

Non-Compliance with Medical Regimen, A Case Study at Agogo Presbyterian Hospital, Ghana

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Abstract: *When patients do adhere to medical regimen, it reduces the likelihood of them being readmitted within the shortest period of time. However, not all patients adhere to medical regimen and this result from plethora of factors. This study assessed the factors that influenced non-compliance with medical regimens among patients at the Agogo Presbyterian Hospital, Ghana. A purposive sampling was used to select 500 patients from 1730 that had failed to come for medical review but revisited the hospital after their conditions worsened during May, 2015. A structured questionnaire was administered to respondents. Statistical Package for Social Sciences version 17.0 was used to analyze the data. The result showed that the younger respondents adhered to medication instructions better than the older respondent ($p=0.000$). Furthermore, most of the unemployed (16.4%) respondents discontinued their medications when they had adverse reactions compared to 5.9% of the employed respondents ($p=0.000$). More literates (18.6%) than illiterates (3.7%) discontinued their medications when they experienced adverse effects of the drugs ($p=0.008$). Also, 34.0% of the respondents did not go back for medical review as scheduled due to mainly the long waiting time at the Out Patient Department and 22.0% failed to go back because they felt better. In addition, 12.0% did not comply because they forgot of the review date. Finally, the result indicates that respondents' educational background [$r(500) = -.154$ at $P < 0.05$] significantly correlates negatively with factors that influence noncompliance with medical regimen. There is therefore the need for older and educated patients to be sensitized to be more involved in fixing their appointments in order to increase compliance with medical regimen.*

Keywords: Non-compliance, Medical regimen, and Treatment adherence

1. Introduction

Medical reviews are usually scheduled by doctors for their patients. This is usually done when the patients are still on admission or when patients report for check-up. It is done so as to ascertain the level of improvement of the patient, to discover new problems or any difficulty as well as to ensure that the patient is completely fit. It follows that missed appointments can interfere with the treatment adherence and lead to poor health outcome hence the possibility of the patient's condition worsening (Professional Standards and Guidelines [PSG], 2013).

Most studies show that between 25 and 50 percent of patients are non-adherent to medical regimen (Gambelset *et al.*, 2004; Mitchell & Selmes, 2007; Murdock *et al.*, 2002). Besides, Akerbladet *et al.* (2003) in Sweden found that among 1031 patients with depression treated in primary care over a 6 month period, only 54.6% of all the scheduled medical reviews were kept. More so, according to Naderiet *et al.* (2010), out of 125 patients who were scheduled for medical reviews, only 48.0% showed up and out of those that did not show up, only 14 of them rescheduled the visit. Again, according to Rosset *et al.* (1996), 15% of patients scheduled for medical reviews at the genitourinary clinic defaulted and reasons found for defaulting were timing of the appointment, area of residence and frequency of counselling by the health advisor. Naderiet *et al.* (2010) revealed that if patients did not turn up for medical reviews, there were only a few reasons which were: they died, they forgot, transport failure or they did not need the appointments. Murdock *et al.* (2002) stated that not all patients that are scheduled for medical reviews keep to the schedule and this could be as a result of many factors.

Patients who do not comply with medical reviews tend to become sick again and those patients who do not keep to their appointments or reschedule their appointments are at a risk of further deterioration, relapse and hospital readmission. In Agogo Presbyterian Hospital, out of 9589 patients seen in the month of May 2015 and asked to report for medical review, only 38% (3621) patients showed up (Agogo Presbyterian Hospital, 2015). Out of the 62% (5968) patients who did not show up for medical review, 28.0% (1730) patients revisited the hospital because their conditions worsened. The objective of this study was to find out the extent to which patients are compliant with their medications and to identify factors influencing their non-compliance with medical reviews.

2. Materials and Methods

The research was conducted at Agogo Presbyterian Hospital (APH). It is located in Agogo in the Asante-Akyem North District in the Ashanti Region of Ghana. The hospital's catchment area covers the whole of Ashanti-Akim North Municipality with a population of 170,882. However, patients all over Ghana and neighbouring countries come to the hospital especially for the ophthalmological care. A quantitative descriptive cross-sectional design was used to find out the extent to which patients are compliant with their medications and to identify factors influencing their non-compliance with medical reviews

Purposive sampling was used to select respondents from the target population. By using this type of sampling technique, all patients who were scheduled for medical reviews but failed to comply but reported to the hospital on a different day with either complications or worsened conditions were randomly selected. The sample size for this study was five

hundred (500) patients who were selected from the outpatient department. Semi-structured questionnaires were used to gather information for the research.

