FACTORS THAT INFLUENCE IRRATIONAL PRESCRIBING IN PUBLIC HEALTH FACILITIES IN TEMEKE MUNICIPALITY, DAR-ES-SALAAM REGION, TANZANIA.

BY

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CERTIFICATION

The undersigned certifies that he has read this dissertation and recommends for acceptance by the University of Dar es Salaam.

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DATE: 15/10/2003

DECLARATION

I hereby declare that, this dissertation is my original work, and it has never been submitted for a diploma or degree in any university

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DEDICATION

This work is dedicated to my parents,

My beloved wife Mozza and

My loving daughter Amina

ABSTRACT

This study focused on "Factors that influence irrational prescribing in public health facilities in Temeke Municipality, Dar es Salaam" The study was conducted in a way that the findings would help the Council Health Management Team to improve prescribing practices in public facilities. Previous researches do not provide enough information on factors that could influence irrational prescribing in public health facilities. A total of twelve out of twenty one public health facilities in the municipality were selected and studied. The public health facilities in the study were one hospital, one health centre and ten dispensaries. Factors that were studied included lack of training, lack of printed material lake guidelines, clinical experiences, misleading promotional activities, lack of time due to patients overload and lack of monitoring system.

The study findings show that majority of the studied prescribers 87 (96.7%) were aware of the existence of the sexually transmitted infections guidelines. Most of them have attended training on sexually transmitted infections. But, only 37 (41.1%) were found to posses the guidelines that were issued by the Ministry of Health. All the studied prescribers were knowledgeable of the sexually transmitted infections drugs but a high frequency of incorrect prescriptions was observed suggesting that majority of them were not using the guidelines.

It is concluded that although training is useful but still there is no improvement in management of the sexually transmitted infections. These results emphasize the need to improve monitoring and supervision. Availability and distribution of the guidelines should go hands in hand with the investigation of prescribing pattern.

LIST OF ABBREVIATON

AIDS	Acquired Immuno Deficiency Syndrome
BCC	Behaviour Change Communication
CHMT	Council Health Management Team
EDP	Essential Drug Supply Program
HIV	Human Immuno Virus
HTA	High Transmission Areas
IEC	Information, Education and Communication
MOH	Ministry of Health
MSH	Management Sciences for Health
NACP	National AIDS Control Program
PID	Pelvic Inflammatory Diseases
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
UDS	Urethral Discharge Syndrome
VDS	Vaginal Discharge Syndrome
WHO	World Health Organization

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CHAPTER ONE

1.1. INTRODUCTION

Appropriate, effective and economically efficient use of pharmaceutical products remains the most feasible control strategy for most diseases in both developing and developed countries. Rational drug use is perceived differently by people but according to WHO's 1985 Nairobi conference of experts on rational drugs use defined rational use of drugs "require that patients receive medication appropriate for the clinical needs, in doses that meet their own requirements, for an adequate period of time at the lowest cost to them and their communities" (MSH 1998).

Unfortunately in the real world, prescribing pattern and drug use do not always conform to the above statement. Irrational prescribing, and irrational drug use is a global problem and one of the major public health problems. Numerous studies both from developed and developing countries describe a pattern that include polypharmacy, use of drugs not related to diagnosis, use of expensive alternatives, inappropriate use of antibiotics, indiscriminate use of injections, self medication with under dosing and over dosing, use of drugs with unproven efficacy, safety and incorrect route of administration, dosage and duration (Karin 1998).

In least developed countries with limited financial resources in the health sector, drug expenditure is second to staff salaries and benefits accounting for perhaps 50% -90% of non-personal costs (MSH, 1997).

In Tanzanian drugs alone consume 35% - 45% of the total annual health budget (MOH, 1997), therefore appropriate and cost effective treatment of most common diseases is essential. This is more so because diseases in these countries are communicable and can be easily treated or reduced with cost effective drugs or

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essential drugs (MSH, 1997). According to WHO, essential drugs are indispensable and necessary for the health needs of the population'' (MSH, 1997). Essential drugs should be available to all. The WHO conference at Alma-Ata recognized essential drugs and proper treatment of common diseases as among the eight elements of Primary Health Care (WHO, 1998). However, one third of the world 's population still lack access to essential drugs, In some parts of Africa and Asia over 50% of the population does not have regular access to the most important essential drugs (WHO, 2000).

