

## Clinicians' Contribution to Medication Non adherence: The role of Clinicians' Communication Skill

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### ABSTRACT

**Background:** Medication nonadherence is a common problem, and the training of Clinicians to communicate better enhances patients' adherence to medications. **Objectives:** This study aims to assess Clinicians' communication skills during the process of rational prescribing in the clinics. **Methodology:** This was a cross-sectional questionnaire-based descriptive study conducted among Clinicians in a Nigerian tertiary hospital. The questions were adapted from the section on communication skills outlined in "Guide to Good Prescribing". Responses were rated on a 5-point Likert scale from "all of the time" to "none of the time" and data analysed using SPSS version 22. **Results:** There were 100 Clinicians, 71 (71%) males and 29 (29%) females with mean years of practice of 8.2±5.8 years. Only 47% of the Clinicians informed their patients "all of the time" when medicine is prescribed in clinic on why the medicine is needed, 23% on which symptoms will disappear and which will not disappear with treatment. About 20% informed their patients "all of the time" on which side effects may occur and what action to take, while 18% and 11% respectively do same on how serious the expected side effects are and their expected duration. **Conclusion:** This study revealed poor communication of vital information, instructions and warning to patient during encounters in the clinics and this is a harbinger to medication nonadherence. Good training on therapeutic skills (how to select, prescribe and monitor treatment, and how to communicate effectively with their patients) if incorporated into medical training in developing nations will improve medication adherence.

**Keywords:** Rational prescribing, Therapeutic skill, Drug adherence, Training.

### INTRODUCTION

Medication non-adherence is worldwide and common with about 50% of patients with chronic diseases not taking medications as prescribed.<sup>1,2</sup> Non-adherence to medication is the most common cause of failure to achieve treatment goal with the attendant consequences of increased

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morbidity and mortality.<sup>3,4</sup> Data on the role of clinicians in the development of medication nonadherence is largely sparse especially in developing nations.

Medication adherence is defined as the extent to which a person's behaviour, corresponds with agreed recommendations from a health care professional.<sup>5</sup> Therefore medication adherence involves both patient- related factors as well as physician-related factors, especially physician-patient communication.<sup>6,7</sup> Studies have shown that patient adherence to medications is significantly related to the communication of physicians, and that adherence can be improved when physicians are trained to be better communicators.<sup>7</sup>

Training on communications skill is a component of the Rational use of medicine concept and rational prescribing is an integral component of the “Guide to Good Prescribing”, a World Health Organization (WHO) manual, developed to improve prescribing skill and intended for use in the training of medical students on good prescribing practices.<sup>8</sup> The manual identified three Clinicians related factors that are determinants of medication adherence namely; prescribing a well-chosen treatment, creating a good doctor and patient relationship and taking time to give necessary information, instructions and warnings.<sup>8</sup> However, the aspect on taking time to give necessary information, instructions and warnings has been largely neglected. The aim of this study was to assess Clinicians' communication skills during the process of rational prescribing in the clinics.

## METHODOLOGY

### *Study Design*

This was a cross-sectional questionnaire- based descriptive study amongst Medical practitioners in a South-eastern Nigeria tertiary institute of health between June 2018 and December 2018. The questionnaire was self-administered and the questions were adapted from select questions on prescribers communication skills outlined in the

“Guide to Good Prescribing” a WHO practical manual.<sup>8</sup>

### *Study Population*

The Clinicians were drawn from among resident doctors and medical officers at the Nnamdi Azikiwe University Teaching Hospital Nnewi, a tropical tertiary institution of health located in the Southeast geopolitical zone of Nigeria. The Nnamdi Azikiwe University Teaching Hospital (NAUTH) is a 450 bed tertiary hospital located in Nnewi. Nnewi is in Anambra State in South-eastern Nigeria. Anambra State occupies an area of 4,844 Kmsq and has a population of 5,599,910 according to the 2019 Nigeria population estimate by the National Bureau of Statistics.<sup>9</sup> NAUTH is a major medical referral centre in the state with resident doctors and medical consultants in various clinical and non-clinical departments.

### *Sampling method and sample size*

The 100 participants surveyed in the study were selected from the eligible consenting resident doctors and medical officers in the surveyed clinical departments in the hospital using a systematic sampling technique (via consecutive recruitment). Sample size of 121 was obtained using Raosoft<sup>®10</sup> online Statistical software based on the following assumptions: margin of error (5%), confidence interval (CI) (95%), population of respondents (175 doctors in the surveyed clinical departments – internal medicine, surgery, paediatrics, obstetrics and gynaecology and family medicine at the time of survey) and a response distribution of 50%. Addition of 10% of the estimated sample size gave a total sample size of 134.