3. Statistical Analysis

The data gathered was entered and analyzed with the Statistical Package for Social Sciences (SPSS) version 17.0. Pearson's Chi-square test and correlation were used. The significance of analysis was determined at probability levels of 95 per cent ($P < 0.05$).

4. Results and Discussion

Findings on the demographic characteristics of the respondents are presented on Table 1. Sixty-two percent of the respondents were female while the remaining (38.0%) were male. On the age distribution, 60.0% of the respondents were between 18 and 28 years, 18.0% were between 29 to 39 years while the least (6.0%) were between 51 and 61 years. For employment status, 44.0% of the respondents were employed while 34.0% were students and the aged. Finally, 71.0% of the respondents had no formal education.

Table 1: Demographic Data of the respondents

Demographics	Frequency (N=500)	Percent (%)
Sex		
Male	190	38.0
Female	310	62.0
Age		
18-28	300	60.0
29-39	90	18.0
40-50	40	8.0
51-61	30	6.0
>=62	40	8.0
Employment status		
Employed	220	44.0
Not employed	110	22.0
Others	170	34.0
Educational status		
Literates	145	29.0
Illiterates	355	71.0

Source: Field Data, June, 2015

A Pearson's Chi-square of the reasons for non-adherence by the respondents against their demographics are presented on Table 2. Findings showed that more male respondents (20.5%) did not comply with a prescribed medication when they experienced adverse effects. However, more females (8.7%) than males (6.8%) stopped taking their medications when they felt better. This is not statistically significant ($p = 0.113$). The study contradicts with the study by Murray *et al.* (1996) which indicated that male patients had a higher compliance rate than female patients.

For the age distribution, the study found that the younger respondents adhered to medical reviews and medication instructions better than the older respondents ($p = 0.000$). This finding confirms the study by Barron (1980) which examined personal characteristics that have contributed to unkept appointments in medical reviews and found that the patient most likely to miss appointments were young

patients. The study also contradicts the study by Sharp and Hamilton (2001) which indicated that patients who missed medical reviews tend to be younger.

Table 2: Background information against reasons for non-adherence

Demographics	When I felt better	I experienced reactions	Chi-square (p-value)
Sex			
Male	13 (6.8%)	39 (20.5%)	4.184 (0.113)
Female	27 (8.7%)	31 (10.0%)	
Age			
18-28	21 (7.0%)	33 (11.0%)	14.323 (0.000)
29-39	7 (7.8%)	17 (18.9%)	
40-50	3 (7.5%)	7 (17.5%)	
51-61	4 (13.3%)	6 (20.0%)	
>=62	5 (12.5%)	6 (15.0%)	
Employment status			
Employed	17 (7.2%)	13 (5.9%)	19.371 (0.000)
Not employed	8 (7.3%)	18 (16.4%)	
Others	15 (8.8%)	9 (5.3%)	
Educational status			
Literates	13 (9.0%)	27 (18.6%)	9.616 (0.008)
Illiterates	27 (7.6%)	13 (3.7%)	

Source: Field Data, June, 2015

Significantly, more literates (9.0%) than illiterates (7.6%) discontinued their medications when they felt better. Similarly, more literates (18.6%) than illiterates (3.7%) discontinued their medications when they experienced adverse effects of the drugs. The finding confirms the study by Mitchell and Selmes (2007) who disclosed that non-attendance is particularly closely linked with medication non-adherence since patients who discontinued their medication on their own accord may be reluctant to disclose this to medical staff.

The main purpose of this research was to find out the factors that influence the non-compliance of patients to medical review. On factors that influence the non-compliance of patients to medical review, the study found that 34 of the patients did not comply due to the long waiting time at the OPD. More so, 22.0% failed to go back as indicated because they felt better. The finding confirms with the study by Murdock *et al.* (2002) which mentioned that out of the total number of patients appointed for a follow up visit, 8% did not show up because they felt better.