Over the last twenty years Tanzania has implemented the National Drug Policy and acquired considerable experience in managing drug supply through the National Essential Drugs Supply Program (EDP) (Munishi, 1999). However, the overall objective of the Tanzania National Drugs Policy is to make available for all Tanzanians at all levels and time the essential pharmaceutical products, which are of quality, proven efficiency, acceptable safety and at a price that the individual and the community can afford.

The Standard Treatment Guidelines and National Essential Drug list

The Standard Treatment Guidelines and National Essential Drug List for Tanzania were first launched in April 1991, and revised in 1997 (MOH, 1997) with the aim of providing all prescribers with a set of treatment guideline covering most common disease conditions found in the country so that prescribing practices can be standardized (MOH, 1997).

Therefore simplifying drug quantification, procurement and supply, and achieves better rational therapeutics, which is the cardinal aim of health care systems. Tanzania has several disease control programmes where case management is the

main strategy, this includes: Malaria, Acute Respiratory Infection (ARI), Diarrhea diseases, HIV/AIDS, TB/Leprosy and Sexual Transmitted Infections (STIs). All these disease control programmes use a case management as a strategy and depend on syndromic approach. Sexually Transmitted Infections (STIs) are highly prevalent in Tanzania, affecting about 10%-20% of the sexually active population each year, and between 2%-15% of pregnant women are seropositive for syphilis. In high-transmission areas the prevalence of sexually transmitted infection is particularly high (e.g. 27% among females). Hence they cause a considerable increase of the risk of HIV infection, and are costly to the community, especially in regard to drugs if they are not properly managed (MOH, 1999)

Sexually Transmitted Infections Treatment Guideline.

(User's Manual)

The National STI treatment guideline is a set of recommendation and regulations concerning the need of uniformity in the management of sexual transmitted infections (STIs) in a country. It is a part of the National Drug Policy and of the National AIDS/ STD control program and is line with the overall National Health Policy. The guideline is continuously evaluated, reviewed and updated wherever appropriate by the National AIDS/STD control program (MOH1999).

The Aim of Sexually Transmitted Infections (STIs) Guideline.

The primary purpose of the Sexually Transmitted Infections guideline is to ensure prompt, effective and safe treatment of sexually transmitted infections through the selection of proper regimens for different protective at risk groups such as children and pregnant women.

The term effective treatment might be meaningful when the following are considered

1.Clearance of signs and symptoms

2. Clinical cure plus prevention of clinical recrudescence i.e. no appearance of signs and symptoms in 7 days following the end of treatment especially in high transmission areas where infected adults are asymptomatic. The role of Sexually Treatment Infections treatment guideline is to efficiently use the available resources to maximize the reduction in morbidity and mortality due to STIs. Therefore in Tanzania, the purpose has been (MOH 1999)

1.To reduce morbidity

2.To provide rapid and long lasting clinical cure

3.To reduce the progression of asymptomatic infected individual to their sexual partners

4. To minimize the chance and rate of development of drug resistance.

5.To reduce the impact of congenital infections and still birth

Essential Components of a Sexually Transmitted Infections Treatment guideline

There is a list of sexually transmitted infections drugs, which are registered for use in Tanzania. The guideline includes information on indications for use, drug regimens and dosages and the routes of administration and associated side effects. The at risk groups are well defined for whom the drugs are contraindicated. It also includes diagnostic criteria, which vary with the capabilities of the different levels of the health services.

The recommended treatment (MOH, 1999)

1. To treat the contacts according to symptoms and signs (Syndromic approach) or according to the diagnosed STI syndrome of the index case.
2. Response to treatment of the patients/contacts. There is a well-defined system on which drugs should be used as first line, second line and third line treatment.
3. Pregnancy and Neonates. Sexually transmitted infections in pregnancy are serious risk and require very effective treatment.

