NOVA Medical School / Faculdade de Ciências Médicas

Universidade NOVA de Lisboa

Availability of Psychotropic Medications in Primary Health Care Facilities in the Gambia

Master's Dissertation in Mental Health Policy and Services

By

Mr. Dawda Samba

Supervised by:

Professor Benedetto SARACENO

2017

Dedication

It has been challenging but with the Guidance and Support of my Wife, Gulo Camara, and the Joy and Inspiration from my Smart Children Momodou Lamin and Fateema; I have come to the end of yet another stage of my academic/professional career and my passion to improve the lives and livelihood of persons with Mental Health problems.

I therefore dedicate this Thesis to Gulo, Momodou and Fateema.

Acknowledgement

I would like to sincerely acknowledge and appreciate the support and guidance of my Supervisor, **Professor Benedetto Saraceno.** He provided me leadership, mentorship, coached me through the thesis process in the most amicable and amiable manner.

My Special appreciation to Dr. Julian Eaton (CBM, LSHTM), Dr. Michelle Funk and Dr. Nathalie Drew (Mental Health Policy and Service Development, Department of Mental Health and Substance Abuse, World Health Organization, Geneva). They have individually and through their institutions supported me on my master's program with the ultimate aim that persons with mental health problems will live a dignified life and access services.

To Professor Oye Gureje and the mhLAP Team, Professor José Miguel Caldas de Almeida, Professor Graça Cardoso (Nova Medical School, Universidade Nova de Lisboa)**,** Mr. Momodou Gassama and the WHO Country Office Staff, Medical Research Council, Ministry of Health and Social Welfare, National Association of Gambia Nurses and Midwives, Nurses and Midwives Council, CIAM, Pharmacy Council of the Gambia, A Colleague and Friend Mr. Alex Sylva: Thank you, This could not have been achieved without their support.

This study is closely Knitted to the work of mhLAP in the Gambia through its mhGAP Implementation supported by CBM.

Abstract in English

Background: Medication is a significant component in the implementation of mhGAP in the Gambia. There is growing emphasis on health systems strengthening in the Gambia and the preparedness of facilities to deliver accessible, affordable, acceptable and quality mental health services.

Objective: Assess the availability of essential Psychotropic medications at PHC facilities and identify facilitators/barriers to their availability.

Design: A questionnaire adapted from the 2015 WHO Essential Drugs List was used to assess the availability of the core psychotropic medications.

Setting: 106 facilities have been assessed in the three levels through which PHC is delivered in the Gambia; the primary, secondary and tertiary levels which comprise of Hospitals, Major and Minor Health Facilities, Village Health Post, NGOs and Private Clinics and Major Pharmacy Chains.

Results: The National availability of psychotropic medicines is 30%, with 27.7% availability in public facilities compared to 32.8% in Private facilities. Monthly treatment costs ranged from US$10.7 for Midazolam (15mg daily) to US$5 for carbamazepine (200mg daily). 1% of facilities have a psychiatric specialist (2 Technical Aid Cuban Psychiatrists and 8 Gambian Psychiatric Nurses). In 14% of the facilities, Auxiliary (untrained) nurses prescribe psychotropic medications. In some cases up to 28% of a monthly earning can go into the purchase of a single antidepressant drug.

Conclusion: Availability of psychotropic medicines is low across all the regions in the Gambia and the gap/disparity between public and private sector availability is very apparent. The low availability and high cost of psychiatric treatment, poses significant barriers to patient care and does not correspond with the burden of mental and substance abuse problems at 6.5% of the adult population having mental or substance abuse problems. The private sector medication prices are exorbitant considering the average earning power of a Gambian civil servant.

Keywords

Psychotropic Medications, Anticonvulsants; Antidepressants; Antipsychotics; Gambia, Cost, Availability.

Resumo em Português

Antecedentes: A medicação é um componente significativo na implementação do mhGAP na Gâmbia. Há uma crescente ênfase no fortalecimento dos sistemas de saúde na Gâmbia e na preparação das instalações para oferecer serviços de saúde mental acessíveis, custo-acessíveis, aceitáveis e de qualidade.

Objetivo: Avaliar a disponibilidade de medicamentos psicotrópicos essenciais em instalações de Cuidados de Saúde Primários (CSP) e identificar facilitadores / barreiras à sua disponibilidade.

Desenho: Foi utilizado um questionário adaptado da Lista de Medicamentos Essenciais da OMS de 2015 para avaliar a disponibilidade dos medicamentos psicotrópicos do núcleo.

Definição: 106 instalações foram avaliadas nos três níveis através dos quais os CSP são fornecidos na Gâmbia; os níveis primário, secundário e terciário, que fazem parte dos Hospitais, maiores ou menores organizações de saúde, Postos de saúde da aldeia, ONGs e Clínicas Privadas e Principais Cadeias the Farmácia.

Resultados: A disponibilidade nacional de medicamentos psicotrópicos é de 30%, com disponibilidade de 27,7% em instalações públicas, em comparação com 32,8% em instalações privadas. Os custos mensais do tratamento variaram de US $ 10,7 para Midazolam (15 mg por dia) para US $ 5 para Carbamazepina (200 mg por dia). 1% das instalações possuem um especialista psiquiátrico (2 psiquiatras cubanos de assistência técnica e 8 enfermeiras psiquiátricas gambianas). Em 14% das instalações, os enfermeiros auxiliares (não treinados) prescrevem medicamentos psicotrópicos. Em alguns casos, a compra de um único medicamento antidepressivo pode alcançar até 28% de um salário mensal.

Conclusão: A disponibilidade de medicamentos psicotrópicos é baixa em todas as regiões da Gâmbia e a diferença / disparidade entre a disponibilidade do setor público e privado é muito evidente. A baixa disponibilidade e o alto custo dos tratamentos psiquiátricos, representam obstáculos significativos para o atendimento do paciente e não correspondem ao peso real dos problemas mentais e de abuso substância em 6,5% da população adulta. Os preços dos medicamentos do setor privado são exorbitantes considerando o poder médio de ganho de um funcionário gambiano.

Palavras-Chave

Medicamentos psicotrópicos, Anticonvulsivantes; Antidepressivos; Antipsicóticos; Gâmbia, custo, disponibilidade.

Resumen en Español

Antecedentes: La medicación es un componente importante en la implementación de mhGAP en Gambia. Cada vez se hace más hincapié en el fortalecimiento de los sistemas de salud en Gambia y en la preparación de las instalaciones para prestar servicios de salud mental accesibles, asequibles, aceptables y de calidad.

Objetivo: Evaluar la disponibilidad de medicamentos psicotrópicos esenciales en las instalaciones de APS e identificar facilitadores / barreras para su disponibilidad.

Diseño: Se utilizó un cuestionario adaptado de la Lista de Medicamentos Esenciales de la OMS de 2015 para evaluar la disponibilidad de los medicamentos psicotrópicos básicos.

Establecimiento: Se han evaluado 106 instalaciones en los tres niveles a través de los cuales se administra la APS en Gambia; Los niveles primario, secundario y terciario que comprenden Hospitales, Centros de Salud Mayor y Menor, el Poste de Salud de la Aldea, las Clínicas de ONG y Privadas y las Cadenas de Farmacias Mayores.

Resultados: La disponibilidad nacional de medicamentos psicotrópicos es del 30%, con un 27,7% de disponibilidad en establecimientos públicos frente a un 32,8% en instalaciones privadas. Los costos mensuales de tratamiento oscilaron entre US $ 10,7 para Midazolam (15 mg a diario) y US $ 5 para carbamazepina (200 mg diarios). 1% de las instalaciones cuenta con un especialista en psiquiatría (2 Asistentes Técnicos en Psiquiatría Cubana y 8 Enfermeras Psiquiátricas de Gambia). En el 14% de las instalaciones, las enfermeras auxiliares (sin entrenamiento) prescriben medicamentos psicotrópicos. En algunos casos hasta el 28% de una ganancia mensual puede ir a la compra de un solo medicamento antidepresivo.

Conclusión: La disponibilidad de medicamentos psicotrópicos es baja en todas las regiones de Gambia y la brecha / disparidad entre la disponibilidad de los sectores público y privado es muy evidente. La baja disponibilidad y el alto costo del tratamiento psiquiátrico, plantea barreras significativas a la atención al paciente y no se corresponde con la carga de problemas mentales y de abuso de sustancias en el 6,5% de la población adulta que tiene problemas mentales o de abuso de sustancias. Los precios de los medicamentos en el sector privado son exorbitantes teniendo en cuenta el poder adquisitivo promedio de un funcionario de Gambia.

Palabras claves

Medicamentos Psicotrópicos, Anticonvulsivos; Antidepresivos; Antipsicóticos; Gambia, Costo, disponibilidad.

Table of Contents

List of Tables

List of Figures

List of Box

List of abbreviations

ADHD	Attention Deficit Hyperactivity Disorder
AN	Auxiliary Nurse
CRR	Central River Region
CHN	Community Health Nurse
CMHT	Community Mental Health Team
CRPD	Convention on the Rights of Persons with Disabilities
DALY	Disability Adjusted Life Years
EN	Enrolled Nurse
EML	Essential Medicine List
GBoS	Gambia Bureau of Statistics
GBD	Global Burden of Disease
GDP	Gross Domestic Product
GNP	Gross National Product
HIS	Health Information System
HMIS	Health Management Information System
ICESCR	International Convention on Economic, Social and Cultural Rights
IRP	International Reference Prices
LMIC	Low and Middle Income Country
LRR	Lower River region
MRC	Medical Research Council
MHA	Mental health Action Plan
mhGAP	mental health Gap Action Program
mhLAP	mental health Leadership and Advocacy Program
MDG	Millennium Development Goals
MOH	Ministry of Health
NHP	National health Policy
NGO	Non-Governmental Organization
NBE	North Bank East
NBW	North Bank West
OOP	Out of Pocket
OPD	Out Patient Department
PAHO	Pan American Health Organization
PHC	Primary Health Care
RN	Registered Nurse
SCC	Scientific Coordinating Committee
SDG	Sustainable Development Goals
TTPH	Tanka Tanka Psychiatric Hospital
UDHR	Universal Declaration of Human Rights

URR	Upper River region
WCR	West Coast Region
WHR	Western Health Region
WHO-AIMS	World Health Organization Assessment Instrument for Mental Health
WHO/HAI	World Health Organization Health Action International
WHR	World Health Report
YLD	Years Lived with Disability

CHAPTER 1 – INTRODUCTION

Health is a state of complete physical, MENTAL, and social well-being and not merely the absence of disease or infirmity (WHO 1948). The world since 1948 have been informed that there is no health without mental health: that mental health is and will always be an integral part of health. Worldwide, mental health disorders account for 14 % of the burden of diseases (WHO 2013). Mental illness affects 450 million people in the world with estimates that one in every four will be affected with mental illness during their life time, placing mental disorders among the leading causes of ill health and disability worldwide. Treatments are available, but nearly two-thirds of people do not receive treatment for their mental disorder. This treatment gap can be higher in low and middle income countries (WHO 2001).

Contrary to previous findings, Daniel Vigo et al, 2016, argued that the global burden of mental illness accounts for 32·4% of years lived with disability (YLDs) and 13·0% of disability-adjusted life-years (DALYs), instead of the earlier estimates suggesting 21·2% of YLDs and 7·1% of DALYs. Currently used approaches underestimate the burden of mental illness by more than a third. Our estimates place mental illness a distant first in global burden of disease in terms of YLDs, and level with cardiovascular and circulatory diseases in terms of DALYs. The unacceptable apathy of governments and funders of global health must be overcome to mitigate the human, social, and economic costs of mental illness (Daniel Vigo et al 2016). The Gambia heavily relies on pharmacological interventions to manage mental illness due to limited trained mental health service providers.

An estimate in 2013 showed that the Gambia spends about 0.54% of her total health budget on mental health (mhLAP 2013). The magnitude of mental health burden is not matched by the size and effectiveness of the response it demands. Furthermore, 33% of countries allocate less than 1% of their total health budgets to mental health, with another 33% spending just 1% of their budgets on mental health. A limited range of medicines is sufficient to treat the majority of mental disorders. About 25% of countries, however, do not have the three most commonly prescribed drugs used to treat schizophrenia, depression and epilepsy at the primary health care level. There is only one psychiatrist per 100 000 people in over half the countries in the world, and 40% of countries have less than one hospital bed reserved for mental disorders per 10 000 people according to the WHO in 2001. The poor often bear the greater burden of mental disorders, both in terms of the risk in having a mental disorder and the lack of access to treatment. The lack of access to affordable treatment makes the course of the illness more severe and debilitating, leading to a vicious circle of poverty and mental health disorders that is rarely broken.

Mental disorders make a substantial independent contribution to the burden of disease worldwide Non-communicable diseases including mental illness are rapidly becoming the dominant causes of ill health in the world. Mental disorders are commonly occurring, seriously impairing, and widely under-treated in both developed and developing countries. In short, they are a major cause of suffering, disability, and healthcare costs and they account for a great portion of the global burden of disease. For example, the landmark Global Burden of Disease (GBD) study demonstrated that, among the top 10 main causes of disability, five are mental disorders: major depression, schizophrenia, bipolar, alcohol abuse, and obsessive–compulsive disorders (Murray & López, 1996).

Generally the availability of psychotropic basic/essential psychotropic medications is very low compared to the other classes of medication in the health system. The use of medication is an integral part of psychiatric treatment in addition to non-pharmacological interventions. However, worldwide the access to such medication can vary considerably. The MHA 2013-2020 states that the availability of basic medicines for mental disorders in primary health care is notably low (in comparison to medicines available for infectious diseases and even other non-communicable diseases), and their use restricted because of the lack of qualified health workers with the appropriate authority to prescribe medications (MHA 2013-2020).

However, the Gambia like any other country has an obligation to provide the basic minimum acceptable health service to her people which includes the availability of essential medications as stated in the 1978 Alma Ata Declaration. "Essential medicines are those that satisfy the priority health care needs of the population. They are selected with due regard to public health relevance, evidence on efficacy and safety, and comparative cost-effectiveness. Essential medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price the individual and the community can afford. The implementation of the concept of essential medicines is intended to be flexible and adaptable to many different situations; exactly which medicines are regarded as essential remains a national responsibility. Unfortunately there is inequitable access to these essential medications. About 30% of the world's population lacks regular access to essential medicines; in the poorest parts of Africa and Asia this figure rises to over 50% (WHO, 2004).

Notably, there is an inadequate appreciation of the connectedness between mental illness and other health conditions. Because these interactions are protean, there can be no health without mental health. Mental disorders increase risk for communicable and non-communicable diseases, and contribute to unintentional and intentional injury. Conversely, many health conditions increase the risk for mental disorder, and comorbidity complicates help-seeking, diagnosis, treatment, and influences prognosis. When the World Health Organization European Ministerial Conference on Mental Health endorsed the statement "No health without mental health" in 2005, it spoke to the intrinsic and indispensable role of mental health care in health care writ large. Yet mental health has long been treated in ways that reflect the opposite of that sentiment. This historical divide in practice and in policy between physical health and mental health has in turn perpetuated large gaps in resources across economic, social, and scientific domains. The upshot is a global tragedy: a legacy of the neglect and marginalization of mental health (Martin Prince et al 2007). Mental health has been given special attention in the Sustainable Development Goals under goal 3. These goals will be the guiding principle of national and global development in the next 15 years and there are very clear targets and indicators towards achieving them.

Background

Country Context

Demographic Characteristics

The Republic of The Gambia is located in West Africa along the flood plain of the Gambia River flanked by low hills. It has a tropical climate with hot rainy season from June to November, and cool and dry season from November to May. It stretches over 400 kilometers inland from west to east on either side of the River Gambia, varying in width from about 50 km near the mouth of the river to about 24 km upstream. The country is bound to the north, south, and east by the Republic of Senegal and to the west by the Atlantic Ocean. The River Gambia, which runs the entire length of the country from the Futa Jallon highlands in the Republic of Guinea to the Atlantic Ocean, divides the country's land area of 10,689 square kilometers almost equally into two halves: the South Bank and the North Bank (GBoS 2013).

The Gambia`s land area covers approximately 11 thousand sq. km (4, 361 sq. mi.). The country is divided into five regions (Western, Lower River, Central River, Upper River and North Bank) and two municipalities (Banjul and Kanifing). There are seven health regions, namely West Coast Region 1, West Coast Region 2, Lower River Region, Central River Region, Upper River region, North Bank West and North Bank East. Both Banjul and Kanifing are in the West Coast Health Region 1.

Population Distribution

The Gambia has a population of 1,857,181 people in 2013 and a population density of 176.1 per square kilometer, and the overall life expectancy in The Gambia is 64.1 years. 57.6% of the population is between the ages of 15-60. The median age of the population is 19.9 years. This seemingly youthful population of the Gambia is therefore a justification for the Gambia to invest in mental health. Females constitute 50.8% and males 49.2% of the population. On average, the population of The Gambia has been growing at the rate of 3.3 per cent per annum during the inter-censal period 2003-2013. There is a rise in population density from 127 persons per square kilometer in 2003 to 176 persons per square kilometer in 2013 (GBoS 2013).

The Crude Birth Rate (CBR) is 40.5 per 1000 population (GBoS 2013a) and the Crude Death Rate (CDR) is estimated at 9.24 per 1000 population (World Bank Report 2010). The Infant Mortality Rate (IMR) is 34 per 1000 and Under-5 Mortality Rate (>5 MR) is reported at 54 per 1000 live births (GDHS 2013), Maternal Mortality Ratio (MMR) is 433 per 100000 live births (GDHS 2013). 60% of the population lives in the rural area and the high fertility level of 5.6 births per woman (GBoS 2013a) has resulted in a very youthful population structure.

Total life expectancy (both sexes) at birth for Gambia is 63.5 years. This is below the average life expectancy at birth of the global population which is about 71 years (according to Population Division of the Department of Economic and Social Affairs of the United Nations). Male life expectancy at birth is 61.2 years while Female life expectancy at birth is 65.9 years. 55.1% of the population aged 15 and above are literate. The disability prevalence is 1.2% in 2013. Nationally, four in every one thousand had some form of disability.

Economy and Employment

Out of the total population, 1,442,974 were 7 years and above. Out of the population 7 years and over 45.3% were economically active while the remaining 54.7% are economically inactive. Majority of the employed population are self-employed 56.9% while 24.9% are employed for pay while 16% are unpaid family workers. Unemployment Rate in Gambia increased to 29.8 percent in 2013 from 22 percent in 2010. Unemployment Rate in Gambia averaged 15.95 percent from 1994 until 2013, reaching an all-time high of 29.8 percent in 2013 and a record low of 6.00 percent in 2003 (GBoS 2013). Poverty has a direct or indirect implication on the psychosocial wellbeing of people as a result of growing inequalities between the rich and poor. This effect of poverty includes emotional and behavioral problems that can graduate to acute or chronic psychiatric problems. Poverty is a multidimensional phenomenon that includes poor health.

The Gambia has an open economy with limited natural resources and it is one of the least developed countries in the world with a per capita income estimated at US $318 in 2013. It is ranked 172 out of 187 countries in the HDI for 2013 UNDP. Agriculture accounts for roughly 24% of GDP and employs about 70% of the labor force. Other economic activities include industry and service-oriented industry. The Gambia is classified as Low Income economy (i.e. GNI per capital of USD1 or less) by the World Bank. The percentage of the population living on less than USD1.25 per day is 34.3%. Population living below national poverty line is 61.3% in 2010. It should be noted that urban areas have a much lower poverty rate (39.6%) than rural areas (67.7%).

Furthermore, the Gambia is highly dependent on external aid to finance development projects in all the different sectors, more so in the priority sectors. The results of the first National Health Accounts (NHA) for the fiscal years 2002-2004 revealed that 67% of the financing to the health sector comes from the donors, with rest of the financing split between the government (21%) and household's out-of-pocket expenditure (48-50%), (World Health Organization Regional Office for Africa, 2009).

National Health System

Following the Alma Ata Declaration in 1978, the Gambia adopted the primary Health Care Approach a year later and a PHC Plan of Action from 1980 to 1986 was formulated, and this formed the basis for the first comprehensive National Health Policy. Primary health care (PHC) addresses the main health problems in the community, providing promotive, preventive, curative, and rehabilitative services accordingly. The Alma-Ata declaration has outlined the eight essential components of PHC and provision of essential medicines is one among them. It envisages for basic health services being universally accessible to the population.

In responding to the declaration and other national policies, the Gambia strengthened its PHC approach. PHC in the Gambia is delivered through three levels of care; 1) the primary level provides the preventive and curative action through a network of health facilities manned or supervised by trained Community Health Nurses (CHNs), 2) the secondary level provides procedures less complicated than the tertiary and has a network of major and minor health centers, and clinics with more specialized staff and equipment and 3) the tertiary level provides more specialized services and interventions and is intended to function as a referral service for the secondary level (Kebba M Njie et al, 2014). Health facilities in the Gambia are categorized into hospitals, major health centers, minor health centers, NGO clinics, Private clinics, community clinics and health posts. Currently there is only one Teaching hospital, one regional Eye care center and five general hospitals. There are seven major health centers and 43 minor health centers distributed within the regions. There are 30 NGO facilities across the country and almost half of the clinics are concentrated in West Coast Region 2.There are 25 private health facilities in the country and 60% of them are in West Coast Region 1.