In addition, 12.0%, 8.0% and 6.0% did not go back for the medical regimen because they forgot the review (because they had to go to work; and because they were unaware of the appointment respectively). This finding corroborates the study by Sparret *et al.* (1993) which stated that the most commonly stated reason for missing an appointment was patient error (forgetting, oversleeping or getting the date wrong). The study is also in line with the study by Murdock *et al.* (2002) which revealed that a substantial number of non-attenders claimed to have forgotten their appointment or to cancel it. Also 6% did not comply because they had no means of transport to go back to the Agogo Presbyterian Hospital while 4.0% attributed their inability to comply with ill health. The study agrees with the study by Kuan *et al.* (2009) which stated that in China, 5 to 42% of patients failed

to attend regimens because symptom duration or resolution, illness, long waiting periods, forgotten appointments, work commitments and transport problems.

Table 3: Factors that Influence Non-compliance with Regimen

Response	Frequency	Percent
Unaware of the appointment	30	6.0
Long waiting time	170	34.0
Forgetting	60	12.0
Ill health	20	4.0
Transport	30	6.0
Work commitment	40	8.0
Felt better	110	22.0
Others	10	2.0

Source: Field Data, June, 2015

The demographic data and the factors that influence non-compliance of patients with medical reviews were tested with the Pearson correlation. The result indicates that

respondents' occupational background [$r(500) = -.109$ at $P < 0.05$] did not significantly correlate negatively with factors that influence non-compliance of patients with medical reviews. However, other demographic characteristics of the respondents (age, sex and marital status) correlate positively with factors that influence non-compliance of patients with regimen but showed no significant correlation. Nonetheless, the result indicates that respondents' educational background [$r(500) = -.154$ at $P < 0.05$] significantly correlates negatively with factors that influence non-compliance of patients with medical reviews. The interpretation of this result is that the higher the academic qualifications of the respondents, the least they complied with medical reviews compared to respondents with no formal education. A likely reason for this could be because the educated would want to go to work, would not like to wait, or might have some knowledge about their condition.

Table 4: Correlation of demographic data and the factors that influence non-compliance

Some selected demographic data		Age	Sex	Marital status	Occupational background	Factors that influence non-compliance
Age	Pearson correlation	1.00	-.303*	.757**	-.316	.224
	Sig. (2-tailed)	.032	.000	.347	.118	
Sex	Pearson correlation	-.303*	1.00	-.717	.185	.123
	Sig. (2-tailed)	.032	.235	.197	.397	
Marital status	Pearson correlation	.757*	-.171	1.00	-.293	.047
	Sig. (2-tailed)	.000	.235	.039	.748	
Educational status	Pearson correlation	.757*	-.171*	0.874*	-.324*	-.154
	Sig. (2-tailed)	.000	.015	.014	.048	
Occupational background	Pearson correlation	-.136	.185	-.293*	1.00	-.109
	Sig. (2-tailed)	.347	.197	.039	.450	
Factors that influence the non-compliance of patients with appointment	Pearson correlation	.224	.123	.047	-.109	1.00
	Sig. (2-tailed)	.118	.397	.748	.450	

Source: Field Data, June, 2015

5. Conclusion

Findings showed that more male respondents did not comply with a prescribed medication when they experienced adverse effects than female respondents while younger respondents adhered to medical reviews and medication instructions better than the older respondents. On educational status, more literates than illiterates discontinued their medications when they felt better. Similarly, more literates than illiterates discontinued their medications when they experienced adverse effects of the drugs. Factors that influence the non-compliance of patients to medical review are long waiting time at the OPD; patients forgetting when they should go back for the medical regimen; patients being unaware of the appointment; no means of transport to go back to the Agogo Presbyterian Hospital and ill health. Patients booked for medical review especially older and educated patients should be sensitized to take part in fixing appointments for medical review in order to increase compliance, and they should be encouraged to attend medical reviews as fixed.

FUTURE SCOPE

The researchers are currently undertaking the same research in chronic disease (s) specific in other communities

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