However, the availability of essential drugs is futile due to irrational prescription and irrational drug use. Various studies have documented improving drug use in public health care facilities (Karin 1998, Mnyika et al.1991). It was expected that changes have occurred in prescribing patterns, nevertheless, there is need to study the current situation after these changes. The prescribing behaviour depends upon the inputs from various sources like patient, commercial publicity, professional colleagues, and academic literature and government regulations. Ineffective use of these inputs can result in a wide variety of prescribing errors (Avorn et al, 1989). For the purpose of this study only a few factors were considered such as lack of training/inadequate training, lack of printed information (Guidelines, manuals), personal experience, misleading promotional activities and lack of a monitoring system.

Factors influencing irrational prescribing

Prescribers

1. Lack of training, or inadequate training.
2. Lack of printed materials.
   - Guidelines, Manuals,
3. Clinical experiences.
4. Misleading promotional activities.
5. Lack of monitoring and evaluation systems.

Rational use of drugs therefore depends on the knowledge, attitudes, beliefs and practices of health workers and patients. Educational strategies for both groups are essential but frequently neglected or inappropriate. In the case of health workers, there is often a focus on the development of lifetime prescribing skills and the ability to assess drug information critically (WHO, 2001).

However, although in service training on the use of treatment guidelines have the potential to improve treatment practices; a recent study showed this is not always the case and quite often there is discrepancy between knowledge and the practice of health workers (Karin 1998). The proposed study aims at determining the factors that influence irrational use of drugs for treatment of sexually transmitted infections in Temeke Municipality.

1.2, LITERATURE REVIEW

Previous studies have shown that different ineffective and inappropriate use of drugs is common practice in the heath sector throughout the world so often observed in the developing countries, which have medical and economic consequences.

The supply of low - price drugs and the improvement of a rational drug use is a priority to day in Sub-Saharan Africa, all the more so now that this region is suffering an exclusive economic crisis (Bruneton et al; 1995)

Economically about 50% or more of drugs expenditures may be wasted through irrational prescribing and drug use. The problem always remain unnoticed by those who are involved in health sector decision making or delivery of health service, it usually comes to their attention when there is an acute shortage of budget for health and action for cost efficiency is required .The problem is complicated by a global shift from public to private market which in countries without proper regulation results in even worse irrational prescribing and misuse of drugs due to business interests and ignorance (Karin 1998).It therefore becomes more meaningful to prescribe drugs rationally for optimal use of the allocated funds.

A drug use indicator study in Dar- es- salaam public health facilities revealed over prescribing of antibiotics and injections and non-adherehence to National Standard Treatment Guidelines. Interventions were development of new Standard Treatment Guidelines and training with the aim of improving prescribing practices and performance of all health workers especially prescribers.

However the number of antibiotics and injections prescribed were not changed by the intervention. Although in service training has the potential to improve prescribing

practices, this is not always the case and quite often there is a discrepancy between knowledge and practices of the prescribers (Karin 1998).

In rural Bangladesh, poor prescribing practices were revealed like over use of antibiotics, antidiarrhea, indiscriminate use of injections, randomly prescribing of tab iron and vitamin B complexes and inappropriate dosages and duration of antibiotics.

A case study of three mission hospitals in Kenya revealed that drug use studies and small group face to face educational interventions offered greater impact in reducing the inappropriate use of drugs. (Gitau 1996).

In many cases antibiotics are used without bacteriological investigations. This is syndromic approach. Antibiotics as a group contribute significantly to the cost of drugs worldwide accounting for about 15% to 30% of total health budgets. The increasing overuse is associated with the development of drug resistance, adverse drug reactions and drug toxicity. However, one study in Indonesia revealed that about 70% of patients attending a health facility received antibiotics and about 25% of prescriptions for paediatric patients contained injections (WHO, 1989).

In several situations the rational use of has been reported to reduce the emergence of resistance (Sande et al, 1996). In a study done in Mbeya (Mnyika et al, 1991), it was found that health workers (prescibers) inaccurately diagnosed illnesses in more than half of the cases they investigated and prescribed drugs irrationally in nearly two thirds of diagnosed illnesses.

