ..... Years

Knowledge

1. Which of the following PAS do you know about or have heard of?
   - Cannabis (bhang, marijuana, cocaine)
   - Cocaine
   - Morphine
   - Heroin

2. In what form(s) are these substances dispensed (tick (√) the appropriate choice)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Syrup</th>
<th>Tablets</th>
<th>Powder</th>
<th>Injectables</th>
<th>Rolls</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Which are the various way(s) of using these substances (tick (√) the appropriate choice)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Drinking</th>
<th>Eating</th>
<th>Injecting</th>
<th>Sniffing</th>
<th>Smoking</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Are there any effects that these substances have on the psychiatric patients who use them? 1) Yes......... 2) No............ 3) don’t know..........................
5. If yes above (Q.4), what are the effects when a patient uses the following substances?
   • Cannabis (marijuana)
   • Cocaine
   • Morphine
   • Heroin

6. What nursing intervention(s) do you give to the PAS dependent patients?

7. What nursing intervention model have you been using in the care of the PAS dependent patients?

8. In what ways do you think nursing care of PAS dependent patients can be improved?

Sign

End of the Questionnaire

Thanks
Appendix IV Phase two Patient Consent

Serial No. __________________________

Date ___________ __________

Dear participant,

I am a Postgraduate nursing student in the School of Nursing, University of Nairobi pursuing Ph.D in Nursing Sciences.

I am carrying out a research for the testing of a Nursing Intervention Model for the care of PAS dependent patients in Kenya. In this study, you are going to be exposed to a different kind of nursing care assumed to be “better” than the care being received by the other patients who are not participating in the study. The study will not prevent you from taking any medication prescribed by the other healthcare providers.

This research is for academic purposes and inferences drawn from the findings will be used to make contributions and positively influence changes in the nursing care of psychoactive substance dependent persons. Your participation will be kept confidential and all the ethical principles will be followed keenly.

Your participation is voluntary.

Participant signature ........................................... 

Investigator name: Catherine S. Mutunga Mwenda
Appendix V: Model Testing Research Tool- Experimental Group

Duration 14 weeks

Testing of Nursing Intervention Model- experimental Group

Week 1: Caregiver Self Awareness

As a care giver, you should be aware of the following aspects and avoid applying your concerns about the aspects on the PAS patients you nurse.

- Biological aspects : Gender and age differences between the caregiver and the patient
- Socio-economic aspects: Personal values and cares about life, issues of personal resources and economic values
- Cultural beliefs: your cultural background and beliefs, cultural norms, cultural practices
- Spiritual beliefs: spiritual values, norms, and practices
- Care giver’s knowledge on PAS should be adequate to take care of a patient using any PAS of abuse
  - On job training sessions for the nurses on PAS of abuse to improve their knowledge, skills and attitude
  - Explain different types of PAS of abuse and their effect on the body physiologic functions
  - Outline the role of the nurse in the control and management of PAS related illnesses.

Week 2: Complete Patient Assessment
Patient Demographic Information

<table>
<thead>
<tr>
<th>Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IPNO</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
</tr>
<tr>
<td>Residence</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>Telephone No.</td>
<td></td>
</tr>
<tr>
<td>Next of kin</td>
<td></td>
</tr>
<tr>
<td>Telephone No.</td>
<td></td>
</tr>
<tr>
<td>Significant other</td>
<td></td>
</tr>
<tr>
<td>Telephone No.</td>
<td></td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
</tr>
<tr>
<td>Level of Education</td>
<td></td>
</tr>
<tr>
<td>Psychiatric Diagnosis</td>
<td></td>
</tr>
<tr>
<td>PAS dependence</td>
<td></td>
</tr>
</tbody>
</table>

You are from what kind of parental family relationship:
- Both parents together
- Single parent
- Divorced
- Separated
- Others (specify)

- Have you ever been admitted for a medical condition? Yes ___ NO ___
- If yes, explain
- Do you think the medical problem has contributed to your PAS dependence? Yes ___ NO ___
• If yes, explain............................................................................................

