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### Knowledge on Prescribed Artemether-Lumefantrine among Outpatients and Caretakers Attending Temeke Hospital: Patients Fundamental Rights

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#### Abstract

**Background:** Patients have fundamental rights and dignity of receiving adequate information regarding their illness and therapeutic management. Adequate information is essential for good adherence of the prescribed drugs and for participating in decisions about treatment. The main objective of this study to assess the knowledge on prescribed Artemether-lumefantrine (AL) among outpatients and caretakers attending Temeke hospital.

**Methods:** This was a cross sectional study involving 224 outpatients and caregivers who were attending at Temeke Hospital and received (AL) drugs.

**Result**: Only 105 (46.9%) understood the Interval of hours required to take AL pills; their knowledge did not vary with sex. However those with university/college education (74.1%) were more likely to be knowledgeable as compared to those with primary or lower education (45%). Fifty eight percent of participants did not understand the number of days required to complete AL dosage, while only 114 (50.9%) understood the instructions written on the AL package. When asked about the consequences associated with incomplete AL dosage, 176 (78.6%) did not understand the risks of not completing AL dosage. More than half (58.5%) of participants were not satisfied with the information given by health workers about risks and benefits of the prescribed AL. The Majority (84.8%) of participants did not discuss with care provider about managing the prescribed AL. In this regard 198 (89.2%) of participants did not get an opportunity to ask any question about their prescribed drug.

**Conclusion:** Finally the prescribers must increase the time to spend with patients so as to enable them to understand the instruction provided because is the patients fundamental as articulated in the Universal Declaration of Bioethics and Human Right (UDBHR).

Keywords: Artemether-Lumefantrine; Fundamental Rights

#### Introduction

Patients have fundamental rights and dignity of receiving adequate information regarding their illness and therapeutic management [1]. Universal Declaration of Bioethics and Human Right (UDBHR) of 2006 recognizes patients as autonomous agents who have innate right and dignity of receiving adequate information and participating in decision-making. Adequate information is essential right for good adherence of the prescribed drugs and for participating in decisions about treatment [2]. The International Covenant on Civil and Political Rights (ICCPR) article 19 (2) states that; "*Everyone shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, orally, in writing or in print, in the form of art, or through any other media of his choice ..."* 

Unfortunately, comprehension of information on prescribed antimalaria drug predominantly AL among outpatients and caretakers has not been well investigated [3]. High health risks and least benefits are evident among patients with inadequate knowledge related on information of prescribed anti-malaria drugs [4]. Majority of these patients are taking anti-malaria drugs in a way that is contrary to the provided instructions which reduces therapeutic benefits and increase health risks such as high health cost, drugs resistance, progression of disease and even death [2,5]. However; laws and regulations emphasizing moral obligation among prescribers are in place in order to maximize health benefits and minimize possible risk or harm to their patients [6].

#### Methods

#### Design

The study employed a descriptive cross sectional hospital based study; designed to find out if patients understand the instructions provided when AL is prescribed for them.

#### Setting

This study was conducted at Temeke hospital. Temeke hospital was chosen because it is among of the three urban hospitals in Dar es Salaam region. Temeke hospital is the largest referral hospital in Temeke district. In November 2010 was upgraded to regional referral hospital. Temeke municipal is an urban area with an area of 659 km

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square and a total population of 1,368,881 with an annual growth rate of 5.6%. Temeke hospital provides services to Temeke population and neighboring district of Rufiji, Mkuranga and Ilala. Also Temeke district is reported to have high prevalence of malaria cases compared to other districts in Dar es Salaam [7].

#### Data collection

Before data collection, participants were informed about the objective of the study. Participants were informed that participation in the study is voluntary. Informed consent was obtained from participants before collection of data. Confidentiality was assured and attained by using codes rather than names. Data was collected using questionnaire with mainly closed ended questions, which were prepared in English and other translated in Swahili language.

#### Participants and recruitments

This study involved 224 patients and caretakers attending Temeke Hospital who had AL drugs prescribed for them or the patients they take care of. Both patients/caretakers were supposed to be 18 yrs and over for better understanding of the questions that were posed to them by the researcher.