In 1993, Maselle et al studied prescribing patterns in the Dar es Salaam Region, Tanzania. Some of the factors and drug use indicators were studied like prescriptions with injections; average number of drugs per prescription, prescriptions with essential drugs etc.It was found relatively fewer numbers of drugs per prescription (about 2). Another study done in India found that clinicians prescribed an average of 2.9 drugs per patient and about 70% were multiple drugs (Greenhalgh, 1987) However studies on the use and adherence to standard treatment guidelines, prescribing behaviors are not popular (Maselle et al, 1993; Mnyika et al., 1991)

In Uganda, a study showed that using standard treatment alone did not change prescribing patterns (WHO, 2000) These findings were not different from those of Karin in Dar es Salaam in 1998 where he found that printed materials alone had little effects on prescribing practices (Karin, 1998).These findings emphasized that apart from training and use of standard treatment guidelines, supervision and monitoring are important in reducing irrational prescribing practices.

However, there is relatively small number of drugs per case in Ghana (4.3) Nigeria (3.8) United States (9.4) Scotland (4.5) High injection use in most Sub-Saharan countries (36 to 56%). The rate of antibiotic use was found to vary from 27 to 39% in Latin America, 31 to 46% in Asia and from 29 to 63% in Africa (MSH, 1998).

As most of the populations in developing countries exist under conditions of poverty, inadequate medical care, poor sanitation and nutrition, bacterial infections account for much of morbidity and mortality particularly in the paedeatric age groups (WHO, 2000)

Although these academic studies begin to illuminate on the need to improve prescribing pattern within the health service, to date, irrational prescribing and drug use is still acknowledged as a major public health problem Efforts to address the situation by developing innovative interactions seems to be insufficient. This highlights the importance of routine monitoring and evaluation of efficiency and effectiveness of the use of standard treatment guidelines so as to avert morbidity and mortality of the common diseases.

Studied conducted in developing countries do not give enough information on factors that influencing irrational prescribing in public health facilities. This study offers some information on factors that influencing irrational prescribing and the recommendations from this study will help both the prescribers and institutional authorities like the Ministry of Health and Council Health Management Team to review prescribing practices and modify to facilitate better health care delivery.

CHAPTER TWO

2. 1. STATEMENT OF THE RESEARCH PROBLEM

In general irrational prescribing and misuse of drug is a problem in all diseases, but this study limits itself to sexually transmitted infections due to resource constraints

The control of sexually transmitted infections (STIs) is apriority programme of the Ministry of Health due to their importance in HIV control. If sexually transmitted infections are not properly managed, they can results in serious complications such as ectopic pregnancy, pelvic inflammatory diseases in women, infertility in women and men, urethral stricture in men and ophatlmia neonatorun in neonates.

To be effective in controlling sexually transmitted infections the Ministry of Health through NACP stresses the importance of training health workers in sexually transmitted infections management which include the knowledge and skills necessary to manage patients comprehensively. Each clinician/ prescriber is required to recognize sexually transmitted infections case management by using the national sexually transmitted infections guidelines.

A new syndromic approach for sexually transmitted infections case management entails focusing on identification of clinical syndromes (symptoms and signs) followed by specific treatment targeting all pathogens causing that syndrome. One of the problems with this approach is that it always results in over treatment of patients which sometimes lead to poor compliance as the patients has to take many drugs; (MOH/NACP 1999).

A major finding is that development of treatment guideline alone is not sufficient and its ineffective use can result in a wide variety of prescribing errors (Calvin&Kurin 1990).

This study focuses on whether the prescribers in Temeke government health facilities are aware of the National sexually transmitted infections treatment guideline and its use their knowledge on sexually transmitted infections drugs.

2.2. RESEARCH QUESTION

The purpose of this study was to determine the factors that influence irrational prescriptions relative to sexually transmitted infections treatment guideline and factors related to it among health workers (prescribers) of Temeke Municipality.

2. 3. RATIONALE OF THE STUDY

In Tanzania especially in public health facilities case management of sexually transmitted infections is poor, due to insufficient training/lack of training, supervision,monitoring and lack of treatment guidelines as result essential drugs for treatment of sexually transmitted infections are overprescribed inappropriate dosages, durations and incorrect route of administration, and patients are not informed about treatment regimens. The results of this study will cover the existing knowledge of all prescribers in the management of sexually transmitted infections, and it will also cover the current practices of these prescribers.