• Do you think the PAS dependence contributed to the medical condition? Yes ___ NO ___

• If yes, explain............................................................................................

• Have you ever been admitted for any psychiatric illness other than PAS dependence? Yes ______ NO __________

• If yes, please explain............................................................................................

• Which PAS/s have you been taking?..............................................................

  - For how long have you taken the substance/s............................................

  - What are the provoking factors to your PAS dependence, explain................

  - What reason can you give as the sustaining factor for your PAS dependence? ........................................

  - How do you fund your PAS dependence? ..........................................................

• Briefly summarize your childhood life............................................................

• How is your relationship with your family members? Describe briefly................

• How has the PAS dependence affected your relationship with family members? ........

• How does your culture affect your PAS dependence? ........................................

• What values in your culture do you think should be incorporated in the care?........

• Patient mental status assessment
<table>
<thead>
<tr>
<th></th>
<th>Normal</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movement and behaviour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thought content</td>
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<td></td>
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<tr>
<td>Thought process</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cognition</td>
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<td></td>
<td></td>
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<tr>
<td>Judgment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insight</td>
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</tbody>
</table>

Assessment Using Gordon’s eleven functional health patterns

<table>
<thead>
<tr>
<th>Pattern of Health Perception and Health Management</th>
<th>Normal</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional - Metabolic Pattern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pattern of Elimination</td>
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<td></td>
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<tr>
<td>Pattern of activity and exercise</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive - perceptual pattern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pattern of sleep and rest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pattern of self-perception and self-concept</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role - relationship pattern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexuality-reproductive pattern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pattern of coping and stress tolerance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pattern of values and beliefs</td>
<td></td>
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</tbody>
</table>

Individual therapy:

Together with the patient lay down the objectives and targets for individual therapy sessions (2 sessions per week)

Group therapy:

Group the PAS dependent patients in terms of PAS dependenced and organize a group therapy. Together with the patients lay down the objectives and targets for group sessions (2 group sessions per week)
Week 3: Nurse, Patient and Significant Others Collaborative Care-planning

- Take each patient as a single entity requiring unique care
- Involve the patient in the planning and implementation of care at all stages
  - What kind of care are you expecting to receive in this unit? ......................
  - Write down steps you think we should follow to help you come out of PAS dependence...
  - Please identify a significant other who is PAS free to participate in the planning of your care.
- Involve the significant others in the planning and implementation of care
  - What kind of care are you expecting your significant other to receive in this unit? ...
  - Write down steps that you think he/she can best help him/her come out of PAS dependence.....
  - What values in your culture do you think should be incorporated in the care? ..............

Week 4-14: Patient Individual Counselling and self awareness

A. Biological aspects: age, gender

- Do you know the effects such substance/s has in your body? Yes......... No........
- If yes, please write briefly on the good effects each PAS has on the body.........
- If yes, please write briefly on the bad effects each PAS has on the body.........
- Compare the advantages and disadvantages that each PAS has on the body......

B. Socio-economic aspects:

- In what ways has PAS dependence affected your social life? .................
- In what ways has PAS dependence affected your Level of education? ...
- In what ways has PAS dependence affected your Professional qualification?.............
• In what ways has PAS dependence affected your emotional response? …
• In what ways has PAS dependence affected your economic resources? …

C. Spiritual aspects: Religious, beliefs and values
• What are your religious beliefs pertaining substance use and health ……………………
• In what ways do you think religion can influence your PAS dependence? …
• In what ways has the PAS dependence affected your religious beliefs and values?…………

D. Cultural aspects
• In what ways has the PAS dependence affected your cultural beliefs and values?………..

Week 2-14: Focused Group Therapy – 1 Hour (1 session weekly)
• The nurse to group the patients according to specific characteristics: using similar PAS, from similar geographical background and exposure
• The nurse to do focus group therapy of patients sharing above specific characteristics.
  - The nurse to encourage the patients to share their strategies of stopping PAS dependence?
  - Let each patient share their experiences and the challenges faced in the effort to stop PAS dependence
  - Let each patient share their goals of stopping PAS dependence

The focus group therapy should then continue up to week 12)

Week 6: vision question

Imagining Changes 5 years from Now

Please answer the following question: “Let us imagine it is 5 years later. What would be your report about changes in your PAS dependence?”
Stopped taking PAS ______ still taking PAS ______ Don’t Know ______

Based on the participant’s response, this becomes the patient’s vision which she/he commits to and continues working on achieving for the next 5 years.