	Indicator	**Value**	**Source**
1	General government expenditure on health as % of GDP	1.99%	NHA, 2013
2	Total expenditure on health as % of GDP	5.67%	NHA, 2013
3	Percentage of national budget allocated to health.	10.56%	Budget estimates
4	Percentage of total budget released on time to the health sector	45%	IFMIS, 2015
5	Out of pocket expenditure as % of private expenditure on health	30.70%	NHA, 2013
6	External resources on health as % of total expenditure on health	46.7%	NHA, 2013
7	General government expenditure on health as % of total expenditure budget	12.4%	NHA, 2013
8	Per capital government drug expenditure	128	NHA, 2013
9	Private sector expenditure on health as % of total expenditure on health	71.9%	NHA, 2013
10	The Per Capita Expenditure on Health as average exchange rate	28.07	NHA,2013

11	Out of Pocket Expenditure on Health	21.2 %	NHA, 2013
12	General government expenditure on health	28.1	NHA,2013

Table 1 - Health Financing

Primary Health Care

The Gambia adopted Primary Health Care (PHC) in 1979 following the Alma- Ata declaration in 1978. Subsequently a PHC Plan of Action for the period 1980 to 1985 was formulated which formed the basis for a National Health Policy. In the Plan of Action, PHC is defined as:

"An approach aimed at mobilizing all potential resources including the communities' own resources, towards the development of the National Health Care System, and to extend health services coverage to the entire Gambian population and to address the main disease problems of the communities".

PHC is also a mechanism for ensuring an equitable re-distribution of the limited health resources available in the country in favor of the under-served majority, who live and work in the rural area. The decades old government policy of establishing PHC services in villages with a population of 400 or more or where access is difficult continue so as to accommodate new villages (HMIS, 2015)**.**

Additionally, "Achieving Better Health for Africa in the New Millennium" was adopted during the International Conference on PHC and Health Systems in Africa, held in Ouagadougou, Burkina Faso, from 28 to 30 April 2008. The Conference reviewed past experiences on PHC and redefine strategic directions for scaling up essential health interventions to achieve the then health-related MDGs using the PHC approach for strengthening health systems through renewed commitment of all countries in the African Region. The conference adopted the "Ouagadougou Declaration on Primary Health Care and Health Systems in Africa: Achieving Better Health for Africa in the New Millennium," which has been signed by all the African Region Member States. During its fifty-eighth session, held in Yaounde, Cameroon in September 2008. The Ouagadougou Declaration was also endorsed by the Regional Committee through its Resolution AFR/RC58/R3. Consequently, since the Alma-Ata Conference on Primary Health Care, progress has been made by countries in the African Region with regard to the eradication of smallpox, control of measles, eradication of poliomyelitis and guinea worm disease, and elimination of leprosy and river blindness. However, accelerated progress in strengthening health systems using the PHC approach is needed in a number of countries including the Gambia in order to achieve nationally and internationally agreed health goals, including the SDGs (Ouagadougou and Algiers Declarations, 2008).

The Gambia Standard Drug Treatment Guideline

The Gambia Standard Drug Treatment Guidelines is meant for prescribers (Medical Doctors & Nurses) in hospitals, health centers and dispensaries. It is also a useful guide to those in private practice, including pharmacies. The treatment guidelines can also serve as a reference document, especially for training purposes. The treatment guideline establishes the standard for the diagnosis and treatment of the majority of health problems in the country. The use of this guideline was also aimed at contributing towards a more rational and cost-effective utilization of drugs at all levels of the health service delivery system.

The treatment guide which is aimed at addressing the major health problems and all levels of the health care system does not include the treatment of any psychotic, developmental or neurologic problems though it contains guidelines on the use of diazepam, phenobarbital, phenytoin, sodium valproate, and carbamazepine.

Mental Health situation in the Gambia

The World Mental Health Survey, 2004, estimated that approximately 27,000 people in the Gambia (or 1.5% of the population aged 15 years and more) is suffering from a severe mental disorder and a further 91,000 (or 5% of the population aged 15 years and more) are suffering from moderate to mild mental and substance abuse disorder. This means that at least 118,000 people in the Gambia (or 6.5% of the 2013 population) are likely to be affected by mental disorders which require varying degrees of treatment and care yet in an average year only 4,426 people receive treatment. This means that over 80% of people with severe mental disorder in The Gambia are left without access to the treatment they need. Increases in the abuse of cannabis, heroin, cocaine, ecstasy and other stimulant type drugs have been noted in The Gambia. The rise in the use of substances constitutes a serious threat to the country's public health, safety and well-being, especially among young people. The problem is further exacerbated by the fact that drug control and law enforcement structures of the country are thought to be ineffective (WHO Mind Gambia).

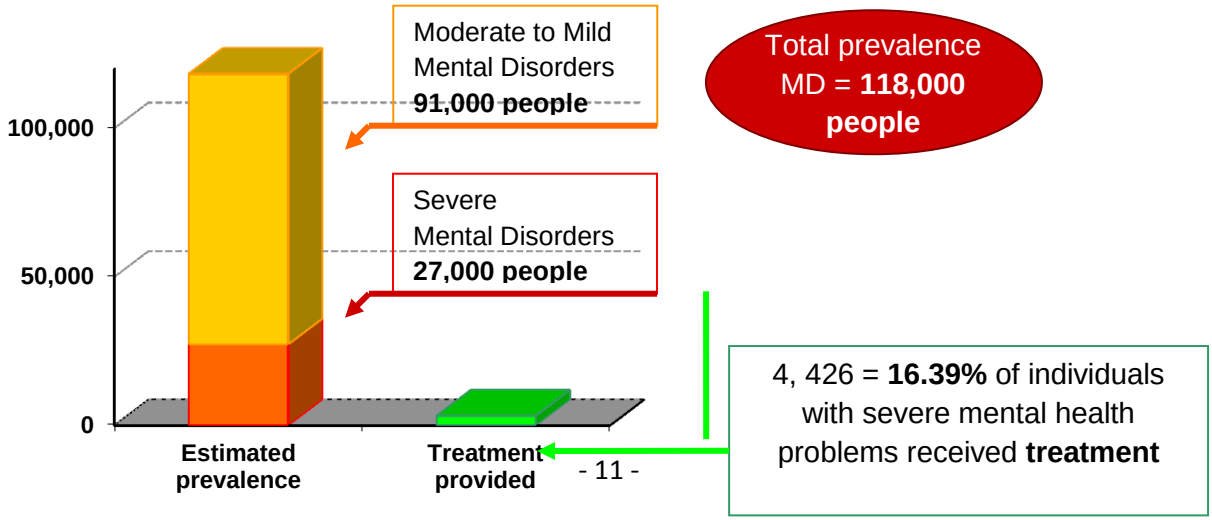


Figure 2: Treatment Gap

Tanka Tanka Psychiatric Hospital is the only mental health specialist facility in The Gambia. It came into service in May 2009 to replace the Campama Psychiatric unit and is located just outside the capital of Banjul. The hospital has a capacity of 100 beds with an average inpatient of 80. Patients can stay in the hospital for periods ranging from 6 weeks to a couple of years. The facility is used for admitting men, women, children and forensic cases. There is no inpatient mental health unit or ward in any other facility in the country, meaning all patients requiring admission must travel from any part of the country to Tanka Tanka.

Community mental health service was established in 1992. These services are delivered predominantly by the mobile Community Mental Health Team (CMHT) based at the Tanka Tanka Psychiatric Hospital. The CMHT organizes clinical visits to communities in provincial Gambia every three months. These visits have been irregular as a result of challenges of transportation and medications. The team is composed of one psychiatric nurse and two enrolled nurses. Part of the irregular visits has been attributed to financial constraints.

There are no specific budget allocations for mental health and no details available about expenditure on mental health. The budget for mental health is embedded within the national health budget. Financing of mental health services is therefore mainly provided through out of pocket payments, non-profit organizations, grants and other international agencies. This phenomena has greatly affected mental health service delivery in the country leading to the minimal or lack of funding for vital mental health programs like procurement of psychotropic medications, enhancing human resource capacity, transport and other logistics.

Human Resource

Specialist	**Number**
Psychiatrists	2 Cubans on mission
Neurosurgeons	0
Neurologists	0
Psychiatric nurses	8
Psychologists	0
Occupational therapists	0
Social workers	1

Table 2 - Mental Health Human Resource

Study Background

With growing emphasis on health systems strengthening in global health, health facility assessment methods are increasingly being used to gauge readiness of facilities to deliver accessible, affordable, acceptable and quality services to all. Measuring the availability of essential medicines at facilities is one of the core components of these assessments. However, while surveys focusing on the affordability of medicines tend to follow standardized methodologies, health facility assessments have employed a wide variety of tools and approaches (Yoonjoung Choi et al, 2013). The provision of affordable, high quality and appropriate essential medicines is a vital component of a well-functioning health system. Many lives could be saved by improved access to essential medicines. However, providing universal access to essential medicines is a major challenge in low and middle income countries. A particularly vulnerable class of drugs amongst the essential list of drugs is psychotropic medications.

Gambia`s health care system is not very different from most other low and middle-income countries (LMIC) in sub-Saharan Africa; primary health care addresses the major health needs of the population in the Gambia. This provides promotive, preventive, curative, and rehabilitative services within the community (Rohit Dixit, 2011). With an estimated 118,000 people with mental health and substance abuse disorders, statistics in 2012 showed that only a fraction (about 4000 people annually) receive any form of formal mental health care (mhLAP 2012, HMIS 2012). The majority of those receiving care are within the Greater Banjul Area (Western Health Region 1). Bridging this gap is fundamental in providing health for all.

The primary objective of this study is to assess the availability of psychotropic medication at primary health facilities, which is well articulated in the national health policy and strategic plan. For example, Section 10.1 of the 2012 – 2020 National health policy states that "reliable availability of essential medicines (drugs, basic equipment, vaccines, contraceptives and other medical supplies) are critical to provide quality health care service and towards the attainment of positive health outcomes". Objective of health policy section 10.1 is "To ensure available and affordable essential medicines that are safe, efficacious and of the required quality".

However, equity is becoming a major challenge. The Gambia has only one psychiatric institution (Tanka Tanka Psychiatric Hospital) to serve the whole country. The hospital has a capacity of 100 patients and a community mental health team (CMHT) responsible for outreach services, but this also faced serious challenges. The team is expected to go round the whole country every three months to provide services but this has been a challenge and for a while these visits have not taken place. It is essential to improve mental health care at primary health care level to not only serve as a viable substitute to these visits but because this

is the recommendation of the WHO according to its Pyramid of mental health. More should be done at the base of the pyramid (community).

Despite the challenges, some positive developments have been registered. Within the past two years, the Ministry of Health had collaborated with the mental health leadership and advocacy program (mhLAP) and the WHO to develop a national mental health treatment guide and conducted series of trainings for primary health care workers on provision of basic mental health services. What is critical is to ensure that service provision is accompanied with availability of psychotropic medications at community level. The guideline is the domesticated version of the generic WHO Mental health Gap Action Program Intervention Guidelines (mhGAP-IG). Twenty-five nurses were trained on the management of basic psychiatric disorders and the use of the mhGAP IG for Gambia. They also serve as trainers on the tool. As part of the mhGAP Implementation program in the Gambia, 500 copies of the domesticated mhGAP IG for the Gambia have been printed and distributed to health facilities in the country. A key component of the use and management of patients using the mhGAP IG Gambia requires the availability of essential psychotropic medications at primary health care level as recommended by the WHO.

Similarly the World Health Organization Essential Medicines List (EML) serves as a model for public supply and reimbursement of medicines. The list was first drafted in 1977 and expanded in 2007 to include essential medicines for children. The list highlights the most critical medicines for adult and pediatric patients (Harinder Singh Chahal et al, 2013).

Essential medicines

Essential medicines are those that satisfy the priority health care needs of the population. They are selected with due regard to public health relevance, evidence on efficacy and safety, and comparative cost-effectiveness. Essential medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price the individual and the community can afford (Rohit Dixit et al, 2011).

The WHO Model List of Essential Medicines which serves as a guide for the development of national and institutional essential medicine lists is updated and revised every two years by the WHO Expert Committee on Selection and Use of Medicines. The 19th WHO Model List of Essential Medicines and 6th WHO Model List of Essential Medicines for Children were endorsed by the 20th WHO Expert Committee on Selection and Use which met in April 2015. Essential medicines are selected with due regard to disease prevalence and public health relevance, evidence of clinical efficacy and safety, and comparative costs and cost-effectiveness. Essential medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality, and at a price the individual and the community can afford.

The Model List is a guide for the development of national and institutional essential medicine lists. It was not designed as a global standard. However, for the past 30 years the Model List has led to a global acceptance of the concept of essential medicines as a powerful means to promote health equity. Most countries including the Gambia have national lists and some have provincial or state lists as well. National lists of essential medicines usually relate closely to national guidelines for clinical health care practice which are used for the training and supervision of health workers (WHO Essential Medicines, 2015).

The Gambia National Essential Drugs List

The first essential drugs list of the Gambia was produced in 1984 and contained 200 substances, and altogether 270 generic drug products that was in use. The drugs on the Gambian list largely conform to the WHO model list; differences were mostly due to cost factors or limitations in diagnostic facilities and the competence of the manpower. Even though the number of drugs was reduced significantly from the roughly 500 prior to the essential drugs program, the then range in the national essential list met the principal requirements (Dr. Mariatou T. Jallow, 1993).

Table 3 - Comparison of Psychotropic Drugs in WHO Model List 2015 and National Essential Drugs List, Gambia

WHO 2015 Model List Drugs (Core)	National Essential Drugs List, Gambia
Antiepileptic	
Carbamazepine	Carbamazepine
Diazepam	Diazepam
Phenobarbital	Phenobarbital
Phenytoin	Phenytoin
Sodium Valproate	
Magnesium Sulfate	
Midazolam	
	Ethosuximide
Antidepressant	
Amitriptyline	Amitriptyline
Fluoxitine	
	Imipramine
Antipsychotic	
Chlorpromazine	Chlorpromazine
Fluphenazine	Fluphenazine Decanoate
Haloperidol	Haloperidol
Risperidone	
	Thioridazine
	Trifluperazine
Bipolar Disorder Medicines	
Lithium Carbonate	
Carbamazepine	Carbamazepine
Sodium Valproate	
Anxiety Disorder Medicines	
Diazepam	Diazepam
Obsessive Compulsive Disorder Medicine	
Clomipramine	

Sustainable Development Goals (SDG) on Mental Health

Aside the challenges enumerated above, mental health is increasingly receiving global attention. Mental Health for the first time is strongly featured in the global development agenda. World leaders are recognizing the promotion of mental health and well-being, and the prevention and treatment of substance abuse, as health priorities that are a fundamental part of the world agenda. The inclusion of mental health and substance abuse in the sustainable development agenda, which was adopted at the United Nations General Assembly in September 2015, will undoubtedly have a positive impact on communities and countries where millions of people will receive much needed help. The then United Nations Secretary General Ban Ki-moon in welcoming this development said: "The new agenda is a promise by leaders to all people everywhere. It is a universal, integrated and transformative vision for a better world."

The inclusion of non-communicable diseases under the health goal is a historical turning point. Finally these diseases are getting the attention they deserve. Mental health and substance abuse are very poorly resourced at present. Through the SDGs they are likely to become part of country development plans and of bilateral and multilateral development assistance. This could well mean that millions of people will finally receive much needed help. This better world is envisioned in the declaration as a place "where physical, mental and social well-being is assured" in keeping with the WHO definition of health. Specifically, goal 3 of the 17 Sustainable Development Goals (SDGs) focuses on ensuring healthy lives and promoting well-being for all at all ages. World leaders have committed to "prevention and treatment of non-communicable diseases, including behavioral, developmental and neurological disorders, which constitute a major challenge for sustainable development". "Through their 169 interactive and synergistic targets, the SDGs seek to move the world towards greater fairness that leaves no one behind" stated Dr. M. Chan, WHO Director-General

The two targets within the health goal that are directly related to mental health and substance abuse are:

Target 3.4 requests that countries: "By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being."

Target 3.5 requests that countries: "Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol." (World Health Statistics, 2016)

Mental Health, Legislation and Human Rights

The Gambia harbors old discriminatory laws that continue to marginalize people with psychosocial problems. These laws have a negative impact on the investment and perception of people and institutions towards mental health. The 1997 constitution of the Gambia states:

The right to vote 39. (1) Every citizen of The Gambia being eighteen years or older and be registered of **sound mind** shall have the right to vote for the purpose of elections of a President and members of the National Assembly, and shall be entitled to be registered as a voter in a National Assembly constituency for that purpose.

(3) Every citizen of The Gambia being of the age of eighteen years or older and of **sound mind** shall be entitled, in accordance with the provisions of this Chapter and any Act of the National Assembly providing for such elections to vote in elections for local government authorities and traditional rulers in the area in which he or she is ordinarily resident.

It is unfortunate that this document did not provide any interpretation or definition of what "sound mind" or "unsound mind" is. This is a legal lacuna and may leave people with problems like depression, anxiety to be excluded in exercising their franchise.

These unfortunate legal provisions also extends to the "Lunatic Detention Act" 1917 last revised in 1964 which does not contain access to care, provisions to protect patients against involuntary admission and treatment or any requirement for consent, protection of rights of people with mental disorders, rights of families and carers, protection of the rights of vulnerable groups, substance use and abuse and legislative links with other sectors etc. This law is not only archaic but irrelevant to modern Gambia, and also falls far short of the human right principles and standards set by the international community (Gassama, WHO 2013). It must be noted that efforts are being made to drafting new mental health legislation in the Gambia.

However, the 2012-2020 National Health Policy (NHP) provides for Improve access to quality mental health care for all Gambians as one of its objective. The policy document identified the following measures to achieving improved mental health care in the Gambia.

- Implement the Mental Health Policy and Strategy
- Strengthening capacity for the diagnosis, management, prevention and control of mental and neurological disorders

- Providing quality, equitable and affordable mental health services to the general population
- Promote Information, Education and Communication (IEC) on substance abuse
- Promoting advocacy for the reduction of stigma and discrimination against people with mental and neurological disorders
- Strengthening community involvement and participation in mental health care service delivery
- Operationalise the revised current Lunatics' Detention Act of 1917 taking into account the enactment of new mental health legislation.
- Establishing and strengthening capacity for mental health research
- Strengthen the prevention, case management and control of mental health illnesses country wide.

Contrary to the negative national legislations, the SDGs have set the stage for global action to promote mental health; more action is needed to address the human rights challenges associated with mental health. Gostin L (2000) stated that there are three main relationships between mental health and human rights: mental health policy affects human rights, human rights violations affect mental health, and positive promotion of mental health and human rights are mutually reinforcing. The right to a high standard of physical and mental health is well articulated in the UN bill of rights and the Convention on the Rights of Persons with disabilities (ratified by the Gambia in July 2013). Article 25 of the CRPD further expands this by calling on State Parties to provide high quality, free and affordable health services to people with disabilities, and to make such services closer to where they live (United Nations, 2007).

The Universal Declaration of human Rights (UDHR) states that all humans are "born free and equal in dignity and rights." Among the rights enshrined under the UDHR are several that are of particular relevance to people with mental disabilities. These include the rights to equality before the law; to freedom from torture and cruel, inhuman or degrading treatment; the right to employment and to remuneration ensuring "an existence worthy of human dignity"; the right to education, and the right to share in the cultural life of the community and to benefit from scientific advancements. Many of these most basic rights are routinely denied to people with mental disabilities. Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) recognizes "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health" (United Nations, 1966b).

The Gambia`s 1997 constitution does not have a special provision on the right to health but this is recognized in the Banjul Charter. The Charter entitles everyone to a range of human rights (several of which are particularly relevant to people with mental disabilities) including the right to equality before the law; the right

to human dignity and freedom from all forms of exploitation and degradation; the right to appeal and the right to defence, including the right to be defended by counsel of one's choice. Moreover, every person has the right to enjoy the best attainable state of physical and mental health and states are required to take the necessary steps to protect the health of their people and ensure that they receive medical attention when they are sick (Banjul Charter, 1982).

Box 1.

Ruling by the African Commission on Human and People's Rights on human rights and mental health

The Gambia

Purohit and Moore brought a case to the African Commission on Human and People's Rights claiming that the law on Mental health in the Gambia was outdated, that there were no provisions or requirements establishing safeguards during diagnosis, certification and detention of patients, that there was overcrowding in the psychiatric unit and that there was no requirement of consent to treatment or subsequent review of continued treatment.

The commission found the Republic of the Gambia in violation of a number of its

Articles and strongly urged the Gambia to:-

- Repeal the Lunatics Detention Act and replace it with new human rights oriented legislation.
- Create an expert body to review cases of all persons detained under the legislation
- **Provide adequate medical and material care for persons with mental disabilities.**
- The Commission requested the Gambia to report back to the African Commission on measures taken to comply with the recommendations.