The information will educate health workers on rational use of drugs so as to avert morbidity and mortality of common diseases. Temeke Municipal Health Council will use that information as a means of quantifying wastes or inefficiencies in the health delivery system and improve supervision on rational use of drugs. The information will be disseminated to various sectors in the City and Ministry of Health so that to improve or develop innovative interventions on rational use of drugs for economic and medical consideration. Also the information may lead to other similar studies.

2.4 OBJECTIVES

Broad objective:

To assess the factors that influence irrational prescribing in Sexually Transmitted Infections.

Specific Objectives: -

1. To determine the awareness/presence of the Sexually Transmitted Infections guidelines.
2. To assess the prescribers knowledge about Sexually Transmitted Infections.
3. To describe the existing prescribing pattern as regarding to sexually transmitted infections.

CHAPTER THREE

3.0. METHODOLOGY

3.1. Description of the study area

Temeke Municipal is part of Dar-es- Salaam City and Tanzania mainland. It is one of the high transmission areas (HTA) for STI/HIV transmission because of cultural practices like ritual dances, polygamy and early marriages (CHMT – 2002/03).

The study was carried out in the Temeke Municipality. Temeke Municipality forms the Southern part of Dar es Salaam. It has an area of 656sq km and is the largest area among the three Municipalities of Dar-es-Salaam region. Others are Ilala and Kinondoni. The Indian Ocean bound it in the East, Mkuranga district (Coast region) in the South, Ilala Municipal in the North and West. It lies in the tropical coastal belt of Tanzania and has a temperature range of 23° to 30°C. Previously the Municipality was divided into three divisions and 16 wards. Some of the wards have been subdivided making a total of 24 wards. The population of the Municipal (an extrapolation of1998 census) was 405,753 with an annual growth of 4.8%. Using this figure the Municipality projected population is 779295 for the year 2003 (CMHT – 2002/2003).

The municipality covers the whole of Temeke and is comprised of mixed tribes as in the characteristics of many Towns in Tanzania; but the main tribes are the Wazaramo and Wandengereko. Temeke Municipality has 198 industries of which 158 are giant industries and 40 are middle companies, which offer significant job opportunities. A small proportion of urban inhabitants are of middle income, the remaining bigger

proportion is of low-income group engaging in petty trading and informal sector activities. In the rural part people are engaged in fishing and small-scale farming. The crops grown include cashew nuts, coconuts, and fruits paddy yams.

Temeke has 3 hospitals (one public and 2 private owned) 3 health centers (1 public, 2 private owned) and 105 dispensaries (19 public, 85 private owned). 246 drug stores, one private dental and 9 registered autonomous laboratories. The Municipal has a total of 496 workers in the public health sector out of different cadres. About 90% of the populations live within five kilometers from a health facility. Health services provided in the Municipality include; rehabilitative, promotive, preventive and curative services. Impassable roads in some rural areas of the municipality hinder smooth provision of heath services during the rainy seasons. The municipal can be reached by water and land.

3.2. The study design –

A descriptive cross-sectional survey of prescribers' habits (prescribing) was carried out in public health facilities in Temeke Municipality from May to June 2003. The prescribers include medical officers, assistant medical officers, clinical officers and assistant clinical officers, trained nurses/nursing officers, nurse assistants.

3.3. Selection of the study sample: -

A purposeful sampling procedure was used so as to obtain a sample of 90 prescribers for interview and 300 prescriptions/ treatment ends / books for the exit review. 100 prescriptions in hospital, 200 in health center and dispensaries. Public dispensaries were randomly selected. Prescribers on duty for morning outpatient services were

recruited into the study. At the hospital level, prescribers on an afternoon shift were also recruited. The prescriptions were selected as per WHO criteria, where at least 100 prescriptions should be obtained at each health facility in study that involves drug use pattern.