**Week 7: Relapse Prevention**

Relapse questions for the patient

Encourage the patient to remain PAS free.

Respond to the following illustrations about your relapse

- Can you identify any environment or social circumstance that trigger craving for the PAS of dependence? Peers ____ familiar bar ____ Seeing your dealer ____

  Getting very emotional ____ Event where alcohol is served ____ Social pressure __

  Other – please specify .................................................................

- Are you able to identify that environment or social circumstance that may trigger craving and thus avoid it or disengage? Yes ____ No ____ I try but I am unable to avoid ____ I am not able to identify a high risk situation ______

- Are you confident that by the time you finish your time in the unit, you will be able to avoid relapse? Yes______ No ______

Use the following classification to tick what describes your relapse situation best.

<table>
<thead>
<tr>
<th>SA- Strongly Agree</th>
<th>A-Agree</th>
<th>N-Not sure</th>
<th>D-Disagree</th>
<th>S-Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Poor time management</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
</tr>
<tr>
<td>b. Low self esteem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Difficulties relating with family members</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>d. Feelings of anxiety usually disturb me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Feelings of no hope in life.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
f. Feelings of excessive shame

g. Problems relating with my peers.

h. My family seems not to understand me.
i. Problem managing my anger

j. Marital conflicts in my marriage

k. Problem managing my finances.
l. Social pressure to use PAS.

Others .................................................................

Give the patient some homework “think of steps they can take to avoid relapse”. This should be discussed in the weeks on relapse.

**Reviewing Homework on relapse**

Discuss relapse prevention steps (see appendix VI on relapse). Raise issues about how a relapse could be handled and its impact on the health and relationship.

The nurse may summarize and underscore progress made over the course of therapy.

**Week 12: Personal Time Management**

Discuss personal time management with the patient as guided in appendix VII

**Week 13: Obtaining Feedback on Treatment**

Hand out sheets with the following questions:

- What was most helpful about the treatment?”

- What would be the clues that a relapse has happened?

Persistent thought about the PAS _________, Communication breakdown _______ Looking for PAS vendors _________ Craving for substance _________ looking for the PAS abdependent persons _______ all of the above ________ none of the above _________ others _______
• The Nurse and the client design a plan for preventing relapse. Be specific

• Do you have any suggestions on how to improve these sessions?

Nurses take notes on the client’ feedback

Proceed to follow-up and evaluation

Individuals with negative outcome

- Cultivate positive behaviour change in the patient by: reassessing the patient
- Encourage the patient to talk and confess positively about stopping the PAS dependence.

Week 14: Plan of Follow-up and Evaluation

Plan on follow-up sessions; confirm the telephone numbers (contact details from the patient and the relatives).

Encourage patients with similar characteristics to form PAS anonymous groups.

Continue with group therapy

Week 15-22: Follow-up- Via a Phone Conversation

Patient: Are you using any PAS of abuse Yes....... No .......

- Have you managed to avoid the PAS dependent friends? Yes_____ No _____
- If NO, How many PAS dependent associates do you have? All _____ fewer _____
- If yes, has the stopping PAS dependence affected your health in any way? Yes_____ No _____
- Were you satisfied with the care you received at the rehabilitation centre? Yes...... No........

- If no, please give commend on your response......................................................
- If yes give commend on your response .................................................................