Source: Purohit and Moore/The Gambia 241/2001, Sixteenth Annual Activity report on the African Commission of Human and People's Rights, 2002-2003

The Alma Ata Declaration

Purohit and Moore's case is a clear demonstration of the need to reposition mental health by making the services more available with the context of human rights as advocated in the Alma Ata Declaration of primary Health Care. Indeed, the 1978 Alma-Ata declaration adapted by the Gambia has outlined the eight essential components of PHC and provision of essential medicines is one among them. WHO –WONCA 2008 states that there are 10 Principles for integrating mental health into primary care. The sixth principle is "Access to essential psychotropic medications in PHC". The WHO in November 2015 published its latest list of essential medicines for countries for an efficient provision of primary health care.

Governments have a responsibility for the health of their people which can be fulfilled only by the provision of adequate health and social measures. A main social target of governments, international organizations and the whole world community in the millennium development goals was that in the following decades, there should be the attainment by all peoples of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life. Primary health care is the key to attaining this target as part of development in the spirit of social justice, according to the declaration.

The declaration provides that Primary health care: includes at least: education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation; maternal and child health care, including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; and provision of essential drugs.

Aim and objectives

The ultimate aim of the study is to contribute to the promotion of management of mental disorders at PHC level, through the provision of essential psychotropic medications at the level of the community.

The outcome of the study will inform policy decisions and the inclusion of psychotropic medications in the national treatment guideline and the national essential drugs list. The specific objectives are:

- Assess the availability of essential Psychotropic medications at Primary health care facilities.
- Identify facilitators/barriers to the availability of essential psychotropic medications at primary care level.

A major output of the study will be "a psychotropic medication map of the Gambia". This map will show the availability and distribution of psychotropic medications based on the seven health administrative regions in the Gambia.

Research Questions

- Whether psychotropic medications are available at the primary health care level
- Which are the facilitators and the barriers to achieve this goal

Study hypotheses

- There is limited supply and an uneven distribution of essential psychotropic medications in PHC facilities in the seven health regions of the country.
- Psychotropic medications are not prescribed at the PHC level due to poor human resource capacity.

Conceptual Framework of Thesis

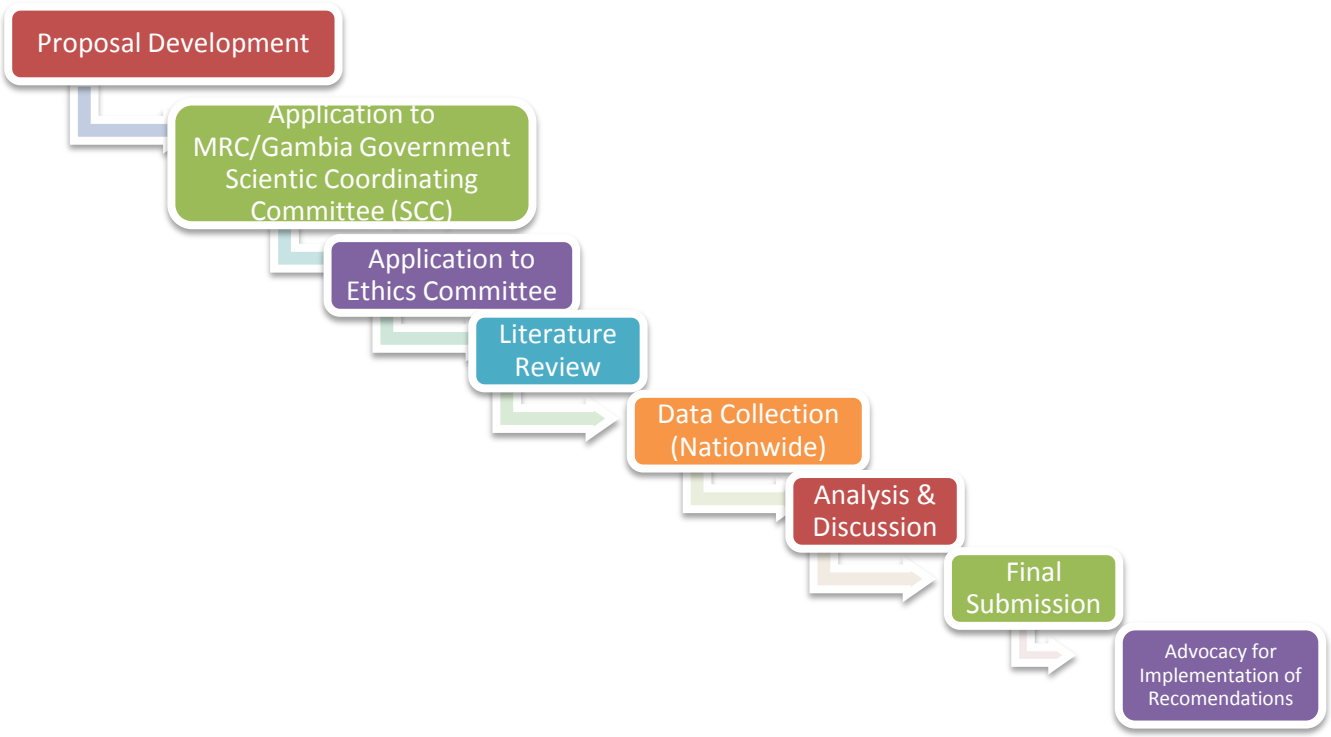


Figure 2: Conceptual Framework

CHAPTER 2: LITERATURE REVIEW

Introduction

The 1978 Alma-Ata declaration adapted by the Gambia has outlined the eight essential components of PHC and provision of essential medicines is one among them. Strengthening PHC was again the focus of the Ouagadougou Declarations of 2008. Modeled from the WHO essential medicines list, the Gambia for decades have developed her own National Essential drugs list. Scarcity of available resources, inequities in their distribution, and inefficiencies in their use pose the three main obstacles to better mental health, especially in low-income and middle-income countries (Shekhar Saxena et al 2007).

Dr. Mariatou Tala Jallow in her study "Essential Drugs in the Gambia" in 1993 revealed that the Gambia is faced with numerous challenges in this field. She identified problems of ineffective drugs legislation and regulations, supply systems, poor drug management, logistics, insufficient financial resources and human resource constrains as major challenges. The enormous positive achievements because of the Alma Ata declaration have been unevenly distributed leaving a big gap in the domain of mental health services. The situation in Gambia is not much different from Ghana. In Ghana, about 13 % of the adult population is estimated to be affected by mental health disorders of varying forms. In managing these patients, psychotropic medications are mostly employed which are consumed for prolonged periods of time. There were frequent shortages of commonly prescribed psychotropic medications across the country. Oppong continued that even when psychotropic medications are subsidized by the private sector, the average cost of a day's supply of the most common antipsychotic was 4 % of the daily minimum wage (Oppong S. 2016).

In spite of several attempts by states, national and international agencies, mental health care is given the least attention it deserves and in adding his voice to the call, WHO/WONCA 2008 stated that there are 10 Principles for integrating mental health into primary care. The sixth principle is "Access to essential psychotropic medications in PHC" and "To distribute psychotropic medicines directly to PHC rather than through psychiatric hospitals".

Availability of Psychotropic Medications

Johannes Thome et al (2011) in their study the availability of psychiatric medication in an urban area of The Gambia stated that the use of a wide and differentiated arsenal of psychopharmacological substances is integral part of modern psychiatric treatment in addition to non-pharmacological interventions (e.g., psychotherapy). However, worldwide the access to such medication can vary considerably. In this study, access to a wide range of psychiatric medication including antidepressants, antipsychotics, tranquilizers, mood stabilizers and ADHD medication was analyzed for the Western African country of The Gambia by surveying private pharmacies within the urban and sub-urban areas of Banjul. The results show that most of these pharmacies tend to keep a very limited range of psychiatric drugs in stock. In many instances only a tricyclic antidepressant (e.g., amitriptyline), the neuroleptic haloperidol and the benzodiazepine diazepam were readily available. None of the pharmacies kept ADHD medication in stock, and only very few had mood stabilizers. It is essential that government-sponsored so-called "essential medication lists" are continuously updated in order to reflect the progress in medical research including psychopharmacology (Johannes Thome et al, 2011).

In a similar argument, Shekhar Saxena et al in 2007 stated that the unavailability of essential medicines also constrains mental health treatment. About a quarter of low-income countries do not provide even basic antidepressant medicines in primary care settings. In many others, the supply does not extend to all regions of a country or is irregular, despite the fact that effective pharmacological treatment for many disorders depends on continuous access to medication for extended periods. Since medicines are often not available in health care facilities, patients and families can be forced to pay for them. Because of the disproportionate prevalence of mental health problems in lower income groups, mental health care can be unaffordable for some groups, and thus inequitable. Moreover, the cost of essential medicines is relatively high in low-income countries: for example, a 1-year supply of one of the least expensive antidepressant medicines costs only twice in high-income countries what it costs in low-income countries, whereas gross national product (GNP) per head in these countries differs by a factor of 12·5.

In a different line of argument, Mar Roberts (2014) stated that in terms of available interventions, approximately 20% of the patients in outpatient services received psychosocial interventions and forty per cent of the facilities had at least one psychotropic medicine of each therapeutic class (anti-psychotic, antidepressant, mood stabilizer, anxiolytic, and antiepileptic medicines) available on site or at a near-by pharmacy all year round.

Crucially, evidence from use of the WHO/HAI survey tool, show that medicine affordability and availability issues show no boundaries. It is the poor who are really paying the price, both economically and with their health. By the end of 2007, over 50 surveys had been undertaken across the globe, from Cameroon and the Cook Islands to El Salvador, South Africa and the Syrian Arab Republic. They have generated reliable evidence showing, for the first time, some startling facts about the affordability and availability of medicines. The results of these surveys revealed that in many low and middle income countries:

- Medicine prices are high, especially in the private sector (e.g. over 80 times an international reference price);
- Availability can be low, particularly in the public sector (including no stocks of essential medicines);
- Treatments are often unaffordable (e.g. requiring over 15 days' wages to purchase 30 days' treatment);
- Government procurement can be inefficient (e.g. buying expensive originator brands as well as cheaper generics);
- Mark-ups in the distribution chain can be excessive; and
- Numerous taxes and duties are being applied to medicines (WHO OMS, 2008.3).

A further limitation to accessing care is a lack of voluntary or private health insurance in most low income and middle income countries, although use by wealthier individuals in some countries is growing. Even for advantaged groups who have chosen to pay for voluntary insurance cover (or for whom employers have paid on their behalf), so called managed care arrangements, such as those now widely used in the US, can exclude people with chronic and severe mental illness because of the high costs of their treatment, or because premiums are unaffordable (Shekhar Saxena et al 2007). Not only are resources for mental health scarce, but they are also distributed inequitably: between countries, between regions, and within local communities. Need and access tend to vary inversely, those with highest need have least access to care. The rate of mental disorders and the need for care are highest in poor people, those who are least educated, women, young people, and rural communities; yet these groups have low access to appropriate services. Within communities, disadvantaged populations such as homeless people and refugees tend to have high rates of mental disorder, as do the indigenous populations of countries with colonial histories, even when these countries have a high average income per head.

Despite these high rates of mental illness, rural populations have inadequate access to care, since mental health professionals in most low income and middle income countries tend to live in and around the largest

cities. Of 20 countries that assessed their mental health systems with the WHO Assessment Instrument for Mental Health Systems (AIMS) method, 12 reported that rural populations were under represented among users of outpatient services. Similarly, six of 13 countries reported that ethnic and religious minorities were under represented in the use of outpatient services. The main reason for this barrier to access was that services did not use strategies to deliver care equitably to all groups.

Rohit Dixit et al (2011) posited that zvailability of medicines in developing countries is undermined by several factors and one among them is poor medicine supply and distribution systems. It is critical that any health care system (especially PHCs) must take the issue of availability of essential medicines to the patients in the right quantity very seriously.

Like the Gambia, most provincial services in South Africa superficially endorse the importance of integrating mental health into PHC, and some training initiatives have been undertaken for PHC nurses. A small percentage of the training for medical doctors is devoted to mental health, while 21% of undergraduate nursing is devoted to mental health. However, gross inequity exists. There is wide variability between provinces in the availability of assessment and treatment protocols for key mental health conditions. Primary health care nurses are allowed to prescribe but with restrictions (e.g. they are not allowed to initiate prescription but are allowed to continue prescription). Primary health care doctors are allowed to prescribe all medications on the essential medicines list. There is wide variation in the availability of psychotropic medicine at PHC level. All mental hospitals had at least one psychotropic medicine of each therapeutic class (anti-psychotic, antidepressant, mood stabilizer, anxiolytic, and antiepileptic medicines) available in the facility (WHO-AIMS South Africa 2007).

Yoonjoung Choi`s study on "Comparison of medicine availability measurements at health facilities evidence from Service Provision Assessment surveys in five sub-Saharan African countries", have equally realized that availability of at least one psychotropic medication varied greatly across most of the medicines and countries. Nevertheless, a small number of medicines showed relatively similar levels across countries. In all five countries, the availability was lower than 20% (Yoonjoung Choi et al, 2013).

Alexandra Cameron (2013) in his study stated that in the public sector, availability of the basket of 15 generic medicines was low, ranging from 9.7% in Yemen to 79.2% in Mongolia. Regional availability ranged from 29.4% in Africa to 54.4% in the Americas; mean availability in the public sector was lower than in the private sector in all regions. Even in the private sector, availability of generics was low, ranging from 50.1% in the western Pacific to 75.1% in Southeast Asia. Equally important is a discuss on the public/private availability of

psychotropic medication. High private sector availability of generics was recorded in Syria (97.5%) and Chennai, India (91.8%), whereas low availability was seen in Chad (14.8%), Kuwait (36.3%), the Philippines (33.6%), and China (34.6% in Shandong and 38.3% in Shanghai). Wide variations in availability were noted within WHO regions. In western Pacific countries, public sector availability of generics ranged from 22.2% in the Philippines to 79.2% in Mongolia. Similarly, private sector availability of generics in Africa ranged widely, from 14.8% in Chad to 79.1% in Ethiopia.

Identically to Alexandra`s study, the WHO also stated that public sector availability of medicines is low in all developing country regions, and is consistently lower than in the private services. In the 27 developing countries for which data are available, average public sector availability was only 34.9 per cent. When medicines are not available in the public sector, patients will have to purchase medicines from the higher-priced private sector, or forgo treatment altogether. Since health facilities in the public sector generally provide medicines at low cost or free of charge, they are especially important for providing access to medicines for the poor. In individual surveys, availability is reported as the percentage of medicine outlets in which a medicine was found on the day of data collection (WHO MDG, 2008).

With similar socioeconomic background like the Gambia but a contrasting medication availability level, Peru has anti-anxiety medications available in health facilities of all levels of care. Antidepressants and antipsychotics were available in about two thirds of hospitals and in less than 20% of health centers and small health clinics. The other four classes of psychotropic medications (lithium, hypnotics and sedatives, psychostimulants/ADHD, and anti-dementia drugs) were only available in hospitals and not in health centers and small health clinics. 5% of hospitals had a sufficient supply to meet the demand for the year. There is a significant gap in the availability of psychotropic medications in the health care facilities of the Ministry of Health of Peru. This was observed both in hospitals and in primary care facilities (Dominic Hodgkin, 2011).
According to a World Health Organization report, almost 68 % of the people in India have limited or no access to essential medicines. Poor availability of medicines in the public sector has pushed up household out of pocket expenditure, making them the largest household expenditure item after food. Up to 90 % of the population in developing countries purchases medicines through out of pocket payments. Nearly 80 per cent of India’s health care expenditure is borne by patients out of pocket payments, of which medicines constitute 70 %. Another study in the three North Indian states of Haryana, Punjab and Chandigarh also reported that medicines constituted 19 - 47 % of hospitalization expenditure and 59 to 86 per cent outpatient department (OPD) expenditure borne out of pocket by households in public sector (Shankar Prinja, 2015).

In a similar study in China, the median availability of all medicines surveyed in the public and the private sectors was 38.9% and 44.4%. The results from the Workbook show that the availability was generally low. The survey revealed low procurement prices but poor availability in the public sector. Various policy adjustments could increase the availability of essential medicines and reduce their prices for the low income population (Health Policy and Planning 2010). In Haiti, The availability of medicines in the public, private, nonprofit and mixed sectors shows that the availability of lowest priced generic essential medicines varied by medicine, but was low across all sectors of health care (Harinder Singh Chahal et al, 2013).

Consequently, low availability of essential medicines at public health facilities force patients to purchase medicines from private pharmacies where there is higher availability of medicines and for many medicines, only one brand of the product is available usually the costly one. Therefore, the patients have no choice but to buy that particular costly branded product thereby incurring catastrophic drug expenditure. Low availability of medicines in the public sector and frequent stock outs has also been reported in other studies due to factors such as under-funding, inaccurate forecasting, inefficient procurement/distribution mechanism in the supply chain, prescription practices leading to prescriptions for medicines outside the public health system and the notion that medicines supplied through the public system are of low quality (Shankar Prinja, 2015).

Suggesting similar outcome to previous studies, Cameron A. (2009) indicated that average public sector availability of generic medicines ranged from 29.4% to 54.4% across WHO regions. Median government procurement prices for 15 generic medicines were 1.11 times corresponding international reference prices, although purchasing efficiency ranged from 0.09 to 5.37 times international reference prices. Low procurement prices did not always translate into low patient prices. Private sector patients paid 9-25 times international reference prices for lowest-priced generic products and over 20 times international reference prices for originator products across WHO regions. Treatments for acute and chronic illness were largely unaffordable in many countries. In the private sector, wholesale mark ups ranged from 2% to 380%, whereas retail mark-ups ranged from 10% to 552%. In countries where value added tax was applied to medicines, the amount charged varied from 4% to 15%.

These flurry of studies confirming low availability prompted the WHO in 2010 to reiterate that essential medicines satisfy priority health care needs of the population and are intended to be available within the context of functioning health systems at all times, in adequate amounts, in the appropriate dosage, with assured quality, and at a price that individuals and the community can afford. Access to medicines was included in the Millennium Development Goals under MDG 8 to develop global partnerships for

development, specifically Target 8 E to provide access to affordable essential drugs in developing countries. For the purpose of monitoring the MDGs, access has been defined as "having medicines continuously available and affordable at public or private health facilities or medicine outlets that are within one hour's walk of the population" (United Nations Development Group, 2003). Recent United Nations reports assessing progress towards MDG target 8 E found that low availability, high prices and poor affordability of medicines are key impediments to access to treatment in low and middle income countries (UN, 2009).

Affordability of Psychotropic Medications

Accompanying the limited availability of psychotropic medications is the high cost of such medications especially in developing countries. While out of pocket user payments provide an immediate, flexible, and low maintenance source of revenue, it does not protect individuals against disproportionately high costs, or distribute benefits towards those with greater needs. User charges disadvantage the poor, and are open to corruption. Furthermore, people who are already reluctant to seek help for a mental health problem (e.g. because of stigma) might be forced by the high cost of out of pocket payments to delay treatment until their needs are acute and the necessary care is even more expensive. In India, the risk of out of pocket payments exceeding 10% of household income was much higher for women with depressive disorders than for those with other index conditions (Shekhar Saxena et al, 2007).

Despite medicines accounting for 20 - 60% of health spending in developing countries, compared with 18% in countries of the Organization for Economic Co-operation and Development, availability is ironically still lower in developing countries. Up to 90% of the population in developing countries purchases medicines through out of pocket payments, making medicines the largest family expenditure item after food. As a result, medicines are unaffordable for large sections of the global population and are a major burden on government budgets (WHO, 2004). Even the lowest-priced generic is very expensive in all countries, and there are some huge brand premiums, e.g. in Uganda the original brand is about 13 times the price of the generic (HO/PSM/PAR/2008.3). Such sizable investment in medicine expenditure does not translate to availability and cost effective services.

Alexandra Cameron (2013) indicated that in many countries, medicines are free in the public sector, but availability is often poor. Where public sector patients pay for medicines, even lowest priced generics can

cost many times the international reference price; regional median price ratios for the basket of 15 medicines varied from 3.18 in the Americas to 11.95 in western Pacific countries. However, public sector patient prices were still generally lower than prices in the private sector in most regions. In Europe and western Pacific, prices of lowest priced generics in the two sectors were similar, whereas originator brands in the private sector were more highly priced.

The high price of medicines, particularly in the private sector, is another key barrier to access to essential medicines and care in developing countries. Given the often low public sector availability of medicines, patients are frequently forced to purchase medicines in the private sector, where prices are higher. In the 33 developing countries for which data are available, lowest priced generic medicines cost over six times international reference prices (IRP) in the private sector. For original brand medicines, costs are generally much higher. In public sectors in which patients pay for medicines, lowest priced generics cost about 2.5 times more than IRPs. While national government procurement prices are usually close to or below international prices, patients pay substantially more owing to markups in the supply chain and expensive local purchases geared at addressing stock outs (Access to affordable essential medicines, WHO MDG, 2008**).**

Moreover, international comparisons of private sector prices shows that most of the 12 lowest priced generic medications were sold at higher prices in Haiti compared to Nicaragua, Mexico, Colombia, and Bolivia. On average, these medications were sold in Haiti at 10 times the international reference price, compared to seven times the international reference price in Nicaragua, 6 times the international reference price in Mexico and Colombia, and 5 times the international reference price in Bolivia (Harinder Singh Chahal et al, 2013). Non-availability of medicines and long waiting hours are other reasons that patients obtain their medicines from private pharmacies and dispensing doctors. A consumer survey showed that 37% of patients obtain medicines from private hospitals or clinics and 42% from retail pharmacies, requiring significant out of pocket expenditures. In the public sector, median availability was very low, and only 25% of the generic drugs were available (Zaheer Ud Din Babar et al, 2007).