### *Study Protocol*

The study was conducted using a self-administered questionnaire adapted from some select questions on clinicians' communication skills as outlined in the WHO manual “Guide to Good Prescribing”.<sup>8</sup> The manual was developed to improve prescribing skill and was intended for use in the training of medical students

on good prescribing practices but can also be used by practicing doctors. The manual is geared towards adequate training on therapeutic skills (how to select, prescribe and monitor the treatment, and how to communicate effectively with your patients) which the traditional clinical training of undergraduate students that often focuses on diagnostic skills cannot provide.<sup>8</sup> The manual prescribed six steps in the process of rational prescribing treatment namely;

Step 1: Define the patient's problem

Step 2: Specify the therapeutic objective (What do you want to achieve with the treatment)?

Step 3: Verify the suitability of your P-treatment (Check effectiveness and safety)

Step 4: Start the treatment (Write a prescription)

Step 5: Give information, instructions and warnings

Step 6: Monitor (and stop?) treatment

The aim of the fifth step is to train and improve communication between the clinician and the patient and indirectly medication adherence. This step involves giving the patient adequate and relevant information, instruction and warnings regarding the effects of the medication, the dosage regimen, possible adverse effects and what actions to take among others. The questions in the study tool used in this present study were adapted from the questions listed in the fifth step in the manual. The questions were framed to determine the percentage of times the clinicians give the necessary information, instructions or warnings to patients when new medicines are prescribed in the clinics. The information, instructions or warnings were on the effect, dosing and side effects of the medications as well as the care of the medicines and giving instructions on future consultations. Responses were rated on 5-point Likert scale from “all of the time” to “none of the time”. To the best of our knowledge this is the first study adapting these sets of questions to study the role of Clinician's communication skills in contributing to medical non-adherence.

Other information obtained from the subjects

included the demographic data of the prescribers (age and gender), the number of years of practice, and knowledge of the “Guide to Good Prescribing” and training on the Rational use of Medicine (RUMs) concept.

#### ***Inclusion criteria and Exclusion criteria***

The practitioners were included if they prescribed medicines regularly in their practice and if they gave consent. Those in the Laboratory Medicine departments who do not prescribe medicines regularly and those in Community Medicine who consults mostly in the hospital out-stations were excluded.

#### ***Ethical Approval***

Ethical approval for the study was obtained from the ethics committee of Nnamdi Azikiwe University Teaching Hospital, Nnewi. Ethical reference is NAUTH/CS/66/VOL.10/212/2017/123.

#### ***Statistical analysis***

Data entry and analysis were conducted using Statistical Package for Social Sciences (SPSS) version 22.0 (IBM Corp., Armonk, NY, USA).<sup>11</sup>Data were presented in tables and analysed using descriptive statistics.

## **RESULTS**

A total of 134 questionnaire were distributed, 118 were returned giving a response rate of 88.1% however, only 100 respondents provided adequate data to be analysed. The 100 comprised of 71 (71%) males and 29 (29%) females with a mean age  $\pm$  SD of 34.1  $\pm$  5.8 years (Range = 25-49 years) and mean  $\pm$  SD years of practice of 8.2  $\pm$  5.8 years. Table 1 shows the demographic data of the respondents including their awareness and knowledge of the “Guide to Good Prescribing – A Practical Manual”. Thirty eight percent (n=38/100) of the subjects have heard of the WHO “Guide to Good Prescribing – A Practical Manual” and 18% (n=18/100) have read and know the content of the manual. About half of the Clinicians 47 (47%) have not had any training on the process of rational prescribing.

Table 2 shows that only 47% (47/100) of the Clinicians informed their patients “all of the time” when any new medicine is prescribed on why the medicine is needed, 23% (23/100) on which symptoms will disappear and which will not disappear with treatment, 17% (17/100) on when the effect of the drug is expected to start and 29% (29/100) on what will

happen if the drug is not taken correctly or not taken at all.

Table 3 shows that about 20% of the practitioners informed their patients “all of the time” on which side effects may occur, how to recognize the side effects and what action to be take. Similarly only 18% and 11% informed the patients “all of the time” on how serious the expected side effects are and how long the side effects will continue respectively.