Significant other: is the patient (name) using any PAS? Yes ....... No.......
- How has your relationship with family members been from the time that you stopped the habit? (✓ as appropriate) Good _______ Bad _______ Fair _______

Nurse's note: Your satisfaction level of the SRIM in the case of patients suffering from PAS dependence. (Tick your response in the appropriate space in the likert's scale below)


<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>1</td>
<td>It easy to use</td>
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<tr>
<td>2</td>
<td>It is adequate in addressing needs of the patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>It is friendly in time duration required to administer care</td>
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<tr>
<td>4</td>
<td>It is cost effective in terms of manpower required</td>
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<td>5</td>
<td>It is cost effective in terms of finances required</td>
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<tr>
<td>6</td>
<td>It is cost effective in terms of materials required</td>
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</tbody>
</table>

Nurse's note: on the client's feedback during follow-up.

Thank You for Your Participation!
**Nurse’s satisfaction level for both CICA and SRIM**

Nurse’s rate your satisfaction level of the CICA in the care of patients suffering from PAS dependence. (Tick your response in the appropriate space in the likert’s scale below)


<table>
<thead>
<tr>
<th>S.no.</th>
<th>Item</th>
<th>1</th>
<th>2</th>
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Nurses take notes on the client’s feedback during follow-up

**Thank You for Your Participation!**

Nurse sign..........................
Appendix VI: Relapse Prevention Steps (Modified from Dr. Melemis, 2010).

The Stages of Relapse

Relapse is a process, it's not an event. In order to understand relapse prevention you have to understand the stages of relapse. Relapse starts weeks or even months before the event of physical relapse.

There are three stages of relapse.

- Emotional relapse
- Mental relapse
- Physical relapse

1. Emotional relapse

In emotional relapse, you’re not thinking about using. But your emotions and behaviours are setting you up for a possible relapse in the future.

The signs of emotional relapse are: Anxiety, Intolerance, Anger, Defensiveness, Mood swings, Isolation, Not asking for help, Not going to meetings, Poor eating habits, Poor sleep habits

Early relapse prevention

- Practice self-care. The most important thing you can do to prevent relapse at this stage is take better care of yourself: avoid stress, feed well, remain with positive friends, let go of your resentments and fear, try relaxation techniques.

- Recognize that your behavior is changing and take appropriate action.
2. Mental Relapse

The signs of mental relapse are: Thinking about people, places, and things you used with, Glamorizing your past use, Lying, Hanging out with old using friends, Fantasizing about using, Thinking about relapsing and Planning your relapse around other people's schedules

Techniques for Dealing with Mental Urges

- Remind yourself of the negative consequences you've already suffered, and the potential consequences that lie around the corner if you relapse again.
- If you could control your use, you would have done it by now.
- Tell someone that you're having urges to use. Call a friend, a support, or someone in recovery.
- Distract yourself. When you think about using, do something to occupy yourself. Ensure that you are occupied with activities.
- Wait for 30 minutes. Most urges usually last for less than 15 to 30 minutes. When you're in an urge, it feels like an eternity.
- Make relaxation part of your recovery. When you're relaxed you are more open to change

3. Physical Relapse

Involves achieving abstinence through brute force. But it is not recovery.

If you recognize the early warning signs of relapse, and understand the symptoms of post-acute withdrawal, you'll be able to catch yourself before it's too late.

The First Rule of Recovery
Create a new life where it is easier to not use. Avoid High-Risk Situations like: Hungry, Angry, Lonely, Tired, PAS dependent persons, Places. (Places where you use or where you get your PAS), or things. (Things that remind you of PAS.)

- Take better care of yourself. Eat a healthier lunch so you're not as hungry at the end of the day.
- Learn how to relax so that you can let go of your anger and resentments. Develop better sleep habits so that you're less tired.
- Avoid your drinking friends, your favorite bar, and having alcohol in the house.
- Learn to Relax
- Be Honest with yourself and others.