Many standard treatments, even with lowest priced generics, are barely affordable in the private sector for low paid Syrian workers. Medicine costs can be a significant burden on households because all patients visiting outpatient departments in the public sector have to purchase their medicines in private retail pharmacies. Medicines are provided free only to patients admitted for treatment in public hospitals. In cases where multiple medications are needed for chronic diseases, this out of pocket expenditure can be very high for low paid Syrian families. Public sector procurement of generic medicines is relatively efficient as overall prices paid by the Ministry of Health were comparable to international reference prices. Very high procurement

prices were observed for originator brands (and some generics). Savings could be made if only low priced quality generics are purchased for off patent medicines (WHO, 2008).

While there is a serious worry about cost, shortages of medications were seen to be rife all year round while others acknowledged shortages as a seasonal occurrence in some countries. Oppong stated that these shortages in Ghana were in relation to the absence or infrequent supply of some common medications. In such cases, patients are either asked to purchase medications themselves, were switched to alternative medications or were completely starved of medications until a supply arrived. Limited funding from government and cumbersome nature of the procurement process for the drugs was known to account for the shortages. The entire procurement process was said to be bureaucratic and that resulted in delays in drug delivery for as long as 2 years. It was generally acknowledged that mental health services are free and as such patients do not pay for medications. In events of shortages, drugs became expensive when patients had to acquire from private pharmacies and relatively cheaper when bought from the pharmacies within the hospitals (Oppong S, 2016).

The unavailability of essential medicines can also be caused or worsened by natural disasters. Haiti is the poorest country in the Western Hemisphere and, after the 2010 earthquake, has been facing significant challenges in meeting the health care needs of its residents. Data from national surveys have shown that access to essential medicines, particularly for children, is generally poor and prices can be unaffordable. The reasons for the lack of access to essential medicines can include the absence of essential medicines policies, no regulated medicines, fragile supply systems, or out of pocket payments which make the medicines unaffordable (Harinder Singh Chahal et al, 2013).

Human Resource and Culture of Prescription

It is not arguable that no country had adequate numbers of providers, trained to implement effective treatments but unacceptable that even the bare minimum is ignored. Community based care is not available in 37% of all countries. Certain essential psychotropic drugs are not available at primary care level in almost 20% of countries, with marked variability within and between countries. About 70% of all people have access to less than one psychiatrist per 100,000 populations. In many countries the availability of specialized personnel is poor: there is only one psychiatrist and one psychiatric nurse per 100 000 populations in 53% and 46% of countries respectively (World Health Organization, 2001b). The availability of psychologists and social workers in the field of mental health is also poor, their median numbers being 0.4 and 0.3 per 100 000 population respectively in all countries (WHO, 2003).

Identically, most low income and middle income countries had one child psychiatrist for every 1 - 4 million people. Other relevant deficiencies were absence of standards for training; failure to use available potential resources; and inability to implement supplemental training for those in contact with children who might need care. Standards for training were non-existent in many regions and lacked enforcement in many others. Only 10 of 66 countries reported that more than 25% of their pediatricians had mental health training, although pediatricians were identified as providers of mental health care in 37 of 66 countries. Despite obvious need, countries failed to identify the training of primary health care professionals as a resource for child mental health services. Less than 10% of child and adolescent mental health services were provided by primary care clinicians. Retraining or supplemental training of adult psychiatrists has also lagged in many countries (Shekhar Saxena et al, 2007).

As a result of poor human resource and ingrained cultural and social believes, rates of recognition of depression remain low, both by those suffering from it and by health care providers. According to the World Mental Health Surveys, even in high resource settings only around half of those with depression receive any treatment, with about 40% receiving treatment considered to be minimally adequate. In low income countries coverage is much lower. In Nigeria, for example, only one fifth of those with a depressive episode receive any treatment and only 1 in 50 receives treatment that is minimally adequate (World Health Statistics, 2016).

In a similar vein, Oppong S. identified two major sources of expired medications as: first, failure of clinicians to prescribe a particular drug resulted in hoarding over a period of time beyond their shelf life. Secondly, some drug donations obtained from donor agencies were said to often be products that were near expiry and when not consumed within a period, eventually got expired. Ironically, pharmacies tend to stock what is prescribed, and prescribing is motivated in part by financial incentives. Clinicians in hospitals favor prescribing of higher cost medicines not subject to price controls because they generate greater revenues. This puts added cost burden on patients, especially for those without insurance who pay for all medicines out of pocket and also on both urban and rural health insurance funds (Wen Chen, 2010).

CHAPTER 3: METHODOLOGY

Methodology

This study provides the most comprehensive data thus far on the availability of psychotropic medications in the Gambia. Having successfully identified the aim and objective of the study, that is promote the management of mental disorders at PHC level, through the provision of essential psychotropic medications. Also in mind are the fundamental objectives of assessing the availability of essential psychotropic medications at primary health care facilities and the subsequent identification of facilitators/barriers to the availability of essential psychotropic medications at primary care level.

My attempt to develop "a psychotropic medication map of the Gambia" has taken me to all Hospitals, Major and Minor Health centers, Private and NGO facilities and the Major Pharmacy outlets in the Gambia. The comprehensive data on availability of essential psychotropic medications at facilities depicts the readiness of facilities to provide essential health services, and quality of care especially in mental health care. A standardized methodology and instrument is used, so as to provide a comparable data across health administrative regions in the country.

Study design

Descriptive study composed of semi-structured interviews were conducted in all Hospitals, Major and Minor Health centers, Private and NGO facilities and the Major Pharmacy outlets in the Gambia. Descriptive study design helped provide answers to the questions of who, what and how of the phenomenon of the availability of psychotropic medications in the Gambia`s health system. Descriptive research was used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in the study. "Descriptive research is often used as a pre cursor to more qualitative studies, the general overview giving some valuable pointers as to what variables are worth measuring qualitatively" (Cole, 2008).

Sample studied

The sample population is the total number of primary health care facilities in the Gambia which composed of Hospitals, Major and Minor Health centers, Private and NGO facilities and the Major Chain Pharmacy outlets in the Gambia.

PHC in the Gambia is delivered through three levels of care; 1) the primary level provides the preventive and curative action through a network of health facilities manned or supervised by trained Community Health Nurses (CHNs), 2) the secondary level provides procedures less complicated than the tertiary and has a network of major and minor health centers, and clinics with more specialized staff and equipment and 3) the tertiary level provides more specialized services and interventions and is intended to function as a referral service for the secondary level. Respondents engaged were nurses, pharmacy technicians and assistants.

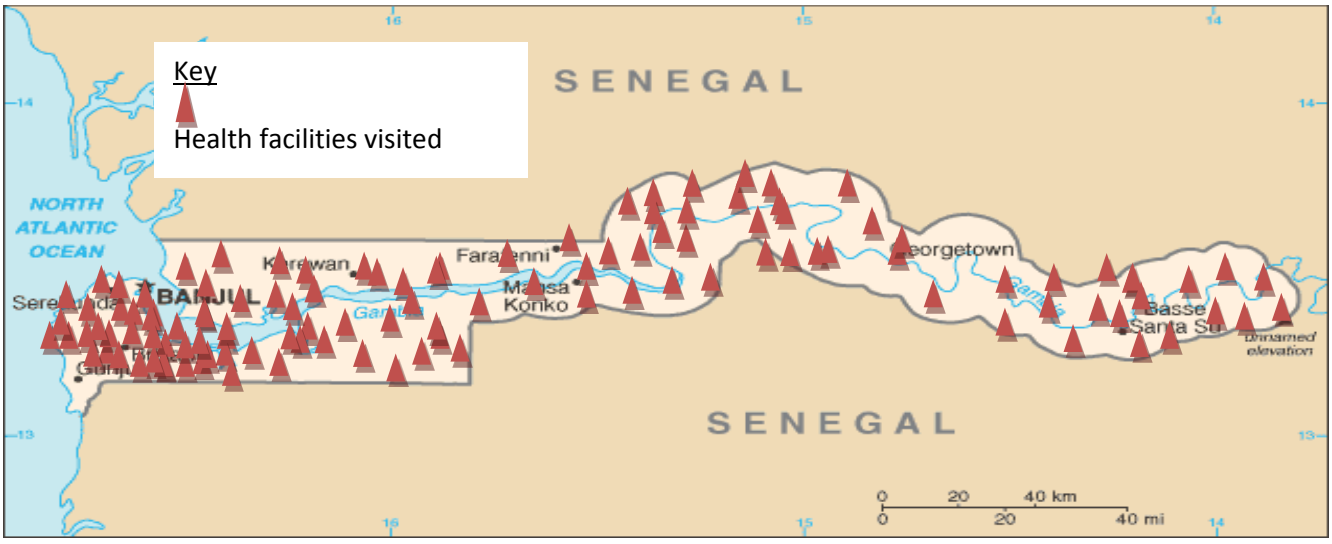


Figure 3: Health Facilities Visited

Study tool

Based on available literature in the field and the aims of the study, a questionnaire guide was adapted from the 2015 WHO Essential Drugs List. The questions were structured and each interview lasted an average of 10 min. some open ended questions were used to generate responses from the practitioners.

Availability for the purpose of this study is defined as the physical presence of non-expired psychotropic medication (in-stock) on the day of survey (WHO/HAI, 2008).

Ethical Consideration

This study on the availability of psychotropic medications in the Gambia was first approved by the Joint Medical Research Council and Gambia Government Scientific Coordinating Committee (SCC). The application was followed by a presentation of the thesis proposal to the committee. The second level of approval was from the Ethics Committee after an application and referral from the SCC.

Administrative approval was obtained from the facility authorities from the various institutions before the commencement of data collection. The Data Collector clearly explained the purpose and procedure of the study to the respondent. Participation in the study is by choice and withdrawal can occur at any stage of the process without any effect. Ask for any questions and clarifications needed before starting the administration of the psychotropic medication questionnaire. All the respondents gave informed consent to participate in the study and to have the questionnaires administered. Participants were assured of confidentiality in the analysis, processing, and presentation of results of the study. To ensure the information were anonymous and confidential, each respondent was assigned an identification code (instead of their names) which has been used in the presentation of the results.

CHAPTER 4: DATA ANALYSIS & RESULTS

Health Regions

A total of 106 health facilities were assessed in all the seven health regions in the country. The sampling of these facilities was not based on any specific sampling technique. The study was conducted in all Hospitals, Major Health Centers, Minor Health centers, Private Clinics and the major Pharmacy chains in the country. The names of these facilities were sourced from the regional health directorates. (See Map above and List of facilities under Annex 4).

Health Region	No. of Facilities	%age
CRR	11	10.4
LRR	11	10.4
NBE	8	7.5
NBW	4	3.8
URR	12	11.3
WCR 1	36	34.0
WCR 2	24	22.6
Total	106	100

Table 4: Health Regions

West Coast Region 1 and two are the most populated in the country and considered as urban settlements thereby attracting more than half (56.6%) of the facilities in the Gambia. North Bank West only has 4 facilities contributing 3.8% to the total number; this is because comparatively this health region has the least number of villages and population.

Public/Private Facilities

Public facilities account for 66% of all the facilities assessed throughout the country, i.e. meaning they are fully supported by the state and managed by the ministry of health and social welfare through its regional

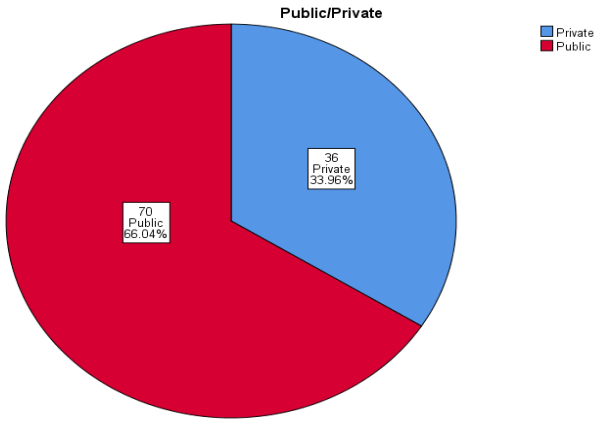


Figure 4 - Public/Private Facilities

representatives. All the private hospitals are found in West Coast Region 1 and 2 with a few Private clinics and pharmacies in other health regions of the country. The private facilities includes pharmacies, almost all of which (major chain pharmacies) operate in the Regions of West Coast 1 and 2.

Cadre of Respondent/staff

Staff Cadre	No.	%age
Auxiliary Nurse	6	5.7
BSN	2	1.9
Community Health Nurse	25	23.6
Enrolled Nurse	22	20.8
Pharmacy Assistant	7	6.6
Pharmacy Technician	5	4.7
Registered Nurse	39	36.8
Total	**106**	**100**

Table 5 - Cadre of Respondents

The total number of Registered Nurses (RN) that participated in the study is 36.8%, followed by Community Health Nurses (CHN) with 23.6% and Enrolled nurses (EN) 20.8 %. 11.3% of the respondents are pharmacy technicians and assistants with only 1.9% being holders of a nursing degree. Auxiliary Nurses (AN), Nurse Attendants or Community Nurse Attendants as they are variably called also participated in the study as 5.7% of the respondents. This is a result of these untrained nurses manning some outpatient units in the facilities visited.

Availability of Psychotropic medications

The psychotropic medicines assessed in this study are in six classes based on the 2015 WHO Model List of Essential Medicines (19th Edition). The Model list has a core group which presents a list of minimum medicine needs for a basic health care system, listing the most efficacious, safe and cost effective medicines for priority conditions. Priority conditions are selected on the basis of current and estimated future public health relevance, and potential for safe and cost effective treatment. Only the core list is assessed in this study. The WHO Model Lists of Essential Medicines is updated every two years since 1977, and the recently (a month ago) published 2017 Model list has the same psychotropic medications to the 2015 list that is used in this study.

However, the model list is used by countries to develop their own national lists of essential medicine. The first essential medicines list for the Gambia was developed in 1984 and contains about 200 substances. A Key Health indicator targets in the 2014-2020 National Health Sector Strategy Plan is to increase availability of essential medicines from 65% in 2014 to 85% by 2020. I shall first look at the individual availability of the medications within and amongst the regions before having a regional comparison of the overall availability of psychotropic medications.

Average of regional level median availability of the six classes of psychotropic Medication							
	Western Health Region 1 (%)	Western Health region 2 (%)	Lower River Region (%)	North Bank West (%)	North Bank East (%)	Central River Region (%)	Upper River Region (%)
Anticonvulsant/Antiepileptic	41.2	22.9	34.8	41.7	39.6	33.3	25.0
Antidepressant	47.0	12.5	18.0	12.5	25.0	18.0	4.0
Antipsychotic	39.6	7.3	22.7	6.3	37.5	27.3	25.0
Bipolar Disorder Medicines	36.1	23.6	33.3	33.3	29.2	24.2	22.2
Anxiety Disorder Medcines	63.9	54.2	72.7	25.0	87.5	72.7	83.3
Obsessive compulsive disorder	2.8	0.0	27.3	0.0	12.5	0.0	0.0

Table 5 - Average of regional level median availability of the six classes of psychotropic Medication

Average of Individual Psychotropic Medications median availability per Region								
Class of Psychotropic Medication	Name of Psychotropic Medication	Western Health Region 1 (%)	Western Health region 2 (%)	Lower River Region (%)	North Bank West (%)	North Bank East (%)	Central River Region (%)	Upper River Region (%)
Anticonvulsant/ Antiepileptic	Carbamazepine	88.9	66.7	81.8	100	87.5	72.7	66.7
	Magnesium sulfate	55.6	50	63.6	75	87.5	90.9	83.3
	Midazolam	8.3	0	0	0	0	0	0
	Phenobarbital	36.1	8.3	9.1	50	50	36.4	0
	Phenytoin	38.9	8.3	36.4	25	12.5	0	0
	Sodium Valproate	19.4	4.2	18.2	0	0	0	0
Antidepressant	Amitriptyline	69.4	25	36.4	25	50	36.4	8.3
	Fluoxetine	25	0	0	0	0	0	0
Antipsychotic	Chlorpromazine	58.3	25	45.5	25	75	54.5	50
	Fluphenazine (Modicate)	38.9	4.2	18.2	0.0	37.5	36.4	41.7
	Haloperidol	36.1	0	27.3	0	37.5	18.2	8.3
	Risperidone	25	0	0	0	0	0	0
Bipolar Disorder Medicine	Carbamazepine	88.9	66.7	81.8	100	87.5	72.7	66.7
	Lithium Carbonate	0	0	0	0	0	0	0
	Sodium Valproate	19.4	4.2	18.2	0	0	0	0
Anxiety Disorder Medicine	Diazepam	63.9	54.2	72.7	25.0	87.5	72.7	83.3
Obsessive Compulsive Disorder Medicine	Clomipra	2.8	0.0	27.3	0.0	12.5	0.0	0.0

Table 6 - Average of Individual Psychotropic Medications median availability per Region

The core essential Anticonvulsants/Antiepileptics as provided in the 2015 Model list are: Carbamazepine, Magnesium Sulfate, Midazolam, Phenobarbital, Phenytoin and Sodium Valproate (Valproic Acid). The availability of these anticonvulsants is best in the NBW health region with 42% of the facilities having at least one or more of these anticonvulsants. This is closely followed by WCR 1 and NBE with 41% and 40% respectively. The region with the least availability of anticonvulsants is WCR 2 with 77% unavailability. WCR 2 is the most populated region in the country and having such a very high unavailability of anticonvulsant is a huge burden to the population in those communities.

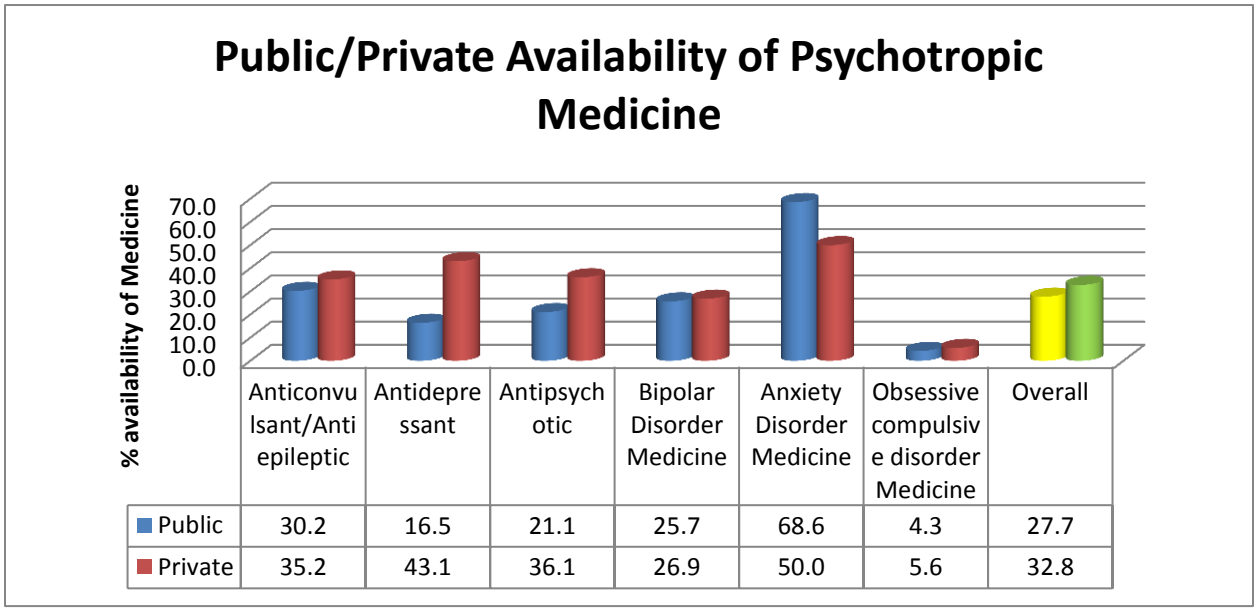
Additionally, the two core antidepressants, Amitriptyline and Fluoxetine, were audited in the health facilities visited and WCR 1 had the highest availability with 47%. The major chain private pharmacies in WCR 1 helped in boosting the availability of this class of psychotropic medicines. The region with the worst availability is URR (the farthest) with 96% unavailability of antidepressant, which is a total near absence on antidepressants in the region.

Despite the increasing number of antipsychotics present in the market, the core list as promulgated by the 19th edition of the WHO model list of essential drugs are: Chlorpromazine, Fluphenazine (Modicate), Haloperidol and Risperidone. These medications are widely prescribed by health professionals in the Gambia but there is 60 % unavailability of antipsychotics in WCR 1. The unavailability rate is worst just across the river in NBW with 94%, closely following in the heels of NBW is WCR 2 with 93% unavailability.