Recruitment of study participants was done at Temeke hospitals from 9 am to 5 pm Monday to Friday with exception of public holidays as well as Saturday and Sunday. Identification of eligible individuals was being done after patients receiving AL drug by the help of a pharmacist who dispensed the drugs.

#### Result

*Socio-demographic factors of participants:* The majority of the respondents 167 (74.6%) were females. Regarding education of participants, 85 (37.9%) had primary/less, 112 (50%) had secondary/ vocation education, and 27 (12.1%) had college/university education. Majority 118 (52.7%) of participants were married and 84 (37.5%) were single. Employments status of participants included 82 (36.8%) businessman/women, 80 (35.9%), employed in governments institution and non-government organization and 61 (27.4%) were unemployed (Table 1).

Variables	N (%)		
Sex			
Male	57 (25.4%)		
Female	167 (74.6%)		
Level of Education			
Primary or Less	85 (37.9%)		
Secondary/Vocational	112 (50%)		
College/University	27 (12.1%)		
Marital Status			
Single	84 (37.5%)		
Married	118 (52.7%)		
Divorced/Separated	1 (0.4%)		
Cohabiting	3 (1.3%)		
Widowed	18 (8%)		
Employment Status			
Employed	80 (35.9%)		
Unemployed	61 (27.4%)		
Businessman/woman	82 (36.8%)		

 Table 1: Distribution of participants by social demographic factors (N=224).

## Knowledge related to the information of prescribed AL medication

The result show that, 179 (79.9%) of participants had malaria, 173 (77.2%) of participants knew they received anti-malarial drugs, more than half 120 (51.8%) of participants did understand the name of anti-malaria drugs which were prescribed for them. Majority of patients 172 (76.8%) received more than three types of drugs. Only 105 (46.9%)

knew the interval of hours required to take AL pills and 94 (58%) did not know the number of days required to complete AL dosage. Only 114 (50.9%) of participants understood the instructions written on the AL package. About 114 (50.9%) of participants were not supported to take prescribed medication. More than half 123 (54.9%) of participants did not forgotten to take prescribed AL in their life time. 163 (72.8%) of participants agreed that adequate instruction helps patients to

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remember the prescription information of AL. majority (78.6%) of participants did not understand the risk of not completing AL dosage. 140 (62.5%) of participants did not understand the risks of the prescribed AL. More than half 140 (62.5%) of participants understood the benefits of their prescribed AL dosage and more than half 131

(58.5%) of participants were not satisfied with the information given about risks and benefits of the prescribed AL. The Majority 190 (84.8%) of participants were not involved in the discussion about managing prescribed AL dosage and 198 (89.2%) of participants not asked any question when their taking AL medication (Table 2).

Number of Participants with Malaria	179 (79.9%)
Number of Participants Knowing they Received Anti-Malarial Drugs	173 (77.2%)
Number of Participants Knowing the Name of Antimalarial Drug Prescribed to them	120 (51.8%)
Number of Participants receiving more than 3 types of drugs	172 (76.8)
Number of Partcipants Knowing the Interval of Hours Required to take AL Pills	105 (46.9%)
Number of Participants Who did not Know the Number of Days Required to Complete AL Dosage	94 (58%)
Number of Participants Able to Understand the Instructions Written on the AL Package	114 (50.9%)
Number of Participants not Supported to take Prescribed Medication	114 (50.9%)
Number of Participants Who did not forgot to take Prescribed AL in their Life Time	123 (54.9%)
Number of Participants who Agreed that Adequate Instructions Helps Patients to Remember the Prescription Information of AL	163 (72.8%)
Number of Participants not Understanding the Risk of not Completing AL Dosage	176 (78.6%)
Number of Participants not Understanding the Risks of Prescribed AL	140 (62.5%)
Number of Participants Understanding the Benefits of Prescribed AL Dosage	140 (62.5%)
Number of Participants not Satisfied with Information Given About Risks and Benefits of the Prescribed AL	131 (58.5%)
Number of Participants not Involved in the Discussion About Managing Prescribed AL Dosage	190 (84.8%)
Number of Participants not Asked any Questions when they are taking AL Medication	198 (89.2%)

 Table 2: Distribution of participants based on information of prescribed AL medication.