How to Keep From Relapsing after Alcohol and Drug Rehabilitation (adapted from Zurko, 2011)

I. Keep from relapsing after starting recovery from PAS by replacing your old behaviors with new ones.

II. Make new associates and stay away from the ones using and the places you used in. Join groups.

III. Attend PAS Anonymous meetings as often as you can.

IV. Go to individual counseling sessions if you need the extra support.

V. Keep a record of your thoughts and feelings.
Appendix VII: Personal Time Management

- List down your activities for the next week.
- Prioritize your activities in the order of urgency
- Always keep time in any program
- Avoid procrastination of activities
- Avoid idleness
- Look for ways on how to multiply your efforts and increase productivity
- Try to be peaceful even when you have a million things to do
- Simplify your life and increase productivity

Here are some of the lists that you should create for yourself to be truly effective in managing your time:

• A daily priority list. This is today’s priority items and should have a small number of items on the list (usually less than eight).

• A general to-do list. If you are really busy and have lots of items on your list you might want to separate this into important to-dos and less important items.

• A list of items that are “on hold”. You can also call this list a “someday maybe” list. These are items you don’t want to do right now but might want to action sometime in the future.

• A list of items that you are waiting to follow-up on.

• A list of goals. This is the medium and longer term stuff that you want to achieve in your life. Goal setting is a very powerful process and if you don't have written goals this is something that you definitely should do.
• Projects and next actions. This is a list of all items that will take multiple action steps to achieve. With projects, it's crucial to work out what the next action step is so that you are constantly in forward motion.

• Make a list of the things you want to accomplish for the next week, a maximum of 7 things.

Then each day you work starting with number 1 on the list, then move to number 2 and further down the list.
Appendix VIII Gordon's Eleven Functional Health Patterns

1. Pattern of Health Perception and Health Management
How does the person describe his/ her current health? What does the person do to improve or maintain his/ her health? What does the person know about links between lifestyle choices and health? How big a problem is financing healthcare for this person? Can this person report the names of current medications s/he is taking and their purpose? If this person has allergies, what does s/he do to prevent problems? What does this person know about medical problems in the family? Have there been any important illnesses or injuries in this person's life?

2. Nutritional - Metabolic Pattern
Is the person well nourished? How do the person's food choices compare with recommended daily food intake? Does the person have any disease that affects nutritional- metabolic function?

3. Pattern of Elimination
Are the person's excretory functions within the normal range? Does the person have any disease of the digestive system, urinary system or skin?

4. Pattern of Activity and Exercise
How does the person describe his/ her weekly pattern of activity and leisure, exercise and recreation? Does the person have any disease that affects his/ her cardio-respiratory system or musculoskeletal system?

5. Cognitive -Perceptual Pattern
Does the person have any sensory deficits? Are they corrected? Can this person express her/ himself clearly and logically? How educated is this person? Does the person have any disease that affects mental or sensory functions? If this person has pain, describe it and its causes.

6. Pattern of Sleep and Rest
Describe this person's sleep-wake cycle. Does this person appear physically rested and relaxed?

7. **Pattern of Self-Perception and Self-Concept**
Is there anything unusual about this person's appearance? Does this person seem comfortable with her/ his appearance? Describe this person's feeling state?

8. **Role - Relationship Pattern**
How does this person describe her/ his various roles in life? Has, or does this person now have positive role models for these roles? Which relationships are most important to this person at present? Is this person currently going through any big changes in role or relationship? What are they?

9. **Sexuality-Reproductive Pattern**
Is this person satisfied with her/ his situation related to sexuality? How have the person's plans and experience matched regarding having children? Does this person have any disease/ dysfunction of the reproductive system?

10. **Pattern of Coping and Stress Tolerance**
How does this person usually cope with problems? Do these actions help or make things worse? Has this person had any treatment for emotional distress?

11. **Pattern of Values and Beliefs**
What principals did this person learn as a child that is still important to him/ her? Does this person identify with any cultural, ethnic, religious, regional, or other groups? What support systems does this person currently have?
Appendix IX: Mental Status Assessment

1. Appearance. The examiner notes the person's age, race, sex, civil status, and overall appearance. These features are significant because poor personal hygiene or grooming may reflect a loss of interest in self-care or physical inability to bathe or dress oneself.

2. Movement and behaviour. The examiner observes the person's gait (manner of walking), posture, coordination, eye contact, facial expressions, and similar behaviours. Problems with walking or coordination may reflect a disorder of the central nervous system.