3.4. Data collection and procedure: -

The data on 90 prescribers was collected using a structural interview/ questionnaires forms with close-ended and open questions so as to ensure consistency and clarity. The prescribers were interviewed on the knowledge of the sexually transmitted infections drugs, their indications, contraindications and associated side effects. Also interviewed on awareness of the sexually transmitted infections guidelines and if they use them and knowledge of sexually transmitted infections drugs. This was complemented with review of 300 prescriptions/ treatment cards/ books of patients attending outpatient services for sexually transmitted infections so as to assess whether prescribers knowledge and practice on the treatment of sexually transmitted infections was according to sexually transmitted infections guidelines

The two research assistants were recruited for assisting the investigator in data collection and trained for two days. One day was for the review of the research instruments and second day was the field test. The training focused on how to administer the questionnaire and review of prescriptions /treatment cards/books. After field testing, the questionnaires were finalized. Checklists to determine correctness of prescriptions were also used. The investigator participated in data collection and supervised the two research assistants for quality assurance.

3.5. Pilot Study

Pre testing of the questionnaires and review of the prescription was conducted in two public health facilities in Ilala Municipal that were not part of the study. The tools used were the questionnaires for prescribers and observation of prescriptions/treatments cards where 10 prescribers and 30 prescriptions were tested. Permission to conduct field test was obtained from the Municipal Medical Officer of Health for Ilala

3.6. Data management and analysis: -

During the fieldwork the close-ended and open questions were coded and on each day, the collected data were cleaned and validated for consistency. The collected data were entered into the computer EPI-Info. Analysis was carried out to assess prescribers' knowledge and practices and therefore adherence to the sexually transmitted infections guidelines. Analysis of prescriptions was performed and proportion of irrational prescription was determined.

3.7. Ethical consideration: -

Permission to carry out the study was sought from Muhimbili University College of Health Sciences ethical committee while permission for doing the research in Temeke Municipal was obtained from the Municipal Medical Officer of Health. The purpose and confidentiality of the study was explained to every participant and informed consent was solicitated and consent forms were issued before interviewing and review of prescriptions/treatment cards.

3.8. Study limitation:

Interviewing of the prescribers during morning hours was causing inconvenience to both prescribers and patients hence hindering cooperation.

Some of the prescribers were giving wrong informations about their prescribing practices.

CHAPTER FOUR

4.0. RESULTS

4.1. Socio-demographic characteristics of the study population

A total of 90 prescribers out of 101 from 12 out of 21 public health facilities in Temeke Municipal were studied. The public health facilities included in the study were 1 hospital, 1 health centre and 10 dispensaries.

40 (44.4 %) of the prescribers were females and 50 (55.6 %) males. A total of 300 prescriptions or patient's treatment cards were reviewed.

Table 1: Level of education of the studied prescribers (N=90)

Level of education	Number	Percentage
Primary	4	4.4
Secondary	77	85.6
University	9	10.0
Total	90	100

About 85.6% of the prescribers had secondary education while 4 (4.4%) had only primary education and 9(10.0%) had University education.

Table 2: Distribution of the studied prescribers on the kind of training about sexually transmitted infections (N=90)

Training	Number	Percentages
Syndromic management	58	64.4
STI Counseling	2	2.2
STI Peer education	1	1.1
No training	29	32.2
Total	90	100

The table above shows that only 58 (64.4%) of the studied prescribers had training on syndromic case management of sexually transmitted infections.

4.2. Knowledge and practices of prescribers regarding national sexually transmitted infection guidelines.

87 (96.7%) of the studied prescribers were aware of the existence of the sexually transmitted infections manuals/guidelines, but only 37 (41.1%) possessed the guidelines.

28 (53.8%) knew where to get the guidelines from which in this case was through attending training courses. It was revealed that copies were not sufficient for every course participant during training.

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Table 3: Frequency of prescribers' use of sexually transmitted infections manuals/guidelines (N=90)

Attribute	Reported number	Reported Frequency
Always / all the time	8	8.9
Sometimes	40	44.4
Not using	42	46.7
Total	90	100

The sexually transmitted infection manual was used at a frequency of 11.3%. A high percentage of prescribers 40 (44.4%) were not using the manual/guideline all the time and 42 (46.7%) did not use the guidelines at all.