Carbamazepine, Lithium Carbonate and Sodium Valproate are core medicines for the treatment of bipolar disorders. Lithium carbonate is predictably 100% unavailable in the whole country as a result of the absence of the laboratory test required in its usage. The availability of the other two types of drugs is again higher in WCR 1 (affluent area) with 36%, followed by LRR and NBW with 33% availability each. URR, the farthest region again is the least with 78%unavailability of bipolar disorder medicines.

The only core medicine for the treatment of anxiety disorder in the Model List is diazepam. Diazepam tablets are only available in the private chain pharmacies in WCR 1, the rest of all the facilities as shown in this chart have the injectable diazepam. There is 88% availability of diazepam injectable. In WCR 1 there is 64% availability of both tablet and injectable diazepam. The region with the least is NBW with only 25% availability of injectable diazepam. For obsessive compulsive disorders, the model list has clomipramine as the core medication but only 3 regions had the medication with LRR 27% availability, followed by NBE 13% and WCR 1, 3%. The comparatively better availability of the medicine in LRR was attributed to a donation by a philanthropist.

Public/Private Availability of Psychotropic Medications



	Anticonvulsant/Antiepileptic	Antidepressant	Antipsychotic	Bipolar Disorder Medicine	Anxiety Disorder Medicine	Obsessive compulsive disorder Medicine	Overall
Public	30.2	16.5	21.1	25.7	68.6	4.3	27.7
Private	35.2	43.1	36.1	26.9	50.0	5.6	32.8

Figure 5 - Public/Private Availability of Psychotropic Medications

The overall availability of psychotropic medications is 27.7% in public facilities compared to 32.8% in Private facilities. With the exception of anxiety disorder medicine, private facilities have a better availability of all other classes of psychotropic medications than public facilities. This is because injectable diazepam is largely available in public facilities as one of the essential drugs in maternity units.

Availability of psychotropic drugs across the country

The region with the highest availability of psychotropic medications is unsurprisingly WCR 1 with 40% where you have most of the public and private hospitals and private chain pharmacies. This is closely followed by NBE with 37% availability and LRR with 32%. The region with the least availability of psychotropic medicines in the Gambia is WCR 2 with only 19%. The overall availability of psychotropic medications in the Gambia based on the 19th edition of the WHO Model list on essential medicine is 30%.

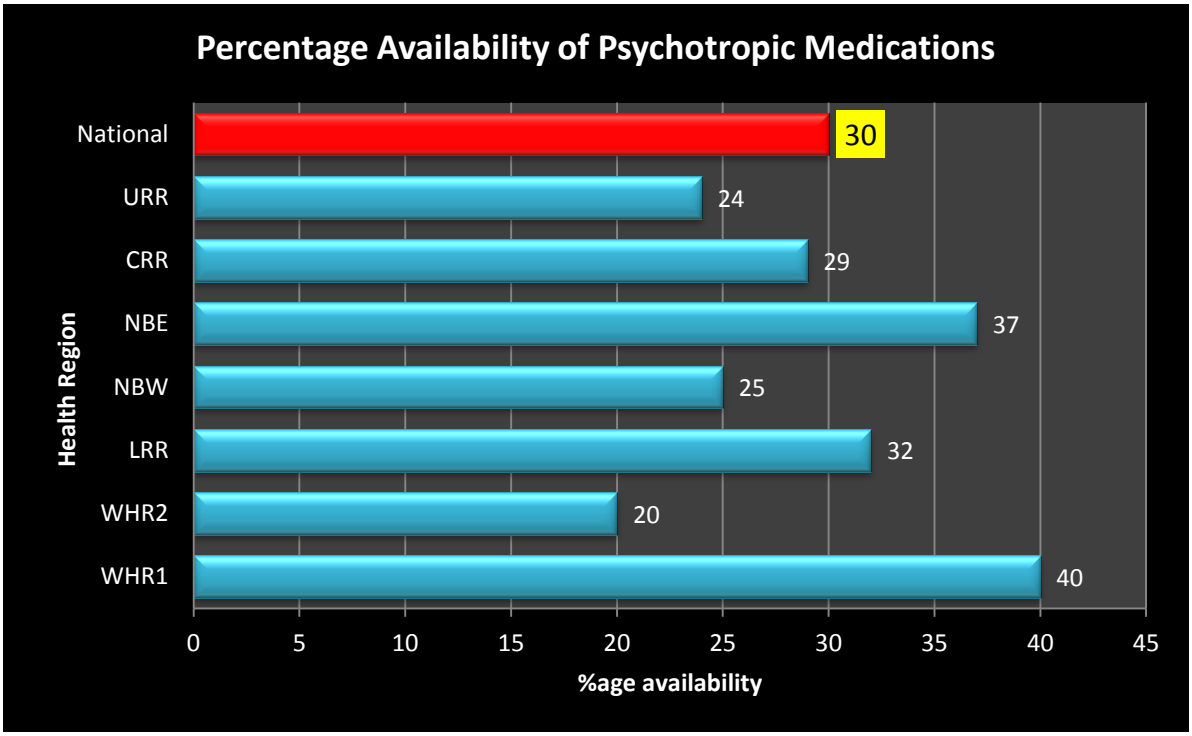


Figure 6 - Percentage Availability of Psychotropic Medications in the Gambia

Cadre of Staff Prescribing Medications

Only 3 facilities in the Gambia have Psychiatric specialist who prescribe medications for client. These 3 facilities are the Edward Francis Small teaching Hospital, Polyclinic and the Tanka Tanka Psychiatric Hospital, all in West Coast Region 1. 29 of the facilities have General Physicians and 79 have Registered nurses prescribing psychotropic medicines. Second level nurses, Community Health Nurses and Enrolled Nurses account for the majority of the prescribers (87 and 86 respectively) in the facilities especially in provincial Gambia where most of the facilities are manned by them. In 45 of the facilities assessed, untrained nurses (Auxiliary Nurses, Nurse Attendant or Community Nurse Attendants) prescribe medications for patients.

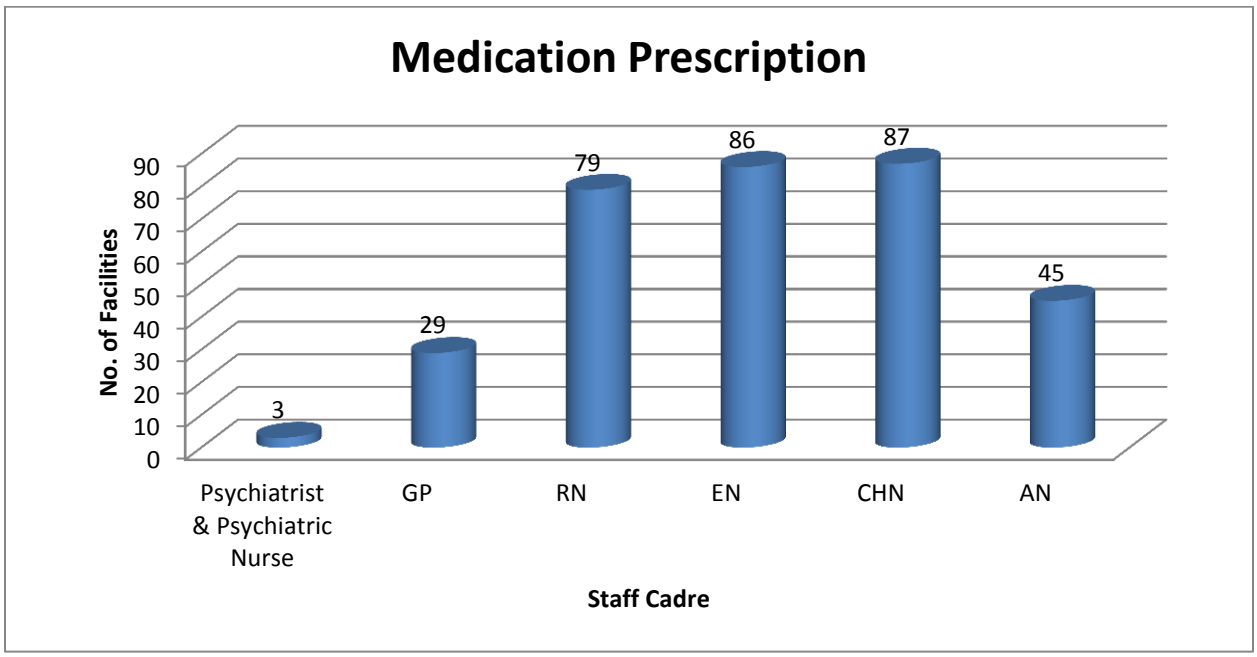


Figure 7 - Staff Prescribing Medications

Cost of Psychotropic Medication

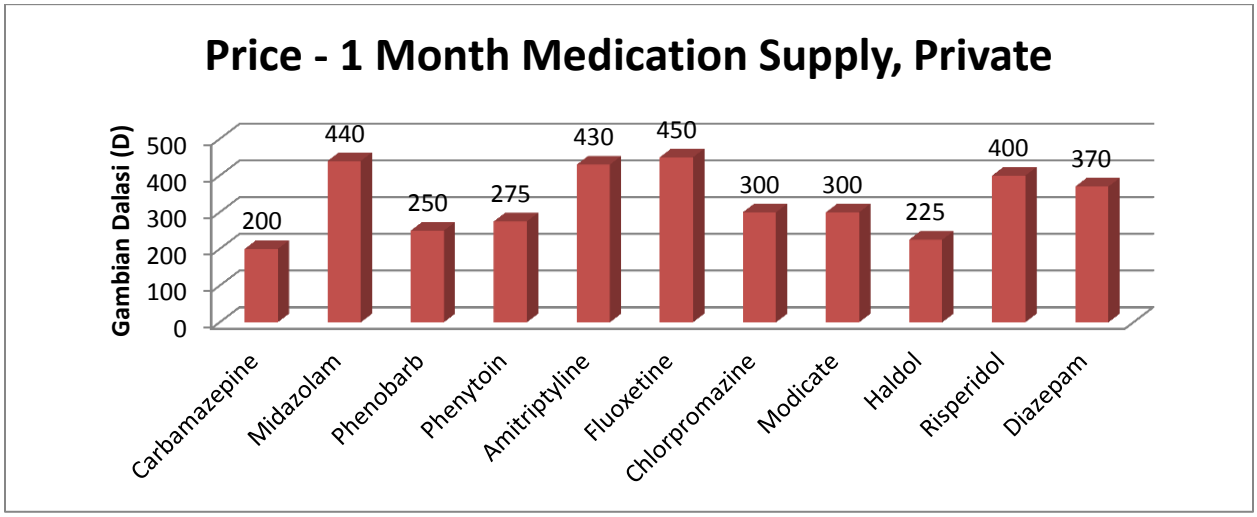


Figure 8 - Cost of Psychotropic Medication

Average salary of civil servants in the Gambia as per government pay scale in 2014 for Teachers, Nurses, Drivers, Cleaners, Clerks, Secretaries, Laborers is D1,621.00 ($40) per month. This is calculated by averaging

pay scale Grade 1 to Grade 6, where most of the aforementioned staff falls under. The most costly basic monthly supply of medication is Fluoxetine (D450.00) followed by Midazolam (D440.00) and Amitriptyline (D430.00). Chlorpromazine and Modicate cost D300.00 each for an average monthly dose. The least costly is carbamazepine (D200.00)

Facilitators and Barriers to Mental Health Care

Barriers

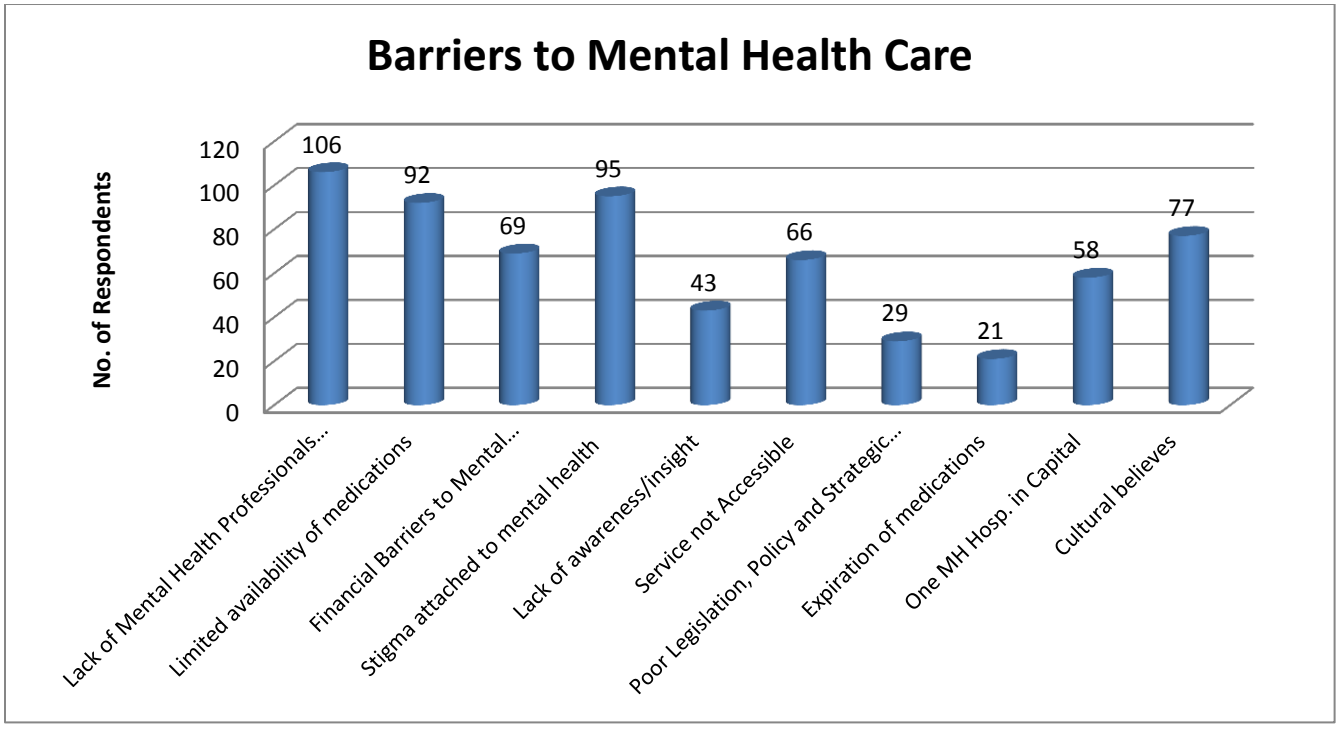


Figure 9: Barriers to Mental Health Care

A total of 10 barriers were identified by the respondents. All the 106 respondents (facilities) in this study cited lack of mental health professionals as the major factor affecting mental health care in the Gambia. 95 of the respondents stated that stigma from the society greatly affects the health seeking behavior of people. This is followed by 92 of the respondents listing limited availability of medications as a barrier, 77 of the respondents mentioned that cultural believes drive people to seek treatment from Marabouts, traditional and faith base healers. Less than half of the respondents cited poor policy, legislation and plan, lack of awareness/insight and expired medication as the barriers. Financial burden also featured with 66 of the respondents.

Facilitators

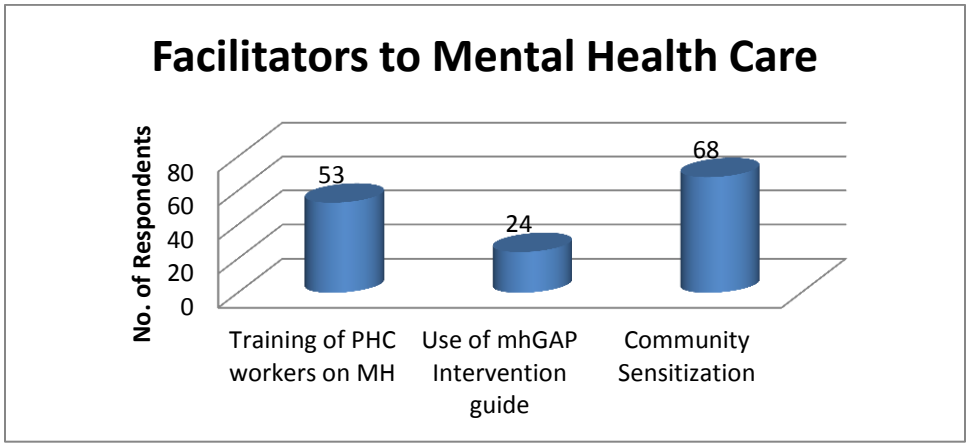


Figure 10 - Facilitators to Mental Health Care

The respondents identified three key facilitating factors to mental health care in the Gambia. 68 of the respondents stated that community sensitization is hugely promoting mental health care with 53 stating that the basic training offered to some PHC workers is helping. The Gambia contextualized the Mental Health Gap Action Program (mhGAP) Intervention Guide and 24 of the respondents stated that this training helped in their practice of offering basic mental health care to patients.

CHAPTER 5: DISCUSSION

Sample Facility Characteristics

Similar to many Low and Middle Income countries, the Gambia has three levels of facilities (primary, secondary and Tertiary) that deliver primary health care which are distributed (though unevenly) across the country. This includes a high concentration of Private health facilities and all major chain private pharmacies in western health region 1 and 2. This uneven distribution of health facilities has affected the health seeking behavior of populations within the cities and rural settlements in the Gambia. The rural population hugely depends on non-conventional treatment systems like local marabouts, traditional and faith base healers for the management of mental disorders as stated in the mhLAP 2012 report.

A third (34%) of health facilities surveyed are found in western health region 1 and this includes the country`s only psychiatric hospital (Tanka Tanka Psychiatric Hospital). Since the Gambia adopted Primary Health Care (PHC) in 1979 following the Alma- Ata declaration in 1978, mental health services have not been integrated into PHC. Tanka Tanka Psychiatric Hospital which also offers community mental health services for the whole country is seriously paralysed as a result of challenges discuss later in this chapter. Similarly, the WHO stated that community based mental health care is rare in low income countries; only 52% offer community based mental health care programs, compared to about 97% of high income countries (Shekhar Saxena et al, 2007).

Despite sampling all facilities in the country, 100% of the private hospitals or Major clinics are in Western Health Region 1, the comparatively affluent urban settlement in the Gambia. This is not a true reflection of the population distribution in the country. This distribution of private hospitals in only one health region has left the rural population in need of mental health care to only go to public health facilities with a poor mental health care as will be discussed under "availability of psychotropic medications".

As a complementary service, the Private sector has grown to be a hugely important component of the health care delivery system in the Gambia and provides all forms of care that the public sector handle. In fact the verse majority of the staff in the private sector also works in the public sector. The private sector has not only grown to be a complementary system to the public service delivery system but it is increasing becoming the favorite for many baring the unbearable cost of their services compared to the average civil servant salary.

Availability of Psychotropic Medicines

Cognizant of the resource allocation to mental health and socio-economic demographics, there is an apparent variation in the availability of different classes of psychotropic medications in the country. Despite epilepsy being the highest number of cases seen at psychiatric outpatient units (HIS service statistics report, 2015), the national availability of antiepileptic medications is 34.1%. However, the public facility availability of antiepileptic medications is lower (30.2%) compared to 35.2% in private facilities. this findings are in agreement with a study by Alexandra Cameron et al, "Mapping the availability, price, and affordability of antiepileptic drugs in 46 countries, June 2012" which stated that the availability of antiepileptic medication in the public sector was <50% and in the private sector, the availability was consistently higher than in the public sector. Analysis of medicine availability by World Bank Income Group showed that in low income countries, generic phenytoin and carbamazepine were each available in about one third of the public sector facilities surveyed. In the private sectors of low income countries, availability was slightly higher. The majority of patients diagnosed with epilepsy and seek treatment are children and adolescents who heavily depend on the public health system that offer mental health services and medications free.

Besides Western region being the most populated in the country with 699,704 people and a high population densely, West Coast region 2 has an unavailability rate of 77% of antiepileptic medications. This has caused a lot of relapse and frequent attacks to so many patients. Fatou (not her real name) was met in one of the facilities and she stated "I had an attack while cooking and my hand fell into the hot oil and got burnt because medications are not available in the facility here and I have no means of buying them". It is estimated that up to 70–80% of people with epilepsy could lead normal lives if properly diagnosed and treated (Kwan & Brodie, 2008). However, despite the availability of cost-effective antiepileptic drugs, the majority of affected individuals in resource poor settings do not receive treatment. Meyer et al (2010) went on to assert that the epilepsy "treatment gap" or the proportion of people with active epilepsy who were not receiving treatment, was >75% in low-income countries and >50% in most middle income countries, compared to <10% in many high income countries.

In the same vein, a study on the availability and prices of antiepileptic medications carried out in southern Vietnam showed that only 57% of the public and private pharmacies surveyed had antiepileptic medications available (Mac et al., 2006). A second study conducted in Zambia found that nearly one-half of the government, private, and nongovernmental organization (NGO) pharmacies surveyed did not carry

antiepileptic medications (Chomba et al., 2010). These variations in availability are also seen in the availability of antidepressant Medications.

Though depression in the Gambia is high among the population, few seek conventional support from professionals. Rates of recognition of depression remain low, both by those suffering from it and by health care providers. According to the World Mental Health Surveys, even in high resource settings only around half of those with depression receive any treatment, with about 40% receiving treatment considered to be minimally adequate. In low-income countries coverage is much lower. In Nigeria, for example, only one fifth of those with a depressive episode receive any treatment and only 1 in 50 receives treatment that is minimally adequate (World Health Statistics, 2016).