Table 4 shows the Clinicians' performance on giving warnings on when the drug should not be taken, the maximum dose and on why the full treatment course should be taken. Only about a third of the clinicians accounting for 37.4% (n=37/99) warned their patients “all of the time” on when the drug should be taken and 31% (n=31/100) on what is the maximum dose of the prescribed drugs.

The self-reported performance of the practitioners regarding giving instructions to the patients on how, when and how long the drug should be taken as shown in Table 5 reveals that only a little over 50% of the clinicians did that “all the time” when new medicine is prescribed in the clinic, while about 12% reported to do that “some of the time”.

**Table 1: Demographic data, awareness and knowledge of the “Guide to good prescribing” and training in RUMs concept.**

Characteristic	Frequency (%)
<b>Age</b>	
25-29	21 (21.0)
30-34	34 (34.0)
35-39	27 (27.0)
40-44	13 (13.0)
45-49	5 (5.0)
<b>Mean age = 34.1±5.8 years</b>	
<b>Sex</b>	
Male	71 (71.0)
Female	29 (29.0)
<b>Years of Practice</b>	
≤5	38 (38.0)
6-10	33 (33.0)
11-15	19 (19.0)
>15	10 (10.0)
<b>Mean age of practice = 8.2±5.8 years</b>	
<b>Training on RUMs Concept</b>	
Trained	66 (66.0)*
Not trained	34 (34.0)
<b>Aware of the Guide to good prescribing</b>	
Yes	38 (38.0)
No	62 (62.0)
<b>Knowledge of content of Guide to good prescribing</b>	
Yes	18 (18.0)
No	82 (82.0)
<b>Participants per speciality</b>	
Internal medicine	29 (29.0)
Paediatrics	20 (20.0)
Surgery	21 (21.0)
Obstetrics and Gynaecology	14 (14.0)
Family medicine	16 (16.0)

*Rational use of medicines* \* (38 as undergraduates, 28 post qualification as doctors)

**Table 2: Information on the effects of the drug**

Frequency	Why the drug is needed (%)	Which symptoms will disappear, and which will not (%)	When the effect is expected to start (%)	What will happen if the drug is taken incorrectly or not at all (%)
All of the time	47 (47.0)	23 (23.0)	17 (17.0)	29 (29.0)
Most of the time	33 (33.0)	34 (34.0)	20 (20.0)	38 (38.0)
Some of the time	18 (18.0)	36 (36.0)	36 (36.0)	18 (18.0)
A little of the time	2 (2.0)	6 (6.0)	23 (23.0)	12 (12.0)
None of the time	0 (0.0)	1 (1.0)	4(4.0)	3 (3.0)
Total	100 (100.0)	100 (100.0)	100 (100.0)	100 (100.0)

**Table 3: Information on the side effects of the drugs**

Frequency	Which side effect may occur (%)	How to recognize them (%)	How long they will continue (%)	How serious they are (%)	What action to take (%)
All of the time	21 (21.0)	19 (19.0)	11 (11.0)	18(18.0)	20 (20.0)
Most of the time	33 (33.0)	28 (28.0)	26 (26.0)	27 (27.0)	26 (26.0)
Some of the time	30 (30.0)	33 (33.0)	31 (31.0)	33 (33.0)	34 (34.0)
A little of the time	13 (13.0)	15 (15.0)	24 (24.0)	19 (19.0)	14 (14.0)
None of the time	3 (3.0)	4 (4.0)	8 (8.0)	3 (3.0)	4 (4.0)
Total	100 (100.0)	100 (100.0)	100 (100.0)	100(100.0)	100(100.0)

**Table 4: Warnings on the medications**

Frequency	When the drug should not be taken	What is the maximum dose	Why the full treatment course should be taken
All of the time	37 (37.4)	31 (31.0)	47 (47.5)
Most of the time	16 (16.2)	21 (21.0)	23 (23.2)
Some of the time	23 (23.2)	16 (48.0)	16 (16.2)
A little of the time	11 (11.1)	21 (21.0)	6(6.1)
None of the time	12 (12.1)	11 (11.0)	7 (7.1)
Total	99 (100.0)*	100 (100.0)	99 (100.0)*

\*\* Only 99 respondents answered these question.