#### Association between knowledge related to interval of hours supposed to take the AL and sex, education, risks and benefits related to AL.

In this study revealed that, (12.5%) males were more likely to know the interval of hours required to take AL medication compared 90 (40.2%) female were not know the interval required to complete AL dosage. Chi squire were not significant.

Those with college/University education (8%) were more likely to know the correct interval hours of taking AL medication as compared to those with Secondary/vocation education (24.1%) and primary/less (16.5%) did not know the correct interval of taking AL medication.

The difference statistically is significant chi square=11.6, p=0.008 (Table 3). Those who were knowledgeable (18.3%) were more likely to claim that they informed about the risk of prescribed AL medication as compared to those who were not knowledgeable (28.6%) were not informed about the risk of prescribed AL medication, The statistically difference is significant chi square=11.6, p = 0.001 (Table 3).

Those who were informed about benefits of prescribed AL medication (29%) were more likely to know the interval of hours required to take AL medication as compared to those (17.8%) who were not informed about the benefits of prescribed AL medication. The statistically difference is not significant.

		Knowledgeable	Not Knowledgeable	P-Value
Sex	Male	28 (12.5%)	29 (12.9%)	n.s
	Female	77 (34.4%)	90 (40.2%)	
Education	Primary/Less	37 (16.5%)	44 (19.6%)	0.008
	Secondary/Vocation	54 (24.1%)	64 (28.5%)	
	College/University	18 (8%)	7 (3.1%)	

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Have You Informed About the Risk of AL	Yes	41 (18.3%)	22 (9.9%)	0.001
	No	64 (28.6%)	97 (43.3%)	
Have You Informed About the Benefits of AL	Yes	65 (29%)	75 (33.5%)	n.s
	No	40 (17.8%)	44 (19.6%)	
n.s: Not Sign				

**Table 3:** Distribution of participants by knowledge related to interval of hours in a day required to take the AL by sex, education, risks and benefits related to AL (n=224, frequency and percentages in parenthesis).

#### Association between knowledge related to interval of day supposed to take the AL and sex, education, risks and benefits related to AL

Table 4 shows that females (35.7%) were more likely than males (6.2%) to know the correct interval required to complete AL dosage per day. The Statistical difference (p=0.002). Those with college/University education (7.1%) were more likely to know the correct number of days required to complete AL dosage as compared to those

with Secondary/vocation education (24.1%) and primary/less (10.7%). The statistical difference p=0.003. In addition; those who were knowledgeable (12.9%) were more likely to claim that they know the risks of prescribed AL medication as compared to those who were not knowledgeable (15.2%), but the difference statistically not significant. Those who were knowledgeable (39.3%) were more likely to claim that they know benefits of prescribed AL medication as compared to those who were who not knowledgeable (35.2%), as shown in Table 4. The difference is not statistically significant.

		Knowledgeable	Not Knowledgeable	P-Value
Sex		•	•	•
	Male	14 (6.2%)	43 (19.2%)	0.002
	Female	80 (35.7%)	87 (38.8%)	
Education				
	Primary/Less	24 (10.7%)	61 (27.2%)	0.003
	Secondary/Vocational	54 (24.1%)	58 (25.9%)	
	University/College	16 (7.1%)	11 (4.9%)	
Have You Informed About the Risks of Prescribed AL Medication				
	Yes	29 (12.9%)	34 (15.2%)	n.s
	No	65 (29%)	96 (42.8%)	
Have You Informed About the Benefits of Prescribed AL Medication				
	Yes	88 (39.3%)	79 (35.2%)	n.s
	No	6 (2.7%)	51 (22.8%)	

**Table 4:** Distribution of participants by knowledge related to interval of days supposed to complete AL dosage by sex, education risks and benefits related to AL (n=224, frequency and percentages in parenthesis).