Moreover, in 2015, HIS service statistic report for the Gambia showed that only 21 males and 54 females were diagnosed with clinical depression in outpatient departments. This does not tally with the global figures of depression and the burden of the disease as provided in numerous studies. Mental disorders (including depression) make a substantial independent contribution to the burden of disease worldwide Non-communicable diseases including mental illness are rapidly becoming the dominant causes of ill health in the world. Mental disorders are commonly occurring, seriously impairing, and widely under treated in both developed and developing countries. In short, Depression is a major cause of suffering, disability, and healthcare costs and they account for a great portion of the global burden of disease. For example, the landmark Global Burden of Disease (GBD) study demonstrated that, among the top 10 main causes of disability, five are mental disorders: major depression, schizophrenia, bipolar, alcohol abuse, and obsessive–compulsive disorders (Murray & López, 1996). Depression is nicknamed the "silencer" and has commanded very little attention from both the public and its institutions.

The 29.8% national availability of antidepressant medicines is in agreement with the 2001 WHO publication which stated that about 25% of countries do not have sufficient amounts of the three most commonly prescribed drugs used to treat schizophrenia, depression and epilepsy at the primary health care level. Dominic Hodgkin in his study availability of psychotropic medications in health care facilities of the Ministry of Health of Peru, (2011) also stated that antidepressants and antipsychotics were available in about two thirds of hospitals and in less than 20% of health centers and small health clinics.

In furthermore agreement with this study, Shekhar Saxena (2007) posited that the unavailability of essential medicines also constrains mental health treatment. About a quarter of low income countries do not provide

even basic antidepressant medicines in primary care settings. In many others, the supply does not extend to all regions of a country or is irregular, despite the fact that effective pharmacological treatment for many disorders depends on continuous access to medication for extended periods. Since medicines are often not available in health care facilities, patients and families can be forced to pay for them from the very expensive private pharmacies. This chronic shortage of antidepressants is similar to what obtains in the class of antipsychotics as well.

In a like manner to the other classes of psychotropic medications, the study identified significant differences between regions regarding the availability of antipsychotic medications. Western health region 1 has 40% availability while North Bank West just across the river has only 6% availability of antipsychotic medications. Similar regional variations were also seen in a study in Latin America, where Callao showed greater availability of antipsychotics than other regions of the country. It was noted that each month about 10% of hospitals do not have anti-anxiety medication; about 50% have no antipsychotics, and 90% or more do not have the other four classes of psychotropic medications. 36% of hospitals do not have supply of antipsychotics in any month, 38% have acceptable supply in a few months, and only 20% of hospitals receive acceptable supplies every month. Jose Miguel Caldas de Almeida et al (2008) went on to state that older antipsychotic drugs are usually available, but there is only limited availability of the newer, more expensive anti-psychotics. In contrast, Shankar Prinja (2015) revealed that at the PHC level, the availability of anti-hypertensives was 60% whereas only around one-third of PHCs had antipsychotics on day he conducted his survey.

Coupled with the low availability of these medications, the Gambia still widely uses the older typical antipsychotics of Chlorpromazine and Haloperidol as stated by Jose Miguel Caldas de Almeida. Despite the high prevalence of psychiatric disorders, the national availability of antipsychotic medicines is 28.6%. In contrast to a 2014 study in Peru, Anti-anxiety medications were available in health facilities of all levels of care. Antidepressants and antipsychotics were available in about two thirds of hospitals and in less than 20% of health centers and small health clinics. 5% of hospitals had a sufficient supply to meet the demand for the year (Marina Piazza, 2014). As many as one in three individuals with schizophrenia and other non-affective psychoses do not receive any treatment (Shekhar Saxena et al, 2007). Treating affective disorders has also been a challenge in the Gambia.

To date, the Bipolar Disorder Medicine, Lithium carbonate, is 100% unavailable in the whole country as a result of the laboratory test required in its usage. The diagnosis of bipolar disorder has not been very common as a result of the limited capacity of health staff to make such psychiatric diagnosis. This is manifested by the

non-feature of bipolar disorder in the 2015 HIS service statistics report of the Gambia. The treatment gaps for bipolar illness, panic, generalized anxiety, and obsessive compulsive disorders are all greater than 50%. The challenge is greatest in developing regions of the world: similarly, WHO has reported that the treatment gap for serious disorders is 35 - 50% for developed countries and 76 - 85% for low income and middle income countries. While the study showed a low availability of the other bipolar medicines (Carbamazepine and Sodium Valproate) with a national availability of 26.3%, it is also apparent that there is a gap in the understanding of health workers with regard to the use of carbamazepine beyond epilepsy but also the effective use of diazepam.

Diazepam injectable is present in more than half of the public health facilities but this is part of maternity units as one of the basic requirements. Diazepam tablet is a controlled drug available in Hospitals and big chain pharmacies. Despite the low diagnosis of anxiety disorders, the national availability of diazepam in general is 59.3%. Clomipramine (Obsessive Compulsive Disorder medicine) is only available in 6 facilities (5%) countrywide. These disorders are rarely diagnosed with no mention of OCD in the 2015 HIS service statistics report which features services and diagnosis from both the public and private sector.

Public/Private Availability of Psychotropic Medications

In 2015, 12.5% of hospital beds were in the private health facilities (HIS, 2015). Despite this distribution of beds, the availability of psychotropic medications is lower in the public sector with 27.7% compared to 32.8% in private facilities. The Private facilities are unevenly distributed in the Gambia, with almost all Private hospitals and Major Chain pharmacies in Western Health Region 1. It is therefore at a great disadvantage to be diagnosed of a mental health problem in provincial Gambia because the only available facilities that provide mental health care are public facilities and they have a very limited availability (27.7%) of psychotropic medicines. In a similar fashion, Johannes Thome et al (2011) in their study the availability of psychiatric medication in an urban area of The Gambia stated that the use of a wide and differentiated arsenal of psychopharmacological substances is an integral part of modern psychiatric treatment in addition to non-pharmacological interventions (e.g., psychotherapy). A survey of private pharmacies within the urban and sub-urban areas of Banjul shows that most of these pharmacies tend to keep a very limited range of psychiatric drugs in stock. In many instances only a tricyclic antidepressant (e.g., amitriptyline), the neuroleptic haloperidol and the benzodiazepine diazepam were readily available. Johanne went on to state that none of the pharmacies kept ADHD medication in stock, and only very few had mood stabilizers. These two studies despite being in the same country have a different methodology and objective thereby limiting the possibility of specific comparisons.

In addition to the aforementioned, Alexandra Cameron (2013) also wrote about the gap between public and private sector with regards to availability of psychotropic medicines across several countries and regions. He stated that in the public sector, the availability of the basket of 15 generic medicines was low, ranging from 9.7% in Yemen to 79.2% in Mongolia. Regional availability ranged from 29.4% in Africa to 54.4% in the Americas; mean availability in the public sector was lower than in the private sector in all regions. Even in the private sector, availability of generics was low, ranging from 50.1% in the western Pacific to 75.1% in Southeast Asia. Cameron continued that high private sector availability of generics was recorded in Syria (97.5%) and Chennai, India (91.8%), whereas low availability was seen in Chad (14.8%), Kuwait (36.3%), the Philippines (33.6%), and China (34.6% in Shandong and 38.3% in Shanghai). Wide variations in availability were noted within WHO regions as well. In western Pacific countries, public sector availability of generics ranged from 22.2% in the Philippines to 79.2% in Mongolia. Similarly, private sector availability of generics in Africa ranged widely, from 14.8% in Chad to 79.1% in Ethiopia.

In spite of state or government support and ownership, public sector availability of medicines is low in many developing countries, and is consistently lower than in the private services. In a study of over two dozen developing countries for which data was available to the WHO at the time, average public sector availability was only 34.9 per cent (Access to affordable essential medicines, WHO MDG 08). With different socio-economic levels to the Gambia, Jiang M (2013) stated that the mean availabilities of originator brands and lowest priced generics in China were 8.9% and 26.5% in the public sector, and 18.1% and 43.6% in the private sector, respectively. In a similar study in China, the median availability of all medicines surveyed in the public and the private sectors was 38.9% and 44.4%, respectively (Health Policy and Planning 2010).

The disparity between public and private sector availability of psychotropic medicines is very apparent in many regions of the world but similarities have been detected in countries with similar economic standings. Public sector availability of generic medicines was similar across World Bank income brackets, ranging from 27.0% in upper middle income countries to 44.3% in lower middle income countries. However, a greater degree of variability continues to be seen in low income countries (9.7% in Yemen to 79.2% in Mongolia) than in higher income groups. Private sector availability was similar for low income countries (60.7%), lower middle income countries (64.3%), and upper middle income countries (65.8%). Originator brands were less available than generics in low income countries (22.3%) and lower middle income countries (43.7%), but only slightly less available in upper middle income countries (61.8%). The World Bank Study went on to indicate that within all income groups, country level private sector availability varied widely; for lowest priced generics it ranged from 14.8% (Chad) to 82.1% (Sudan, Khartoum) in low income countries and from 33.6% (Philippines) to 97.5% (Syria) in lower middle income countries. Private sector availability of

originator brands ranged from 0.3% (Mongolia) to 59.1% (Pakistan) in low-income countries and from 8.2% (China, Shandong) to 80.8% (Morocco) in lower middle income countries (Alexandra Cameron, 2013). The low availability of psychotropic medications in the public and private sector has obviously heralded a low level of national availability of such drugs.

Availability of psychotropic medications across the country

While it is estimated that 6.5% of the population has mental and substance abuse disorder, the national availability of psychotropic medicines is just 30%. This indicates that of the 118,000 people in the Gambia (or 6.5% of the 2013 population) likely affected by mental disorders which require varying degrees of treatment and care; only 4,426 people receive treatment in an average year. This figure is likely not to be a true reflection of the magnitude of the burden of mental and substance abuse disorders in the Gambia and therefore this study strongly recommends an epidemiological survey of mental disorders.

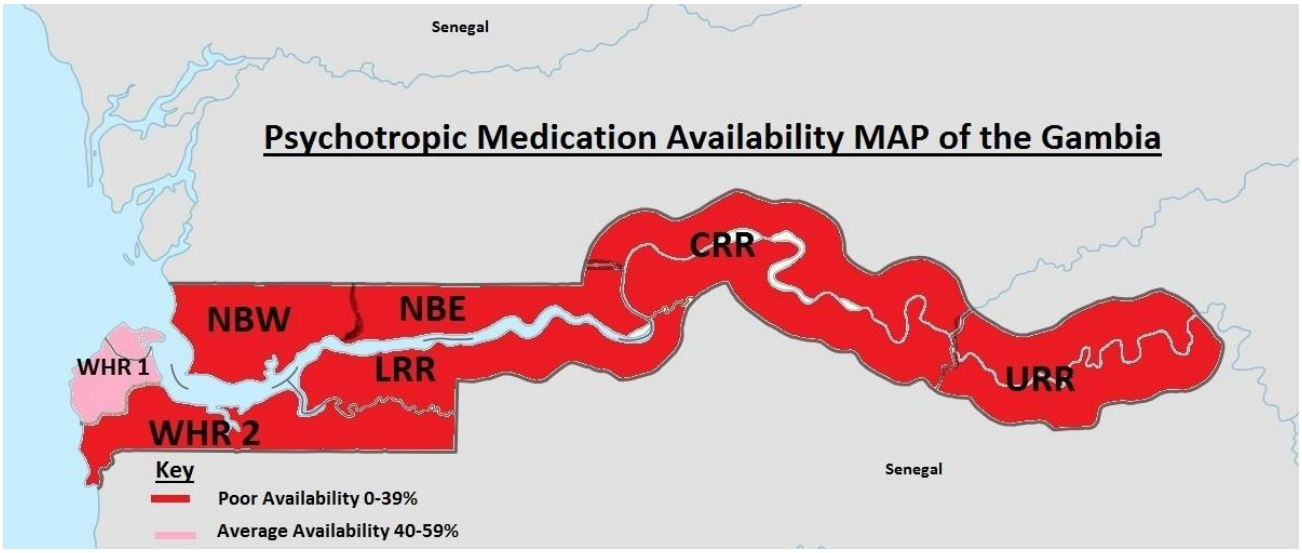


Figure 11 - Psychotropic Medication Map of the Gambia

The psychotropic medication map of the Gambia was developed using the data collected on the regional availability of such medications. 86% of the country has a poor availability (0-39%) of psychotropic medications and is colored red in the map. This represents all but one of the health regions in the Gambia. The only region with an average availability is Western Health Region 1 with average availability (40-59%). Comparatively, Western Health Region 1 represents a tiny percentage of the population but has most of the psychotropic medications while the poorest and most populated regions have poor availability. There is no region in the country with a good availability rate (60-100%) of psychotropic medications in the Gambia.

Similar to the Gambia, the uunavailability of essential psychotropic medicines is particularly prevalent in developing countries, and severely restricts access to treatment for psychiatric disorders. The WHO reports that nearly 20% of countries do not have at least one common antidepressant, one antipsychotic, and one antiepileptic medication available in primary care settings. The treatment gap is worst in the provinces because there are very limited human resource and no specialist or specialize facility in rural Gambia and 70% unavailability of psychotropic medicines. .

Gambia, like South Africa has a wide variation in the availability of psychotropic medicine at PHC level. As for availability of psychotropic medicines, 3 provinces reported that 81-100% of Physician-based PHC clinics have at least one psychotropic medicine of each therapeutic Category (anti-psychotic, antidepressant, mood stabilizer, anxiolytic, and antiepileptic) and one province reported that 51-80% of these clinics have such medicines. In non-physician based clinics, 4 provinces reported 81-100% availability, 3 provinces 51-80%, 1 province 21-50% and 1 province 0% (WHO AIMS Report on Mental Health Systems in South Africa, 2007). Correspondingly, Peru has a limited availability to drugs to treat mental health problems. The level of shortage of documented psychotropic medications here is alarming; about 50% of health facilities evaluated do not have availability of antidepressants and antipsychotics, and 90% or more, do not have the other four classes of drugs for the treatment of mental disorders. Dominic Hodgkin (2011) went on to state that "the proportion of primary care facilities that has a better availability was 57% in Uganda, 40% in Ghana and 21-50% in Mexico". Furthermore, McBain et al found a rate of 71% availability in a sample of 63 low and middle income countries. These unmet needs in medication and other mental health services led countries to embrace the WHO Mental Health Gap Action Program.

In a drive to improve mental health services especially at community level, the Gambia recently domesticated and adapted the Mental Health Gap Action program (mhGAP) Intervention Guide with support from Cbm and mhLAP. The use of medication is an integral part of psychiatric treatment in addition to non-pharmacological interventions. However, the access to such medication is generally low and where available, can vary considerably. Generally, the availability of psychotropic basic/essential psychotropic medications is very low compared to the other classes of medication in the health system. Supporting this finding, the MHA 2013 - 2020 states that the availability of basic medicines for mental disorders in primary health care is notably low (in comparison to medicines available for infectious diseases and even other non-communicable diseases), and their use restricted because of the lack of qualified health workers with the appropriate authority to prescribe medications.

Additionally, the basic health care package of the Gambia (minimum care packages) adapted from the UNICEF/WHO Basic Health Care Packages promulgates for an "Appropriate mental health care" under the three categories of: Adolescent, Women and Men despite the low level of the availability of psychotropic medicines (30%) which also affects the cost of such medications.

Cost of Psychotropic Medicines

The low availability of psychotropic medications is further worsened by private sector which is substantially higher than would be expected. The Gambia ranks 173 in the Human development Index of 2016 with an unhealthy economy. The average (grade 3 – 5) basic salary of a Gambia civil servant (Teacher, Nurse, Driver, Cleaner, Clerk, Secretaries, Laborers) as per government pay scale in 2014 is D1, 621.00 (US $40). Fluoxetine 20mg orally once a day for the month cost D450.00 (US $11), followed by Midazolam (15mg dly/month) with $10.7 and Amitriptyline (50mg dly/month) $10.5. Chlorpromazine (100mg twice daily/month) and Fluphenazine Decanoate (25mg) cost $7.3 each. The least costly is carbamazepine (200mg dly/month) which cost $5. These medication prices are exorbitant considering the average earning power of a Gambian civil servant. In some cases up to 28% of a monthly earning can go into the purchase of a single antidepressant drug. The high cost of psychiatric treatment, often due to high medication prices, poses significant financial barriers to patient care. In addition, psychiatric disorders are not covered by insurance policies in many countries, making mental health care unaffordable for many people. Correspondingly, the WHO also reported that 25% of all countries including the Gambia do not provide disability benefits to patients with mental disorders, and one-third of the world's population lives in countries that allocate less than 1% of their health budget to mental health. Furthermore, 31% of countries do not have a specific public budget for mental health. The implication of all these is that patients will have to fund their own mental health care which has an implication on health seeking.

Patients pay for psychotropic medicines because it's not available in the public sector, this can be a huge burden to the patient and family. The findings in the study is in agreement with a study on the availability and prices of antiepileptic medications carried out in southern Vietnam which showed that monthly treatment costs ranged from US$ 3.30 for carbamazepine 200 mg to US$ 22.50 for valproic acid 200 mg (Mac et al., 2006). A similar study conducted in Zambia found that adult out of pocket monthly costs ranged from US$ 7.51 for carbamazepine to US$ 29.88 for valproic acid (Chomba et al, 2010).

In an attempt to counteract the catastrophic costs of psychotropic medicines, governments have promulgated that psychiatric services in public institutions are free but these services are largely unavailable. Likewise in South Africa, the cost of generic antipsychotic medication is 24 cents per day (0.7% of the daily minimum wage) and generic antidepressant medication is 15 cents per day (0.5% of the daily minimum wage) which are relatively expensive to the average citizen. Economic and social vulnerabilities have made medicines, appointments with health care professionals, and transportation to a clinic unaffordable and time lost from work too costly. Even though most low income countries include psychotropic medications on their list of essential medicines, in 85% of those countries these medications are not available at all primary health care facilities. Moreover, the high median cost of psychotropic medicines in these countries is often prohibitive (e.g., the cost of treatment with antipsychotic agents would equal 9% of the daily minimum wage, and antidepressants 7%) and together with the expenses of other necessary care may impose economically catastrophic costs on patients (WHO-AIMS, 2009).

The situation is similar In Ghana, due to a shortage of psychotropic medicines; it is often the case that patients have to purchase these privately without means of gaining a refund and the cost of a one day supply of the cheapest antipsychotic medication is 30% of the daily minimum wage. The cost of one a day supply of the cheapest antidepressant medication is 27% of the daily minimum wage (WHO-AIMS Ghana, 2011).

Cadre of Staff Prescribing Psychotropic Medications

Further to the challenges of psychotropic medication availability and the exorbitant cost, the Gambia has a very week mental health human resource. There are only 2 technical aid Cuban psychiatrists and 8 psychiatric nurses for the close to 2 million people in the country. Jacob K.S. (2007) in bringing out the chronic shortage of human resource stated that the median number of health and mental health professionals (per 100 000 people) in all countries is as follows: health providers, 356·5; psychiatrists, 1·2; and psychiatric nurses, 2·0. Nearly half of all countries reported that they had less than one psychiatrist per 100 000 people, which included all Southeast Asian and nearly 90% of African countries. The median density of professionals for low-income countries was 0·06 per 100 000 populations and 10·5 for high income countries. The serious shortage of psychiatrists in low income countries is again illustrated by Chad, Eritrea, and Liberia (with populations of 9, 4·2, and 3·5 million, respectively), which have only one psychiatrist in each country, and by Afghanistan, Rwanda, and Togo (with populations of 25, 8·5, and 5 million, respectively), which have just two psychiatrists each. Jacob went on to state that 5 Low income countries have a median of 0·05

psychiatrists and 0·16 psychiatric nurses per 100 000 population. High-income countries have a ratio of psychiatric health-workers to population that is about 200 times higher.

As a result of this shortage, only 1% of the facilities studied have a psychiatric specialist. In 14% of the facilities, Auxiliary (untrained) nurses prescribe psychotropic medications for patients. Similar to the Gambia having no child psychiatrist, most low income and middle income countries had one child psychiatrist for every 1 - 4 million people. Other relevant deficiencies were absence of standards for training; failure to use available potential resources; and inability to implement supplemental training for those in contact with children who might need care. Shekhar Saxena et al, 2007, stated that standards for training are nonexistent in many regions and lacked enforcement in many others. Only 10 of 66 countries reported that more than 25% of their pediatricians had mental health training, although pediatricians were identified as providers of mental health care in 37 of 66 countries. Despite obvious need, countries failed to identify the training of primary health-care professionals as a resource for child mental health services. Less than 10% of child and adolescent mental health services were provided by primary care clinicians. Retraining or supplemental training of adult psychiatrists has also lagged in many countries.