3. Affect. Affect refers to a person's outwardly observable emotional reactions. It may include either a lack of emotional response to an event or an overreaction.

4. Mood. Mood refers to the underlying emotional "atmosphere" or tone of the person's answers.

5. Speech. The examiner evaluates the volume of the person's voice, the rate or speed of speech, the length of answers to questions, the appropriateness and clarity of the answers, and similar characteristics.

6. Thought content. The examiner assesses what the patient is saying for indications of hallucinations, delusions, obsessions, symptoms of dissociation, or thoughts of suicide. Dissociation refers to the splitting-off of certain memories or mental processes from conscious awareness. Dissociative symptoms include feelings of unreality, depersonalization, and confusion about one's identity.

7. Thought process. Thought process refers to the logical connections between thoughts and their relevance to the main thread of conversation. Irrelevant detail, repeated words and phrases, interrupted thinking (thought blocking), and loose, illogical connections between thoughts, may be signs of a thought disorder.
8. Cognition. Cognition refers to the act or condition of knowing. The evaluation assesses the person's orientation (ability to locate himself or herself) with regard to time, place, and personal identity; long- and short-term memory; ability to perform simple arithmetic (counting backward by threes or sevens); general intellectual level or fund of knowledge (identifying the last five Presidents, or similar questions); ability to think abstractly (explaining a proverb); ability to name specified objects and read or write complete sentences; ability to understand and perform a task (showing the examiner how to comb one's hair or throw a ball); ability to draw a simple map or copy a design or geometrical figure; ability to distinguish between right and left.

9. Judgment. The examiner asks the person what he or she would do about a commonsense problem, such as running out of a prescription medication.

10. Insight. Insight refers to a person's ability to recognize a problem and understand its nature and severity.
Appendix X: Specific Research Scoring Guides

1. PAS Formulation and Administration

<table>
<thead>
<tr>
<th>Substance</th>
<th>Formulation</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocaine</td>
<td>Powder, Injectable, Rolls</td>
<td>Snorted, Injected and Smoked</td>
</tr>
<tr>
<td>Cannabis</td>
<td>Rolls</td>
<td>Smoked</td>
</tr>
<tr>
<td>Heroin</td>
<td>Injectable</td>
<td>Injected</td>
</tr>
<tr>
<td>Morphine</td>
<td>Injectable</td>
<td>Injected</td>
</tr>
</tbody>
</table>

Each correct identification and administration and use will score 1.

2. Mental Status Assessment Score

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
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<tbody>
<tr>
<td>0-25% (8)</td>
<td>Poor</td>
</tr>
<tr>
<td>25-50% (15)</td>
<td>Fair</td>
</tr>
<tr>
<td>50-100% (30)</td>
<td>Good</td>
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</tbody>
</table>

Each aspect of mental status with adequate description as guided scored 3.

3. Score Gordon’s Eleven Functional Health Patterns

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25% (8)</td>
<td>Poor</td>
</tr>
<tr>
<td>25-50% (17)</td>
<td>Fair</td>
</tr>
<tr>
<td>50-100% (33)</td>
<td>Good</td>
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</table>

Each pattern with adequate description as guided score 3.
Appendix XI: Testing of Nursing Intervention Model- Control Group

Complete Patient Assessment

Patient Demographic Information

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>IPNO</td>
<td></td>
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<tr>
<td>Sex</td>
<td></td>
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<tr>
<td>Age</td>
<td></td>
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<tr>
<td>Marital status</td>
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<td>Address</td>
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<tr>
<td>Next of kin</td>
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<tr>
<td>Telephone No.</td>
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<tr>
<td>Significant other</td>
<td></td>
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<td></td>
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<tr>
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<td></td>
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<tr>
<td>Religion</td>
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<tr>
<td>Level of education</td>
<td></td>
</tr>
<tr>
<td>Psychiatric Diagnosis</td>
<td></td>
</tr>
<tr>
<td>PAS dependence</td>
<td></td>
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</tbody>
</table>

For how long have you used the PAS of dependence.................................