Table 4: The reasons for not using the sexually transmitted infections manuals/guidelines

Attribute	Number	Percentages
Patients load	20	24.2
Clinical experience	25	30.5
Promotional activities	7	8.5
Patients demands	5	6.1
Lack of supervision	12	14.8
Lack of training	13	15.9
Total	82	100

A high number of 25 prescribers (30.5%) out of 90 responded that they were not using the sexually transmitted infections manual / guidelines because of their clinical experiences. This is either contrary to their professional training or what they have seen from colleagues or what they have learned by themselves.

4.3. Prescribing practices regarding sexually transmitted infections

In all the studied health facilities, sexually transmitted infections were mentioned by the prescribers as being the major health problems. The most common syndromes mentioned were; Vaginal Discharge Syndrome 100%, Pelvic Inflammatory Diseases 94.4% and Urethral Discharge Syndrome 58.9%. All the studied prescribers were knowledgeable about the sexually transmitted infections drugs

Table 5: The proportion of prescribing various sexually transmitted infections drugs.

Name of drug (s)	Yes	Don't know
Benzathine penicillin	15 (17.0%)	73 (83.0%)
Cotrimaxazole	85 (96.6%)	3 (3.4 %)
Erythromycin	48 (53.9%)	41 (46.1%)
Ciprofloxacin	87(97.8%)	2 (2.2 %)
Metronidazole	70 (79.5%)	18 (20.5%)
Spectinomycine	62 (71.3 %)	25(28.7%)
Clotrimazole	76 (86.4%)	12(13.6%)

From the table above ciproflaxin was the commonest prescribed antibiotic with the frequency of 87 (97.8%) and benzathine penicillin being the least used 15(17.0%).

Table 6: The commonest syndromes and proportion of properly treated syndromes

Syndromes	Properly treated	Not properly	Total
PID	21(27.3%)	56 (72.7%)	77 (100%)
VDS	22(28.6%)	55 (71.4%)	77 (100%)
UDS	17(22.1%)	60(77.9%)	77 (100%)

The table above shows that Urethral Discharge syndrome has the highest frequency 60 (77.9%) of incorrect prescriptions of all the commonest syndromes in the studied areas.

4.4 Prescribing practices according to syndromic case management of sexually transmitted infections

Majority of the prescribers 85 (94.4 %) reported that they were giving advice to a their patients about commonly used sexually transmitted infections drugs, Regarding the reported frequency of patients recall, 83 (92.2 % reported to see their patients after one week and about 76 (84.4%) reported there were prescribing injections benzathine penicillin for pregnant women who had syphilis and 59 (65.5 %) of the interviewed did not know what to prescribe for the neonates with congenital syphilis.

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A total of 82 prescribers reported giving advice to their patients according to syndromic case management.

Table 7: Proportion of prescriptions

	Number	Percentage
Correct	106	35.3
Incorrect	194	64.7
Total	300	100.0

Table 7 shows that 64.7 % of the prescriptions were incorrectly prescribed. The reasons being 122 (57.7 %) prescriptions were not according to sexually transmitted infections guidelines, 46 (23.7%) prescriptions were in wrong dosages and duration and 36 (18.6%) prescriptions contained injections

Table 8: **Relationship between respondents' training and possession of the sexually transmitted infections guidelines**

Possess	Training	No training
Yes	34 (58.6 %)	3 (9.4%)
No	24 (41.4%)	29 (90.6%)
Total	58 (64.4 %)	32(35.6%)

Chi square=20.66 p-value=0.00001

From the table above shows that a high number of prescribers 29(90.6) % who were not trained, did not possess the guidelines.

Table 9: **Respondents training and use of the sexually transmitted infections guidelines**

Frequency of Use	Training	No training
Always	6 (11.6 %)	2 (10.5 %)
Sometimes	28 (53.8 %)	12 (63.2 %)
Not using	18 (34.6%)	5 (26.3 %)

Chi square=0.52 P-value=0.77 degree of freedom=2

The table above shows that majority of the prescribers (65.4%) who have been trained on sexually transmitted infections were using the guidelines, however the relationship was not statistically significant (P>0.05)

Table 10: **Reported frequency of use of sexually transmitted infections guidelines and what to be done to improve practices.**

Uses	Training	Supervision	Education	Total
Always	5 (100%)	0	0	5(100%0
Sometimes	32 (80 %)	7 (17.5%)	1 (2.5%)	39(100%)
Not using	19 (86.4%)	3(18.6 %)	0	22 (100%)

Chi square=1.87 P-value = 0.76 degree of freedom = 4

A high number of 56 (83.6 %) respondents mentioned that training was the only way of improving their practices.