**Table 5: Instructions on treatment schedule**

Frequency	How the drug should be taken (%)	When it should be taken (%)	How long the treatment should continue (%)
All of the time	58 (58.0)	54 (54.0)	54 (54.0)
Most of the time	27 (27.0)	30 (30.0)	29 (29.0)
Some of the time	14 (14.0)	12 (12.0)	12 (12.0)
A little of the time	1 (1.0)	4 (4.0)	3 (3.0)
None of the time	0 (0.0)	0 (0.0)	2 (2.0)
Total	100 (100.0)	100 (100.0)	100 (100.0)

## DISCUSSION

There is inadequate training of the Clinicians' in this study on the Rational use of medicines (RUMs) concept and this is evidenced by their poor performance on the aspects of the rational

prescribing process aimed at improving Clinicians' communication skills. Poor communication between patients and the Clinicians regarding prescribed medicines is a harbinger for medication non adherence. The continued reliance on the traditional

clinical training of medical students that often focuses on diagnostic skills rather than training on therapeutics skill (how to select, prescribe and monitor the treatment, and how to communicate effectively with your patients) as indicated in the WHO Guide to good prescribing in most centres in developing nations including Nigeria will continue to promote and increase the burden of medication non-adherence.<sup>8</sup>

In this present study, less than half (47%) of the Clinicians inform their patients all the time on the need to take prescribed medication while only 17% inform their patients all the time on when the effect of the medication is expected to start. Sub-optimal communication between patients and health professionals which includes Clinicians has been identified as one of health care system contributors to non-adherence.<sup>2</sup> People's perceptions of their medication which can be categorized as either beliefs about the necessity of taking the medication or the concerns about taking can both contribute to medication non adherence.<sup>12</sup> Adequate information from the Clinician on the need to take medications, the effects of the medications and possible adverse effects and on what to do when adverse effects develop can be a good motivation to adhere to therapy and reduce the non adherence gap. This is especially true for intentional non adherence which is associated with motivation and patients' beliefs about taking medications.<sup>12</sup>

In a study of asthma patients, intentional non adherence was most strongly predicted by patients' balance of "pros and cons" of taking the medication, and the "pro and cons" were guided by the level of knowledge the patient had regarding the medication.<sup>13</sup> Such important knowledge needed to make informed decisions on the "pros and cons" of medications can be most reliably communicated to the patients by the patients' Clinicians where there is good patient clinician communication, especially in the developing nations. Non adherence can be reduced if the Clinicians take time to educate patient

on need to take medications, when the effect of the medication is expected to start and what will happen if the medication is not taken all or taken incorrectly.

Several reasons can be adduced while Clinicians do not take time to inform their patients on the need to take medication and the consequences of non adherence; these range from lack of time in busy clinics with limited time to attend to each patient to excuses that the Pharmacist or other health workers should do the explanation and most especially the lack of the knowledge that it is the primary duty of the Clinician. However, Clinicians should recognize that informing and instructing a patient correctly regarding the medicine and how to use them are the primary responsibilities of the doctor and the lack of time to do that is never accepted by a Court of law as a valid excuse for not correctly informing and instructing a patient.<sup>8</sup> Furthermore, reinforcement on need to adhere to medication at each point of patient encounter within the healthcare delivery system will further go a long way to reduce the prevalence of medication non adherence.

In this present study the Clinicians performed very poorly on giving information to patients regarding side effects of medication as only  $\leq 20\%$  of the clinicians informed their patients "all the time" when any medicine is prescribed in the clinic on which side effects of the medicine may occur, how to recognize them, how long they will continue and what action to take. Several reasons can be adduced why Clinicians do not give adequate instructions "all the time", like the lack of time in a busy clinic, belief that giving instructions to patients on medications is the duty of other members of the health system like the pharmacist or even ignorance of the need to give adequate instructions. In a study on antiepileptic drug non adherence and its predictors among people with epilepsy by Asmamaw Getnet *et al*, individuals who did not get adequate information about their illness, duration of treatment, and drug side effects were about 2.2 times more likely to be non-adherent than their counterparts.<sup>14</sup> In another study on epilepsy treatment

gap in Southeast Nigeria, thirty-three percent (n = 7/21) of the respondents who discontinued antiepileptic drug (AED) treatment were not counselled on the need for regular medications or consequences of non-adherence.<sup>15</sup> Medication non adherence and the resulting treatment failure can be avoided if communication between patients and their Clinicians are adequate.