In the face of these challenges, it is apparent that local circumstances will dictate how the roles of health staff should be modified and the principle of task shifting employed so as to achieve the WHO recommended client specialist ratio. The MHA 2013 - 2020 states that the use of the limited psychotropic medications is restricted by the lack of qualified health workers with the appropriate authority to prescribe medications. For example in South Africa, Primary health care nurses are allowed to prescribe but with restrictions (e.g., they are not allowed to initiate prescription but are allowed to continue prescription). Primary Health Care doctors are allowed to prescribe all medications on the South African essential medicines list (WHO-AIMS Report on Mental Health Systems in South Africa, Sep 2007). As rightly put, respondents working in Afghanistan and the occupied Palestinian territory expressed concern that the ease of prescribing medicines in primary health care settings can lead to under or over prescription when workers neither have the skills nor time to differentiate between normal distress and disorder, and cannot offer or organize psychosocial supports (Shankar Prinja, 2015).

As a result of the low capacity of staff on mental health, clinicians usually fail to prescribe a particular drug resulting in storing over a period of time beyond their shelf life. Similar to the situation in the Gambia, Adeponle stated that in Nigeria, Physicians and nurses did not inquire about patients medical and

medication histories, nor perform physical examinations in most cases. Polypharmacy was high, giving rise to significant potential drug-drug interactions in 28% of patients. Prescription practices are far from ideal, and continuing education, as well as development of prescription practice guidelines is suggested. Government intervention and change in clinician attitudes may be needed to improve use of newer medications (Adeponle AB et al, 2008). The prescription patterns of psychotropic drugs in Trinidad revealed the psychiatrists' preferences for traditional psychotropic drugs, the moderate use of anticholinergic drugs, and polypharmacy in some cases, with probable predisposition to adverse drug reactions. Given our results and based on the evaluation of individual patients, consideration should be given to a broader use of the newer antidepressants (SSRIs) and antipsychotics. Unless justified, polypharmacy should be avoided (Moore S. et al, 2002). These challenges of medication cost and capacity strongly featured as part of the fundamental barriers to mental health care in the Gambia.

Barriers and Facilitators

Barriers

As a result of the complex nature of managing mental health problems, the client needs an unrestricted and qualitative access to services and a range of service providers which is not the case in the Gambia. . Unfortunately, mental health care services are often not available or are under-utilized, particularly in developing countries. In developed countries, the treatment gap (the %age of individuals who need mental health care but do not receive treatment) ranges from 44% to 70%; in developing countries, the treatment gap can be as high as 90%. The ten fundamental barriers to mental health care have seriously paralyzed service delivery around the country with particular chronicity in public health facilities. The ten barriers identified by the respondents are “consumable”, else mental health care in the country will be “consumed” by these barriers. Addressing these barriers will facilitate the proclamations of health for all by International agencies and the vision of provision of quality and affordable Health Services for All as envisaged by the Gambia and her people.

Figure 12 - Barriers to Mental Health Care

The single most important factor that is seriously affecting mental health care in the Gambia is the near absence of trained mental health professionals in the country. This human resource gap is not only affecting health facilities but also within the national and regional health policy making bodies. With no Gambian psychiatrist, the country nervily relies on two Cuban Psychiatrists on a 2 year technical aid mission to the Gambia. These Cuban Psychiatrist operate the only week-day psychiatric outpatient in the country and provide inpatient care to the country`s only psychiatric hospital. These averages to about one psychiatrist to one million people in the Gambia which is a far cry from the global recommended ratio.

As of 2016 the Gambia has nine psychiatric nurses, eight of whom graduated within the past two years from the American International University West Africa. This translates to more than 200,000 people per psychiatric nurse in the Gambia which does not tally with globally recommended ratio. Low-income countries have a median of 0.05 psychiatrists and 0.16 psychiatric nurses per 100,000 people. Even fewer resources are available for children and adolescents; the WHO reports that most low- and middle-income countries have only one child psychiatrist for every one to four million people in 2005.

This situation is not any better in other related disciplines involve in mental health care. There is an absolute absence of psychologist, occupational therapist in the public health sector in the Gambia with only one social worker in the public mental health system in the Gambia. This overall shortage of healthcare professionals is compounded by an inadequate remuneration for mental health staff with low risk allowance and no health insurance.

Equally as seen in this study, the Gambia is in a shortage of psychotropic medication at all levels of the health care delivery system. The public health facilities is in a more dire chronicity of these mediacations especially those in provincial Gambia. The uunavailability of essential medicines is particularly prevalent in developing countries, and severely restricts access to treatment for psychological disorders. The WHO reports that nearly 20% of countries do not have at least one common antidepressant, one antipsychotic, and one antiepileptic medication available in primary care settings. The unavailability of medications is compounded by a lack of mental health care professionals and poor financing. The availability or lack of and distribution of psychotropic medications have been extensively discussed above.

Another area that have been extensively discussed and identified as a barrier is the private cost of treatment for mental health problems which also often limits access to mental health services. Mental health care is free within public facilities but because these services are near absent especially in terms of medications, a lot resort to seeking care from private facilities. A lack of financial resources is a part of the challenges preventing the mentally ill from seeking help at all and for others a lack of financial resources can lead to inconsistent or inadequate treatment. The out of pocket expenditure especially to access medication can cost you a third of the basic salary for most civil servants under government payroll. In addition, psychological disorders are not covered by insurance policies in many countries, making mental health care unaffordable for many people. The WHO also reports that 25% of all countries do not provide disability benefits to patients with mental disorders, and one-third of the world's population lives in countries that allocate less than 1% of their health budget to mental health. Furthermore, 31% of countries do not have a specific public budget for mental health (WHO, 2006).

By the same token, stigma associated with mental illness often prevents people from seeking and accessing treatment. Lack of insight and negative self-beliefs about mental illness can prevent people from seeking treatment or maintaining the recommended treatment regimen. On the other end, the very real risk of facing discrimination in social and professional circles creates a huge barrier. People may fear that family and

friends will avoid them or treat them negatively. They may also be concerned that the disclosure of a mental health condition can lead to negative treatment and perceptions at work.

Both patients and families can vehemently deny that one has mental health problems because stigma is often times not only meted on the patient but the family as well. They avoid all sorts of contact with the mental health system just to keep a face and status in the community. Patients are kept in isolation and hidden from the eye of the public by families so that they will not be affected with the stigma attached to having a mentally ill person in your family. These patients are abandoned in the streets with no food, shelter etc.

The public has a very limited knowledge about mental health and when and how to seek care and support. The cultural and traditional believes towards mental health is deeply rooted within communities and prefer alternative means of care than visiting health facilities. Mental illnesses, however, are often hard to recognize. Often, symptoms are subtle and might be dismissed as "personality" or "attitude" issues. Clinical anxiety may be dismissed as "worrying too much," depression can often look like "laziness" or fatigue. Even serious conditions may not be obvious to the person suffering or those around them, if they don't share their inner thoughts and feelings. Other times, people assume that their emotional or mental status is normal, not realizing that they are suffering from disordered thinking or clinical symptoms. If a person don't know something is wrong, it's unlikely they will seek treatment.

On service accessibility, the Gambia has only one psychiatric hospital that is task with providing mental health care throughout the whole country with it community mental health care services. This hospital is located in Western Health Region 1 and operates a week-day outpatient services at the polyclinic in Banjul, Western Health region 1. There is no mental health unit, ward or department in any general hospital around the country. This structure has centralized mental health care and hugely limited access to treatment by the provincial population. The community mental health team that is expected to be visiting communities in the provinces every 3 months has not made this visit nearly two years as a result of logistic and medication concerns of the trekking team. The approach of training PHC workers in some facilities is helping in providing basic outpatient care to patients but this is too little and they are also constrained with the lack of medications.

Equally important and needs urgent redress is the issue of poor legislation, policy and strategic plan. The only mental health legislation in the Gambia is the 1917 lunatic detention act which is archaic and not in line with

the convention on the rights of persons with disabilities. The mental health policy and plan developed in 2004 is seldom implemented. The World Health Organization cites a global lack of comprehensive mental health policies, which are crucial for implementing and coordinating mental health care services, as a key barrier to public access to mental health care. Nearly one-third of all countries, and almost half of all African nations, have no comprehensive mental health care policy or plan. Among countries with mental health care policies in place, approximately 40% have not been revised since 1990 and do not address recent developments in mental health care. Furthermore, 22% of countries do not have laws that offer legal protection of the human and civil rights of people with mental illnesses.

The right to health is enshrined in many International instruments including the Banjul Charter which have been ratified by the Gambia. This was the reference document used by the African Commission on Human and People's Rights on the human rights and mental health case of Purohit and Moore v The Gambia. The commission stated that the Government of the Gambia provide adequate medical and material care for persons with mental disabilities and repeal the "Lunatic Detention Act of 1917". The Gambia has an obligation to provide the basic minimum acceptable health service to her people which include the availability of essential medications as stated in the 1978 Alma Ata Declaration and adapted by the Gambia in 1979.

A 2012 situational analysis in the Gambia surveyed 432 respondents on mental health and 75% believed that mental health could be associated with evil spirits, jinn's, substance abuse, charms, unexplained spiritual occurrences, lack of respect to elders etc. The understanding of mental health care and illness prevention at the grassroots level was observed to be very low, and demonstrates a need for widespread public health education on mental health issues. These believes are deep rooted in society in the Gambia and therefore the best option of treating mental health problems is to visit tradition and faith base healers. Traditional and faith base healers see more patients with mental health problems than the conventional health system.

Facilitators

Despite the numerous challenges that seem to besiege mental health care in the Gambia, there have been positive strides in an attempt to improve service delivery around the country.

Figure 13 - Facilitators to Mental Health Care

Training of PHC workers on MH and mhGAP Intervention guide is a continued attempt to improve mental health care through the concept of task shifting. The Mental Health Leadership and Advocacy Program (mhLAP), Ministry of health and the WHO have in the past couple of years trained about 20 PHC workers on the mhGAP Intervention guide. This training helps these workers to provide basic mental health care at the level of the community. Though the training is not only based on medication only, it is a critical component of the intervention guide. Unfortunately these medications are lacking in most facilities thereby affecting greatly the services they provide to patients. Despite the medication challenges, this cohort is providing basic mental health care where available. Hundreds of copies of the domesticated mhGAP Intervention guide have been produced for onward distribution to all primary health care facilities in the Gambia.

There have been a great increase in community sensitization and awareness rasing throughout the country. These sensitization programs can be in the form of media programs, school and community outreach, caravan and productuion and distribution of information, education and communication materials. This has improved the understanding and health seeking behaviour in the communities.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

Conclusion

The study is a wake-up call that mental health needs more than national or global pronouncements; it needs affirmative actions. “No Health without Mental Health” have been promulgated and that mental health is an integral part of health pronounced but still countries like the Gambia have not delivered accessible, affordable, acceptable and quality mental health service to all especially in the domain of psychotropic medication supply.

The first and thus far only national study on the availability of psychotropic medications showed that despite the free mental health care in public facilities, the country has a very poor availability of psychotropic medications. The state and institutional investment in mental health continues to be disastrously low and this has greatly impeded service delivery in the Gambia. The private sector has a better availability than the public sector but this has both pros and cons in delivering services to patients. This finding corresponds with numerous other studies that state that public sector availability of medicines is low in many developing countries. While it is estimated that 6.5% of the population need some form of mental health care, the 30% national availability of psychotropic medication is grossly inadequate.

Consequently, there is a significant high cost to psychotropic medications compared to the earning power of the average Gambian. In some cases up to 28% of a monthly earning is spent on a monthly regiment of a single antidepressant drug. The high cost of psychiatric treatment, often due to high medication prices, poses significant barrier to patient care. In addition, psychiatric disorders are not covered by insurance policies or disability allowances in the Gambia, making mental health care unaffordable to many. The high cost of medications is particularly hard hitting because persons with mental illness are highly dependent on their families in the Gambia. Furthermore as a result of rooted stigma and discrimination, a person with mental illness often losses his job and education. To turn this tide, persons with mental illness need to be reintegrated and treated with respect and dignity with backing from sound legislation and policies.

The poor availability of human resource in the Gambia has further derailed mental health care with only 1% of the facilities having specialist making the prescription of psychotropic medications and a worrying 14% of Auxiliary (untrained) nurses prescribe psychotropic medications for patients. The chronic human resource

shortage with no psychologist, occupational therapist and only 2 technical aid Cuban psychiatrists has all further weight down the level of psychiatric care in the Gambia. While, the concept of task shifting should be embrace, there should be a minimum level of training attained before a person is allowed to initiate a psychiatric treatment. Additionally, there has been a huge regional variation in terms of human resource distribution and availability of services often making the poorest that bear the greater burden of mental disorders, have the lowest access to care. This lack of access to quality and affordable treatment makes the course of the illness more severe and debilitating, leading to a vicious circle of poverty and mental health disorders that is rarely broken.

The availability and proper use of medication must be seen as an integral part of providing mental health services in the Gambia in addition to non-pharmacological interventions and as such efforts have to be made by the state and stakeholders to deliver the "Health for All" mission. Of recent, there have been positive strides taken to improve the mental health situation in the Gambia which includes the current review of the mental health legislation, contextualization, adaption and training of health staff on mhGAP-IG and professional training of psychiatric nurses. Despite these achievements, some fundamental barriers to mental health care have seriously paralyzed service delivery around the country with particular chronicity in public health facilities. The ten barriers identified by the respondents are "consumable", else mental health care in the country will be "consumed". The recommendations advanced in this study have been empirically proven to have worked in other countries with similar socio-economic settings to the Gambia. With political commitment, increase funding and adaption of positive laws, the Gambia will undoubtedly take a huge leap towards the health for all agenda.

Limitations

As the first of its kind in the Gambia and its huge success in providing an overall picture of psychotropic medication in the country, the study has some limitations. Firstly, there are very few other studies on essential medications in the Gambia which have affected the comparison of Psychotropic medications with other classes of medications in the Gambia. Secondly, the study did not interview service users directly as part of assessing the availability of psychotropic medications in those facilities. A more comprehensive assessment of the procurement, distribution and prescription of medicines will be helpful.

Recommendations

The recommendations are made based on the findings of the study with a careful consideration of the feasibility and strategic approaches used in other jurisdictions with similar background and setting. The recommendations are carefully developed to deliver accessible, affordable, acceptable and quality mental health services to any and all as stated by Benedetto Saraceno et al in 2007. Such recommendations are not only based on availability of medications but it will also attempt to address all other facilitators/barriers that have a bearing or are anchored to the availability of psychotropic medications in the Gambia.

Revise and widely disseminate the Gambia National Standard treatment guidelines – The current standard treatment guideline does not include the management of mental health disorders. This Standard treatment guideline should be reviewed and merged with the mhGAP Intervention Guide that has been adapted by the Ministry of Health in 2016. Having the mhGAP-IG separate from the Standard treatment Guideline may have its advantages but I am of the strong believe that integrating mental health treatment guidelines into The National Standard Treatment Guideline will promote integration, acceptance, funding, procurement of medications and improving the capacity of non-specialist staff.

Strengthen the medications systems monitor for key pharmaceutical indicators routinely in order to track the availability of psychotropic medications and impact of health sector reforms and regulatory changes.

Repeal the "Lunatic Detention Act of 1917" and Enact a new Mental Health Legislation for an effective and efficient service delivery but also most importantly a humane, dignified and respect to the rights of persons with mental health problems. The current legislation being drafted strongly calls for a Human Rights approach to mental health care and integration of mental health into primary health care services. There should also be an updated Policy and Strategic Plan to address the objects of the Legislation

Strengthen the Community Mental Health Team (CMHT) to revitalize its periodic visits to all facilities around the country. These visits provide and extra and higher level of care to those patients in very remote communities with limited access to mental health services. The team provides medications to patients where the facility lacks such. It also serves to supervise PHC staff providing mental health services. The introduction

of the planned **"regional mental health focal person"** stationed in all the regional Hospitals to provide care and have a supervisory role to the regional catchment area will greatly boost services at community level.

Training and Capacity building of PHC staff in the treatment and management of mental health conditions. The Gambia has very limited specialist human resource and therefore the concept of task shifting by training PHC staff to render basic services should be encouraged. The process had begun with the training of 20 health staff on the mhGAP intervention guide by mhLAP in partnership with the Ministry of Health, Cbm and the WHO. This number is too little and may be drowned in the enormous services that PHC facilities offer. Specialist training should also be supported.

Increased Financing and budgetary allocation to mental health services: current estimates show that the Gambia spends less than 1% of its total health budget on mental health. This does not adequately address the burden of disease of mental health problems. In order to address the current shortcomings, there should be a fair and balanced allocation of health resources and decentralization of mental health services.

Recommendation Implementation Framework

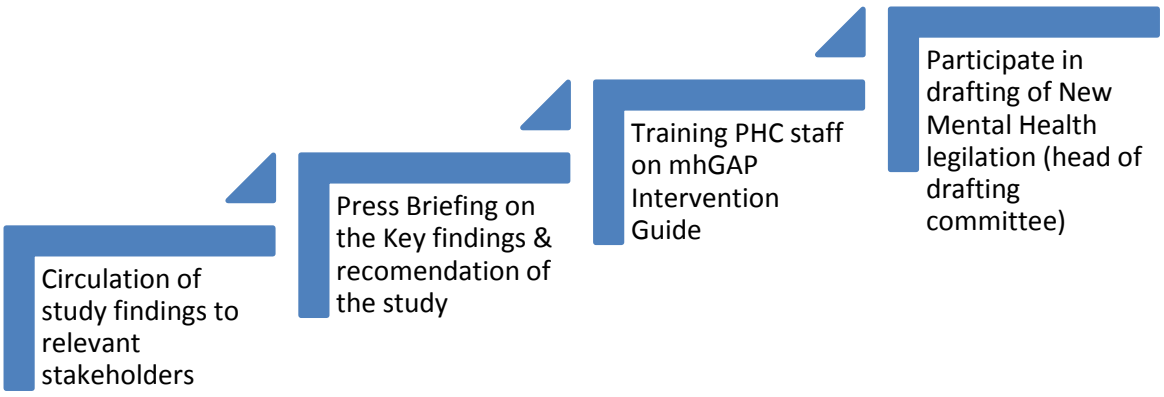


Figure 14 - Recommendation Implementation Framework

Bibliography

1 Adeponle AB, Obembe AO, Nnaji F, Adeyemi SO, Suleiman GT, Psychotropic drugs prescription at two regional psychiatric hospitals in northern Nigeria, West Afr J Med. 2008 Apr;27(2):106-10.

2 Alexandra Cameron, Understanding access to medicines in low and middle-income countries through the use of price and availability indicators, 2013, ISBN: 978-94-6108-374-6, Printed by: Gildeprint Drukkerijen - The Netherlands

3 Average availability of 14 selected essential medicines in public and private health facilities. WHO, 2010, Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies, Geneva: WHO. http://www.who.int/healthinfo/systems/WHO_MBHSS_2010_full_web.pdf

4 Benedetto Saraceno, Mark van Ommeren, Rajaie Batniji, Alex Cohen, Oye Gureje, John Mahoney, Devi Sridhar, Chris Underhill, Barriers to improvement of mental health services in low-income and middle-income countries,Global Mental Health 5, eptember 4, 2007, DOI:10.1016/S0140- 6736(07)61263-X

5 Cameron A, Ewen M, Ross-Degnan D, Ball D, Laing R. Medicine prices, availability, and affordability in 36 developing and middle-income countries: a secondary analysis. Lancet. 2009 Jan 17;373(9659):240-9. doi: 10.1016/S0140-6736(08)61762-6. Epub 2008 Nov 29.]

6 Daniel Vigo, Graham Thornicroft, Rifat Atun, Estimating the true global burden of mental illness, February 2016, DOI: http://dx.doi.org/10.1016/S2215-0366(15)00505-2

7 Daniel Vigo, Graham Thornicroft, Rifat Atun, Estimating the true global burden of mental illness, Published: February 2016. DOI: http://dx.doi.org/10.1016/S2215-0366(15)00505-2, Volume 3, No. 2, February 2016

8 Dominic Hodgkin, Piazza Marina, Maruja Crisante, Carla Gallo, Fabian Party, Availability of psychotropic medications in health care facilities of the Ministry of Health of Peru, 2011

9 Dominic Hodgkin, Piazza Marina, Maruja Crisante, Carla Gallo, Fabian Party, Availability of psychotropic medications in health care facilities of the Ministry of Health of Peru, 2011

10 Gostin L. Human Rights of Persons with Mental Disabilities: The European Convention of Human Rights. International Journal of Law and Psychiatry. Volume 23(2), 2000.

11 Graham Thornicroft, Michelle Tansella, Better Mental Health Care, 2009, Cambridge University Press.

12 Harinder Singh Chahal, Nazaire St. Fort, and Lisa Bero. Availability, prices and affordability of essential medicines in Haiti, 2013.

13 http://www.aho.afro.who.int/profiles_information/index.php/Gambia:Index

14 http://www.aho.afro.who.int/profiles_information/index.php/Gambia:Progress_on_the_Ouagadougou_and_Algiers_Declarations

15 Jiang M, Yang S, Yan K, Liu J, Zhao J. Measuring Access to Medicines: A Survey of Prices, Availability and Affordability in Shaanxi Province of China, 2013, PLoS ONE 8(8): e70836. doi:10.1371/journal.pone.0070836

16 Johannes Thome et al in their study the availability of psychiatric medication in an urban area of The Gambia/West Africa Johannes Thome, Essa Marenah, Diana Moraru, Jacqueline Höppner & Ousman Nyan. Pages 114-117 | Published online: 12 Sep 2011 http://www.tandfonline.com/doi/abs/10.3109/15622975.2011.601925?journalCode

17 Jose Miguel Caldas de Almeida and Alex Cohen, innovative mental health programs in Latin America, 2008, PAHO

18 José Miguel Caldas de Almeida and Sergio Aguilar-Gaxiola, The burden of mental disorders: implications for policy,

19 K S Jacob, P Sharan, I Mirza, M Garrido-Cumbrera, S Seedat, J J Mari, V Sreenivas, Shekhar Saxena, Mental health systems in countries: where are we now? Global Mental Health 4, September 2007.