#### Discussion

### Knowledge related to the information of prescribed AL dosage

This study revealed about half of the patients did not have the right information regarding interval at which AL can be taken in a day and

for how many days the drugs are supposed to be taken. These findings are in contrary to the expectations of the Universal Declaration of Bioethics and Human right (UDBHR), the declaration is emphasizing the fundamental right of patients on receiving adequate information regarding their illness and therapeutic managements [8]. Especially so because a sizable proportion of patients were not satisfied with the instructions provided by the health care providers and that the Citation: Emmanuel John Msovela and Joyce Masalu (2018) Knowledge on Prescribed Artemether-Lumefantrine among Outpatients and Caretakers Attending Temeke Hospital: Patients Fundamental Rights . J Clin Res Bioeth 9: 330. doi:10.4172/2155-9627.1000330

majority did not get the opportunity to ask questions [9]. A similar scenario was reported in another study conducted in Tanzania by Mace in (2011) whereby 50.9% of exiting patients who received AL were not given instructions to follow when using AL [10]. Thus, the prescribers must spend more time with their patients to ensure comprehension of the provided instructions. Significantly higher proportion of patients and caretakers who had college/university was more knowledgeable compared to those with of primary/less education [11-14]. Thus those with low education should be given more time as reflected in the findings of this study. A small proportion of males knew the correct number of days required to complete the AL as compared females suggesting that people of different sexes may require different approaches when being assisted to comprehend the instructions [15].

The majority (58.5%) of patients were not satisfied with the information of prescribed AL medication [16]. This is similar to findings of a study conducted by Luyinga in Tanzania (2013) which revealed that 62.9% of exist patients were not satisfied with instructions to prescribed AL for treatment of uncomplicated malaria [17,18]. The current study also found that education is an important factor to understand the interval of hours required to take the AL pills. Those who had college/university were more likely as compared to those with primary/less to mention the correct interval for taking AL pills. Similar findings were also reported by Mwanje in a study conducted in Uganda [19]. The main reasons for not completing AL dosage in the Ugandan study was the complexity instructions compared to the previous single dosage required by SP [20-24]. In the current study patients received three drugs or more along with AL resulting in multiple instructions which could be hard to comprehend [25].

### Knowledge related to the risks and benefits of prescribed AL drugs

These studies revealed that majority of the participants have never been informed about the risk of prescribed AL medication. Those who were informed about the risk of prescribed were more knowledgeable regarding interval and duration of treatment compare to those who were not informed the risk of prescribed AL medication. Similar findings were reported by Massawe (2013) in a study conducted in Tanzania whereby 76.5% of participants were not told of any possible side effects of AL medication (31). In this study 39.2 % of patients were informed about the benefits of prescribed AL drugs. Thus, the Universal Declaration of Bioethics and human right (UDBHR) emphasizing on the fundamental right and freedom of patients in understanding all the prescription information prescribed by health care providers has been violated in almost one third of all participants who were left uniformed of the benefits [26].

Those who were informed about the benefits of prescribed AL were more likely to know the days required to complete AL dosage compared to those were not informed the benefits of prescribed AL. This study is in line with the findings of study conducted in Uganda, which revealed that 58.5% of participants did not received enough information related to malaria medication [27].

Furthermore study found nearly half of the participants did not understand written instructions on the medication package. In the America study failure to comprehend was associated with small font size letter in scientific terminology used to write the information but in Tanzania majority of patients fail to understand instruction written on AL package due to illiteracy [28].

# Participating in decision-making related to prescribed AL drugs

Majority of participants in this study neither were involved in decision making nor were given opportunity to ask question during prescription of their medication. Similar results can be found in the study conducted in Tanzania which revealed that patients are seen as passive participants in decision making while doctors and pharmacist act as evaluator and decision makers [29]. Patients participating in decision-making reduces health risks such drugs resistance, hospitalization, health costs and furthermore it help to increase understanding of prescribed medication [30]. Universal Declaration of Bioethics and Human Right (UDBHR) of 2006 recognizes patients as autonomous agents who have innate right and dignity of participating in decision making related to prescribed AL medication [30].

#### Conclusion

Finally the prescribers must increase the time to spend with patients so as to enable them to understand the instruction provided because is the patients fundamental as articulated in the universal declaration of bioethics and human right (UDBHR) in 2006 which emphasizing respectively authorities to improve the knowledge of patients in order to understand all information related to prescribed drugs and participates in decision making is fulfilled as recommended.

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