You are from what kind of parental family relationship:

- Both parents together.................
- Single parent...........................
- Divorced...............................
- Separated.............................
- Others...............................(specify)

Follow-up- via a phone conversation at the end of the eighth week after discharge.
- Have you managed to avoid the PAS dependent friends? Yes____ No____
- If NO, How many associates do you have? All _____ fewer_____ and how many times have you used the substances? __________________________
- If Yes, How has your relationship with family members been from the time that you stopped the habit? (✓ where applicable)
  Good _______ Bad _______ Fair _______
Patient: Are using any PAS of abuse Yes....... No ........
Significant other: is the patient (name) using any PAS? Yes ........ No....... 

If yes, has the stopping of the habit affected your health in any way? Yes____ No____

Were you satisfied with the care you received at the rehabilitation centre? Yes....... No ........
- If no, please comment on your response......................................................
- If yes comment on your response ..............................................................

Nurses take notes on the client’ feedback during follow-up

THANK YOU FOR YOUR PARTICIPATION!
Appendix XII: Authority Letters

Catherine S Mutunga Mwenda,
School Of Nursing, University of Nairobi,
P.O Box 19676-KNH,
Nairobi.

Nursing Officer In-Charge,
Mathari Hospital,
P.O Box 45107,
Nairobi.

Dear Sir,

Re: Permission to Carry Out A Study on the innovation of A Nursing Intervention Model for the Care of PAS Dependent Patients in Kenya

I am a Postgraduate nursing student in the School of Nursing, University of Nairobi pursuing Ph.D in Nursing Sciences.

I am undertaking this research for academic purposes, inferences drawn from the findings will be used to make contributions and positively influence changes in the nursing care of PAS dependent patients. The study will involve two phases;

Phase one: Collection of information from patients' documented data in the record department and a questionnaire will be administered to the nurses in direct care of PAS dependent patients.

Phase two: A two-group simple randomized experimental study (clinical trial) to test the nursing intervention model that will have been developed using the information collected in phase one.

I will highly appreciate if you would kindly grant me permission to carry out the above study in your area of jurisdiction.

Yours Faithfully,

Catherine S Mutunga Mwenda
Dear Sir,

Re: Permission to Carry Out A Study on the innovation of A Nursing Intervention Model for the Care of PAS Dependent Patients in Kenya

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I will highly appreciate if you would kindly grant me permission to carry out the above study in your area of jurisdiction.

Yours Faithfully,

Catherine S Mutunga Mwenda
The Administrator, The Retreat Centre,  
P.O Box 1501-00066,  
Nairobi.

Dear Sir,

Re: Permission to Carry Out A Study on the innovation of A Nursing Intervention Model for the Care of PAS Dependent Patients in Kenya

I am a Postgraduate nursing student in the School of Nursing, University of Nairobi pursuing Ph.D in Nursing Sciences.

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Yours Faithfully,

Catherine S Mutunga Mwenda
Catherine S Mutunga Mwenda  
School of Nursing, University of Nairobi,  
P.O Box 19676-KNH, Nairobi. 

The Administrator, Brightside Treatment Centre,  
P.O Box 16942 00620, Nairobi.

Dear Sir,  

Re: Permission to Carry Out A Study on the innovation of A Nursing Intervention Model for the Care of PAS Dependent Patients in Kenya  

I am a Postgraduate nursing student in the School of Nursing, University of Nairobi pursuing Ph.D in Nursing Sciences.  

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I will highly appreciate if you would kindly grant me permission to carry out the above study in your area of jurisdiction.

Yours Faithfully,

Catherine S Mutunga Mwenda
Catherine S Mutunga Mwenda
School of Nursing, University of Nairobi
P.O Box 19676-KNH
Nairobi-Kenya
July, 2009

The Administrator, Asumbi Treatment Centre,
P.O Box 16942 00620
Nairobi

Dear Sir,

Re: Permission to Carry Out A Study on the innovation of A Nursing Intervention Model for the Care of PAS Dependent Patients in Kenya

I am a Postgraduate nursing student in the School of Nursing, University of Nairobi pursuing Ph.D in Nursing Sciences.