20 Kebba M Njie, Cherno Jallow &Edrissa Ceesay, A Rapid Assessment of the Gambia PHC and Community Health & Nutrition Structures: Invest management International, NaNA and MOHSW,The Gambia. April 2014

21 Library: The Essential Medicines Library (EMLib), Web-based searchable database for Essential Medicines and the WHO Model Formulary. Search for medicine details, disease and treatment references, and various resources, WHO Essential Medicines.

22 Linden, Michael MD; Lecrubier, Yves MD; Bellantuono, Cesario MD; Benkert, Otto MD; Kisely, Steve MD; Simon, Gregory MD, MPH, The Prescribing of Psychotropic Drugs by Primary Care Physicians: an International Collaborative Study, Journal of clinical psychopharmacology, 1999.

23 Mariatou Tala Jallow, Essential Drugs in the Gambia, World Health Forum, Volume 14, 1993

24 Mark Roberts, Caroline Mogan, Joseph B Asare, An overview of Ghana's mental health system: results from an assessment using the World Health Organization's Assessment Instrument for Mental Health Systems (WHO-AIMS). Int J Ment Health Syst. 2014; 8: 16. Published online 2014 May 4. doi: 10.1186/1752-4458-8-16. PMCID: PMC4016652

25 Martin Prince, Vikram Patel, Shekhar Saxena, Mario Maj, Joanna Maselko, Michael R Phillips, Atif Rahman. Global Mental Health 1, No health without mental health, Volume 370, No. 9590, Sep. 2007.

26 Mental Health Action Plan 2013-2020

27 Moore S, Jaime LK, Maharajh H, Ramtahal I, Reid S, Ramsewak FS, Maharaj M, The prescribing of psychotropic drugs in mental health services in Trinidad. Rev Panam Salud Publica. 2002

28 Oppong S, Kretchy IA, Imbeah EP, Afrane BA, Managing mental illness in Ghana: the state of commonly prescribed psychotropic medicines, April, 2016. International Journal Mental Health System.

29 Prianka Padmanathan, Manoj Singh,, Saju C Mannarath,, Mayeh Omar and, Shoba Raja, A rapid appraisal of access to and utilization of psychotropic medicines in Bihar, India, International Journal of Mental Health Systems, 2014

30 Prices, availability and affordability of essential medicines in rural areas of Hubei Province, China Published by Oxford University Press in association with The London School of Hygiene and Tropical Medicine. Advance Access publication 1 December 2009. Health Policy and Planning 2010;25:219–229 doi:10.1093/h

31 Rohit Dixit, M. Vinay, T. Jayasree, Shaikh Ubedulla, V. S. Manohar, and N. Chandrasekhar, Availability of essential medicines: A primary health care perspective. Indian J Pharmacol. 2011 Sep-Oct; 43(5): 599–600. doi: 10.4103/0253-7613.84981. PMCID: PMC3195136

32 Rohit Dixit, M. Vinay, T. Jayasree, Shaikh Ubedulla, V. S. Manohar, and N. Chandrasekhar, Availability of essential medicines: A primary health care perspective, . 2011, Indian J Pharmacol

33 Shankar Prinja, Pankaj Bahuguna, Jaya Prasad Tripathy, and Rajesh Kumar, Availability of medicines in public sector health facilities of two North Indian States. 2015.

34 Shekhar Saxena, Graham Thornicroft, Martin Knapp, Harvey Whiteford, Resources for mental health: scarcity, inequity, and inefficiency September 2007, The Lancet. doi:10.1016/S0140-6736(07)61239-2

35 United Nations Development Group, 2003, Indicators for monitoring the Millennium Development Goals, New York, United Nations.http://devdata.worldbank.org/gmis/mdg/UNDG%20document_final.pdf

36 United Nations, 2009, Strengthening the global partnership for development in a time of crisis. MDG gap task force report 2009. New York; UN.http://www.un.org/millenniumgoals/pdf/MDG_Gap_%20Task_Force_%20Report_2009.pdf

37 Wen Chen, Shenglan Tang, Jing Sun, Dennis Ross-Degnan, Anita K Wagner, Availability and use of essential medicines in China: manufacturing, supply, and prescribing in Shandong and Gansu provinces.

38 WHO and Health Action International (WHO/HAI) methodology, Measuring Prices, availability, affordability and price components, 2nd edition, 2008, WHO/PSM/PAR/2008

39 WHO Model List of Essential medicines, 19th Edition, April 2015 (Amended November 2015).

40 WHO Policy perspectives on Medcine, Geneva, 2004

41 WHO, Measuring medicine prices, availability, affordability and price components, 2ND EDITION, WHO OMS medicine prices, HO/PSM/PAR/2008.3

42 WHO, Medicine prices, availability, affordability and price components Syrian Arab Republic, WHO 2008, WHO-EM/EDB/088/E

43 WHO, Mental health: a state of well-being 2013.

44 WHO, Projections of mortality and burden of disease to 2030. Geneva, Switzerland: World Health Organization.

45 WHO. Equitable access to essential medicines: a framework for collective action. Geneva: World Health Organization; March 2004

46 WHO/WONCA, Integrating mental health into primary health care, a global perspective, 2008

47 WHO-AIMS Report on mental health system in Ghana, 2011

48 World Health Organization Regional Office for Africa, WHO Country Cooperation Strategy 2008 - 2013: Gambia., WHO Mind, The Gambia, 2009

49 World Health Organization. Mental health: a state of well-being 2013. Available: http://www.who.int/features/factfiles/mental_health/en/. Accessed 15th January 2017

50 World Health Report, World Health Organization 2001

51 World Health Statistics, Monitoring Health for The SDGs, WHO, 2016

52 Yoonjoung Choi and Paul Ametepi BMC Health Services Research201313:266 DOI: 10.1186/1472-6963-13-266, Choi and Ametepi; licensee BioMed Central Ltd. 2013 Published: 9 July 2013

53 Yoonjoung Choi and Paul Ametepi, Comparison of medicine availability measurements at health facilities: evidence from Service Provision Assessment surveys in five sub-Saharan African countries, BMC Health Services Research201313:266 DOI: 10.1186/1472-6963-13-266. Published: 9 July 2013

54 Zaheer Ud Din Babar, Mohamed Izham Mohamed Ibrahim1, Harpal Singh2, Nadeem Irfan Bukahri3, Andrew Crees. Evaluating Drug Prices, Availability, Affordability, and Price Components: Implications for Access to Drugs in Malaysia Published: March 27, 2007, PLoS MEDICINE

Annex 1- Participant information sheet and consent

Version 1.0 Date

Study Title: Availability of Psychotropic Medications at PHC facilities in the Gambia

Code	

What is informed consent?

We will need your permission before we can go ahead and collect data about the availability of psychotropic medications in your facility. Before you decide you need to understand all information about this student thesis and what it will involve. Please take time to read the following information or get the information explained to you in your language.

If you decide to join the study, you will need to sign or thumbprint this consent form saying you agree to be in the study.

Why is this study being done?

This study is being done to assess the availability of psychotropic medications in this facility based on the 19th edition of the WHO Essential Medicine Model List 2015.

What does this study involve?

- The study duration is 6 months starting November 2017. About 100 PHC facilities and private clinics will complete the questionnaire.
- Questionnaire version 1.0 will be administered and the participant needs to complete it and allow the data collector to see the medications if available.

What harm or discomfort can you expect in the study?

- The only possible discomfort is the use of your valuable time to complete the questionnaire

What benefits can you expect in the study?

The study aims at promoting the management of mental disorders through improve access to essential Psychotropic medications at PHC facilities and identify facilitator/barriers where it exists.

Will you be compensated for participating in the study?

You will not get paid for responding to these questions.

Are there other products or treatment?

There are no other products or treatment applicable in this study. The respondents only needs to respond to the questionnaire

What happens if you refuse to participate in the study or change your mind later?

You are free to participate or not in the study and you have the right to stop participating at any time without giving a reason.

If you are injured in the study what compensation will be available?

This study does not require any intrusive procedure or the administration of any product or treatment, therefore injury is not foreseeable and no compensation to this effect.

How will personal records remain confidential and who will have access to it?

- Your personal information is not needed to complete this questionnaire. All information that is collected about the availability of psychotropic medications in this facility will be kept strictly confidential.
- After completion of study, copies of the findings can be accessed from the ministry of health and the Tanka Tanka Psychiatric Hospital.

Who should you contact if you have questions?

Mr. Dawda Samba

C/O WHO Country Office

9947043

dawdasamba@yahoo.com

Who has reviewed this study?

This study has been reviewed and approved by a panel of scientists at the Medical Research Council and the Gambia Government/MRC Joint Ethics Committee, which consists of scientists and lay persons to protect your rights and wellbeing. This research is also supervised from by Professor Beneditto Saraceno of Nova Medical School.

CONSENT FORM

Code: |__|__|__|__|__|__|__|__|__|__|__|__|__|

_____

(Position/Cadre of Respondent)

☐ I have read the written information **OR**

☐ I have had the information explained to me by study personnel in a language that I understand,

and I

- confirm that my choice to participate is entirely voluntarily,
- confirm that I have had the opportunity to ask questions about this study and I am satisfied with the answers and explanations that have been provided,
- understand that I grant access to data about me to authorised persons described in the information sheet,
- have received sufficient time to consider to take part in this study,
- agree to take part in this study.

Participant's signature/ thumbprint*

_____

Date (dd/mmm/yyyy) Time (24hr)

Printed name of witness* _____

Printed name of person obtaining consent _____

I attest that I have explained the study information accurately in _____ to, and was understood to the best of my knowledge by, the participant. He/she has freely given consent to participate *in the presence of the above named witness (where applicable).

Signature of person obtaining consent

_____

Date (dd/mmm/yyyy) Time (24hr)

** Only required if the participant is unable to read or write.*

Annex 2- Questionnaire

QUESTIONNAIRE version 1.0 **CODE…… …….**

Availability of Psychotropic Medications at PHC facilities in the Gambia

A Facility/institution

Date:	Facility/Institution:
Region:	Position/Cadre of Respondent:

B Psychotropic medications

Medication	**Availability**	**Cost 1mnth (Private)**	**Medication**	**Availability**	**Cost 1mnth (Private)**
ANTICONVULSANTS/ANTIEPILEPTICS			**Medicines used in psychotic disorders**		
carbamazepine	Yes ☐ No ☐		chlorpromazine	Yes ☐ No ☐	
magnesium sulfate	Yes ☐ No ☐		fluphenazine (modicate)	Yes ☐ No ☐	
midazolam	Yes ☐ No ☐		haloperidol	Yes ☐ No ☐	
phenobarbital	Yes ☐ No ☐		Risperidone	Yes ☐ No ☐	
phenytoin	Yes ☐ No ☐				
valproic acid (sodium valproate)	Yes ☐ No ☐		***Medicines used in bipolar disorders***		
			carbamazepine	Yes ☐ No ☐	
Medicines used in depressive disorders			lithium carbonate	Yes ☐ No ☐	
amitriptyline	Yes ☐ No ☐		valproic acid (sodium valproate)	Yes ☐ No ☐	
Fluoxetine	Yes ☐ No ☐				
Medicines for anxiety disorders			**Medicines used for obsessive compulsive disorders**		
Diazepam	Yes ☐ No ☐		clomipramine	Yes ☐ No ☐	
Other:					

NOTE: COST ONLY FOR PRIVATE FACILITIES (supply of 1 month)

C Source of psychotropic medication

Government/Public facility			
Central Medical Stores	Yes ☐ No ☐	Regional medical stores	Yes ☐ No ☐
Private Pharmacies (purchase)	Yes ☐ No ☐	**Donation**	Yes ☐ No ☐

D Cadre of staff prescribing psychotropic medication

Government/Public facility			
Psychiatrist	Yes ☐ No ☐	Nurse (BSN, RN)	Yes ☐ No ☐
General Physician	Yes ☐ No ☐	Nurse (EN)	Yes ☐ No ☐
Nurse (CHN)	Yes ☐ No ☐	Auxiliary Nurse	Yes ☐ No ☐
Other			

E FACILITATORS/BARRIERS

Facilitator(s) to the availability of psychotropic medications

1……
……

2……
……

Add more on extra pages

Barrier(s) to the availability of psychotropic medications

1……
……

2……
……

If necessary, add more on extra pages

Annex 3.1 - Approval from SCC

MRC Unit The Gambia

Mr. Dawda Samba
c/o WHO Country Office
3rd Street Kotu Layout

20 September 2016

Dear Mr Samba

SCC 1507v1.1, Availability of Psychotropic Medications at PHC facilities in the Gambia

Thank you for submitting your revised proposal dated 11 September 2016 addressing the issues raised by the SCC at its meeting held on 5 September 2016.

I am happy to provide Chair's approval for this project. Your proposal will be forwarded to the Ethics Committee for further consideration at their next meeing on 30 September 2016.

With best wishes

Yours sincerely

Professor Beate Kampmann
Acting Chair, Scientific Coordinating Committee

Documents submitted for review:-

- SCC application form, version 1.1 – 11 September 2016
- Informed Consent Document, version 1.0 – 22 August 2016
- Questionnaire, version 1.1 – 11 September 2016
- CV: Dawda Samba

Scientific Coordinating Committee
MRC Unit The Gambia
PO Box 273 Banjul, The Gambia
West Africa
Switchboard (+220) 4495442/6 Ext 2308
Fax (+220) 4495919/4496513
E-mail: scc@mrc.gm
Intranet: http://mrcportal/Committees/SCC/SitePages/Home.aspx
Webpage:https://mrcportal.mrc.gm/Committees/SCC/SitePages/Home.aspx

Annex 3.2 - Approval from Ethics Committee

The Gambia Government/MRC Joint
ETHICS COMMITTEE

C/o MRC Unit: The Gambia, Fajara
P.O. Box 273, Banjul
The Gambia, West Africa
Fax: +220 – 4495919 or 4496513
Tel: +220 – 4495442-6 Ext. 2308
Email: ethics@mrc.gm

12 May 2017

Mr Dawda Samba
C/o WHO Country Office
3rd Street Kotu Layout

Dear Mr Samba

SCC 1507v1.1, Availability of Psychotropic Medications at PHC facilities in The Gambia

Thank you for submitting your response letter dated 22 March 2017 addressing the issues raised by The Gambia Government/MRC Joint Ethics Committee at its meeting held on 30 September 2016.

I have looked at your responses and they are quite satisfactory. This project has now received full Ethics Committee approval. However it is worth noting that some work have been done on this topic and have been published on-line, hence it is recommended that they should be referenced.

With best wishes

Yours sincerely

Mr Malamin Sonko
Chairman Gambia Government/MRC Joint Ethics Committee

Documents submitted for review:-

- Response letter – 22 March 2017
- SCC approval letter – 20 September 2016
- SCC application form, version 1.1 – 11 September 2016
- Informed Consent Document, version 1.0 – 22 August 2016
- Questionnaire, version 1.1 – 11 September 2016
- CV: Dawda Samba
- Biosketch: Professor Benedetto Saraceno
- Email re supervisor's approval of the project proposal

Annex 4 – List of Health Facilities

No.	Health Region	Code	Name of Facility	Public/Private
1	WCR 1	101	Brufut HC	Public
2	WCR 1	102	Banjul Pharmacy	Private
3	WCR 1	103	Options Pharmacy	Private
4	WCR 1	104	Afrimed Clinic	Private
5	WCR 1	105	Stop Step Pharmacy	Private
6	WCR 1	106	Medicare Clinic	Private
7	WCR 1	107	Lamtoro Clinic	Private
8	WCR 1	108	Lamin HC	Private
9	WCR 1	109	Banjullinding HC	Public
10	WCR 1	110	Yundum HP	Public
11	WCR 1	111	Bijilo Medical Center	Private
12	WCR 1	112	Sukuta HC	Public
13	WCR 1	113	Serekunda HC	Public
14	WCR 1	114	FajiKunda District Hospital	Public
15	WCR 1	115	Bundung Maternal & Child Health Hospital	Public
16	WCR 1	116	New Jeshwang HC	Public
17	WCR 1	117	Old Jeshwang HC	Private
18	WCR 1	118	Ahmadiyya Hospital	Private
19	WCR 1	119	Cottage Clinic	Private
20	WCR 1	120	ASB Gambia Clinic	Private
21	WCR 1	121	Medical Research Council Fajara	Private
22	WCR 1	122	Kairaba Pharmacy	Private
23	WCR 1	123	Bakau HC	Public
24	WCR 1	124	EFSTH	Public
25	WCR 1	125	Polyclinic	Public
26	WCR 1	126	Leman Street Clinic	Public
27	WCR 1	127	Pakala Medical Clinic	Private
28	WCR 1	128	Mbowen Medical Clinic	Private
29	WCR 1	129	Bafrow Medical Clinic	Private
30	WCR 1	130	Serekunda General Hospital	Public
31	WCR 1	131	AllCare Drug store	Private
32	WCR 1	132	Westfield Clinic	Private
33	WCR 1	133	Jaama Pharmaciticals	Private
34	WCR 1	134	Tanka Tanka Psychiatric Hospital	Public
35	WCR 1	135	Malak Chemist	Private
36	WCR 1	136	City Pharmacy	Private
37	WCR 2	201	Pirang HP	Public

38	WCR 2	202	Bwiam Hospital	Public
39	WCR 2	203	Basori HP	Public
40	WCR 2	204	Narang Clinic	Private
41	WCR 2	205	Bafrow Mandinaba	Private
42	WCR 2	206	Brikama District Hospital	Public
43	WCR 2	207	Hands on Care	Private
44	WCR 2	208	Farato HC	Public
45	WCR 2	209	BACE Clinic	Private
46	WCR 2	210	Sambuyan Comm Cli	Public
47	WCR 2	211	Kartong HP	Public
48	WCR 2	212	Gunjur HC	Public
49	WCR 2	213	Sifoe Comm Clinic	Public
50	WCR 2	214	Sibanor HC Wec	Private
51	WCR 2	215	Kassagne HP	Private
52	WCR 2	216	Kalagie HC	Public
53	WCR 2	217	Somita Comm Clinic	Public
54	WCR 2	218	Jarrol Comm Clinic	Private
55	WCR 2	219	Besse HP	Public
56	WCR 2	220	Kafuta HC	Public
57	WCR 2	221	Sintet HC	Public
58	WCR 2	222	Jambanjelly HC	Public
59	WCR 2	223	Banyaka HC	Private
60	WCR 2	224	Sanyang HC	Public
61	LRR	301	Kwinella HC	Public
62	LRR	302	Kaiaf HC	Public
63	LRR	303	Soma District Hosp.	Public
64	LRR	304	Kiang Karantaba HC	Public
65	LRR	305	Jiffarong HP	Public
66	LRR	306	Keneba MRC	Private
67	LRR	307	Japinneh HC	Private
68	LRR	308	Jalambere HP	Public
69	LRR	309	Dongoroba HC	Private
70	LRR	310	Bureng Major HC	Public
71	LRR	311	Pakaliba HC	Public
72	NBW	401	Kuntair HC	Public
73	NBW	402	Albreda HC	Public
74	NBW	403	Essau HC	Public
75	NBW	404	Kerr Cherno	Public
76	NBE	501	Ngayen Sanjal HC	Public
77	NBE	502	SaraKunda	Public
78	NBE	503	Illiassa HC	Public

79	NBE	504	Farafenni Hospital.	Public
80	NBE	505	Njaba Kunda HC	Public
81	NBE	506	Kerewan HC	Public
82	NBE	507	Njawara HC	Public
83	NBE	508	Salikenni HC	Public
84	CRR	601	Kudang HC	Public
85	CRR	602	Dankunku	Public
86	CRR	603	Jahali HC	Private
87	CRR	604	Brikamaba HC	Public
88	CRR	605	St Lazarus Clinic	Private
89	CRR	606	Bansang Hosp.	Public
90	CRR	607	Sami Karantaba HC	Public
91	CRR	608	Janjanbureh HC	Public
92	CRR	609	Kuntaur HC	Public
93	CRR	610	Chamen HC	Public
94	CRR	611	Kaur HC	Public
95	URR	701	Garawol HC	Public
96	URR	702	Fatoto HC	Public
97	URR	703	Koina HC	Public
98	URR	704	Foday Kunda HC	Public
99	URR	705	BajaKunda HC	Public
100	URR	706	Yerobawol HC	Public
101	URR	707	Changally Lankadi Cli	Private
102	URR	708	Diabugu HC	Public
103	URR	709	Sabi HC	Public
104	URR	710	Basse District Hosp	Public
105	URR	711	Demba Kunda	Public
106	URR	712	Gambisara	Public