Appropriate health education and good adherence to treatment are fundamental to the successful management of epilepsy while poor adherence to prescribed AEDs is a known major cause of unsuccessful drug treatment of epilepsy.<sup>16,17</sup> In the South-eastern Nigerian study, a case of permanent default from AED use in the study was due to the patient's fear of the side effects of antiepileptic drugs (AEDs). The patient was wrongly informed by friends that antiepileptic drug will prevent child bearing in the future. This patient who volunteered good response from the use of phenytoin nevertheless discontinued her medication without recourse to her doctor.<sup>17</sup> People with epilepsy if not adequately informed tend to stop taking antiepileptic drugs (AEDs) immediately after the seizure has been controlled or whenever they experience side effects.<sup>18</sup> It is known from anecdotal reports that patients have presented to clinics with almost all the drugs prescribed at last visit especially elderly patients because of adverse effects of the medications, commonly combination therapy. If appropriate information on the possible side effects and actions to take are given by the clinicians prior to commencement of therapy such occurrences will be avoided.

Less than half (47%) of the Clinicians in this present study instruct their patients "all of the time" on why the full course of medication should be taken. Information on taking full course of medication is particularly necessary when considering use of medications like antibiotics and the attendant risk of drug resistance that may result from non adherence to antibiotic therapy. The causes of antibiotic resistance are multifactorial and it represents a

complex interplay among physician practices, patient behaviour, and environmental factors.<sup>19</sup> In a study on antibiotics non adherence and knowledge in a community, more than 30% of participants reported non adherence to a complete course of prescribed antibiotics in the community setting.<sup>20</sup> In that study lack of knowledge about antibiotics was associated with non-adherence and several participants in the study reported lack of clear instructions from their physicians as the reason why they did not complete the course of antibiotics.<sup>20</sup> The authors of the study suggested that to generate a real impact on combating antibiotic resistance it is critical that physicians should take the initiative to actively educate their individual patients about the importance of adherence to prescribed antibiotic therapy.<sup>20</sup> This is in keeping with the finding in this present study where the overall performance of the Clinicians on educating their patients including giving information, warnings and instruction on treatment schedules and why the fully treatment course should be taken in generally poor.

There are clinical occurrences that can make a patient present to the clinic earlier than scheduled. If informed earlier by their Clinicians about the possibilities of the development of such situations patients tend to adhere more to treatment schedules. In our study only 36% and 27% of the Clinicians regularly informed their patients in what circumstances to come earlier than schedule to hospital and what information the doctor needs at the next appointment respectively. Both information are essential to motivate the patients to adhere to medication and prevent non adherence. Development of adverse drug reaction is one situation requiring patient to present to hospital earlier than schedule and if informed it will reduce the frequency of medication non adherence associated with development of adverse drug reactions. Similarly, the information the doctor needs at the next visit are those that will guide the doctor's next action in the patient's management and if they are provided by the patient it encourages the patient's active participation in any treatment regimen that might be planned at that visit. Such patient engagement in the treatment schedule

process will reduce patient-physician discordance which is a major cause of patients' dissatisfaction and a prominent contributor to medication non adherence.<sup>3,21</sup>

The authors acknowledge that though a questionnaire based study of this nature may not be actual proof of the effect being studied yet it is very useful in generating hypothesis which will serve as basis for further studies especially for this common medical problem that has been sparsely investigated in developing nations. Again this was a self-assessment of one's own performance, so it may be associated with various bias and has less validity compared with patient assessment or assessments by neutral observers. We also acknowledge the small study population in this study as another limitation to the study. However, the overall poor performance of the Clinicians in this study gives credence to a high level of sincerity in answering the questions.

## CONCLUSION

This study revealed poor communication of vital information, instructions and warning to patient during encounters in the clinics. This finding is a harbinger to medication nonadherence and invariably poor treatment outcomes. Efforts aimed at improving the training of Clinicians in developing countries on therapeutic skills (how to select, prescribe and monitor the treatment, and how to communicate effectively with your patients) will improve physician-patient communication, reduce the physician-patient discordance and improve medication adherence and invariable lead to improvement in treatment outcomes.

Improved training on therapeutic skills can be achieved by revisiting and incorporating the concepts of rational use of medicine and the six-step approach to rational prescribing and treatment as outlined in the World Health Organization's "Guide to Good Prescribing" in undergraduate medical training in developing nations.

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