I am undertaking this research for academic purposes, inferences drawn from the findings will be used to make contributions and positively influence changes in the nursing care of PAS dependent patients. The study will involve two phases;

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I will highly appreciate if you would kindly grant me permission to carry out the above study in your area of jurisdiction.

Yours Faithfully,

Catherine S Mutunga Mwenda
Appendix XIII: Photos/slides
The four institutions prohibit any kind of photographing in the compound therefore the investigator could not attach the photos of the sessions. However, the PAS dependent patients have formed substance use anonymous (SUA) groups therefore they can be contacted for any confirmation.
Appendix XIV: MAPS

Map of Nairobi Area

(Google World, 2009)
Map of Kenya

(Google World, 2009)

The Secretary ERC KNH/UoN


This is to inform you that the above named presented her Defence of the PhD proposal on 11th May, 2009 and her proposal Was approved by the School of Nursing Sciences.

The title of the proposal is on: A NURSING INTERVENTION MODEL FOR THE CARE OF PSYCHOACTIVE SUBSTANCE DEPENDENT PATIENTS IN KENYA.

The supervisors only sign after approval by the school.

Thank you

Mrs Teresa Odero
Ag Director, School of Nursing Sciences
Ref: KNH/UON-ERC/ A/302

Catherine Syombua Mutunga Mwenda
Dept. of Nursing Sciences
School of Medicine
University of Nairobi

Dear Catherine,

RESEARCH PROPOSAL: "A NURSING INTERVENTION MODEL FOR THE CARE OF PSYCHOACTIVE SUBSTANCE DEPENDENT PATIENTS IN KENYA" (P147/5/2009)

This is to inform you that the Kenyatta National Hospital/UON Ethics and Research Committee has reviewed and approved your above revised research proposal for the period 10th September 2009-9th September, 2010.

You will be required to request for a renewal of the approval if you intend to continue with the study beyond the deadline given. Clearance for export of biological specimen must also be obtained from KNH-ERC for each batch.

On behalf of the Committee, I wish you fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of database that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Yours sincerely

DR. L. MUCHIRI
AG. SECRETARY, KNH/UON-ERC

cc. The Chairperson, KNH/UON-ERC
    The Deputy Director CS, KNH
    The Dean, School of Medicine, UON
    The Chairman, Dept. of Nursing Sciences, UON
    Supervisors: Prof. Karani Ann, School of Nursing Sciences, UON
                Dr. James Mwaura, School of Nursing Sciences, UON
                Prof. Ganga-Limando, Aga Khan University
Catherine S. Mutonga Mwenda
College of Health Sciences
School of Nursing Sciences
UNIVERSITY OF NAIROBI

Dear Catherine,

REF: AUTHORITY TO CONDUCT RESEARCH

We acknowledge receipt of your research protocol titled “A nursing Intervention Model for the Care of Psychoactive Substance Dependent Patients in Kenya”.

The Ministry has reviewed your protocol and granted authority for you to conduct the above study in the following institutions:

1. Mathari Hospital
2. Chiromo Lane Medical centre
3. Brightside D.A.R.T centre
4. Asumbi Treatment centre, Nairobi.

You will be required to submit to this office a copy of your findings on completion of your study.

Dr. Francis M. Kimani
DIRECTOR OF MEDICAL SERVICES

Cc: Medical superintendent - Mathari Hospital.
Administrator - Chiromo Lane Medical Centre
Administrator - Brightside D.A.R.T centre
Administrator - Asumbi Treatment centre, Nairobi
FROM: C. M. E.D

To: ALL WARDS IC's

This is to confirm that Mrs Catherine S Mutunga Muwenda, a student at The University of Nairobi, has been authorised to carry out research on “A Nursing Intervention Model for the Care of Psychotropic Substance Dependent Patients in Kenya.”

Please accord her the necessary assistance.

Kibara - CED IC
for Deputy Medical Superintendent