CHAPTER FIVE

5.0 DISCUSSION

This study shows that all the studied prescribers consider sexually transmitted infections as being one of the major health problems in their areas. Majority of the studied prescribers in Temeke Municipality are clinical officers, assistant medical officers and very few medical doctors. Most of them 58 (64.4%) have attended training on sexually transmitted infections. This shows that the Ministry of Health is stressing the importance of training health workers in sexually transmitted infections management.

Majority of the studied prescribers 87 (96.7%) were aware on the existence of the sexually transmitted infections manuals/guidelines, but it is suprising to see that even those who had not trained on sexually transmitted infections were aware on the existing of the manual. This indicates that sexually transmitted infections are prevalent in those areas and may be majority encountering them in their daily practices.

Although majority were aware and have attended training but only few prescribers 37 (41.1%) were found to possess the guidelines that were issued by the Ministry of Health through NACP and STD programmes. This shows that training is useful and if they are trained the chance to retain the guidelines is improved. However it was not understood as to why majority of prescribers were not possessing the sexually transmitted infections guidelines. One explanation was that the copies produced in 1999 were not enough for all prescribers who were trained. Another was loss of

copies given during the training. All in all some of the prescribers knew where manuals could be obtained

Moreover in this study the definition of correct prescription was related to whether the drugs were prescribed in accordance to sexually transmitted infections guidelines/ manuals, contained wrong dosage and duration and contained injections, Thus although the studied prescribers were knowledgeable of the sexually transmitted infections drugs which are contained in the guidelines, but in the present study a high frequency of incorrect prescriptions was observed perhaps suggesting that majority of the prescribers were not using the guidelines. This agrees with the study done by Karin in Dar-es – Salaam in 1998, which revealed that there was a discrepancy between knowledge levels and the practice of the health workers (prescribers). Possible explanations for this could be that majority of them depend on their clinical experiences due to lack of training or lack of time due to patients overload. Other possible explanations may be lack of supervision for those who had training,and misleading pharmaceutical promotions.The study shows that majority of prescribers were not practicing according to syndromic case management of the sexually transmitted infections. This shows that majority of the prescribers who had training on sexually transmitted infections did not use that opportunity to teach others.

The present study also shows that majority of the prescribers did not know what to prescribe for neonates with congenital syphilis, while others were prescribing 3 types of drugs, 2 or 1 for pregnant women with syphilis. This is very dangerous as mismanagement of these vulnerable groups may pose an important cause of disease

burden and suffering to the nation. Therefore availability of the sexually transmitted infections manuals, training of how to use them, and effective monitoring and supervision are very important issues.

A study done in Uganda (WHO) and Tanzania (Karin, 1998) showed that development and availability of the standard treatment guidelines alone without training, monitoring and supervision did not have any impact.

CHAPTER SIX

6.0. CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

1. Results of this study show majority of the studied prescribers are having good knowledge about sexually transmitted infections guidelines; but very few were possessing the guidelines or practicing according to the national guidelines.

2. All the studied prescribers were knowledgeable of the sexually transmitted infections drugs but still there is irrational prescription to treat sexually transmitted syndromes

3. There is a gap between knowledge and practices of the prescribers specifically in case management of sexually transmitted infections.

4. The use of sexually transmitted infections guidelines has not been well adapted in public health facilities in Temeke Municipality.

6.2. RECOMMENDATIONS

1. All prescribers in public health facilities should be trained on sexually transmitted infections and important information, education and messages (IEC) should focus on syndromic management and behavior change communication (BCC) should focus on availability, distribution of sexually transmitted infections guidelines to all health facilities especially to prescribers
2. To ensure better prescribing to all public health facilities, all who are trained be obligated to share their knowledge with those not trained.

3. Supervision and monitoring should be established and strengthened; supervision should focus on availability of the guidelines and investigation of prescribing patterns.

4. Future research to assess the cultural factors as a possible factor influencing irrational prescribing should be done.

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