



## Original Article

# Dream Recall Frequency Among Patients in a Psychiatric Outpatient Clinic in Ile-Ife, Nigeria

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**Key words:** Dream recall frequency, Sleep, Psychotropic medication, Psychiatric outpatient clinic.

### ABSTRACT

**Aim:** The aim of this study was to find out if the frequency of dream recall among neuropsychiatric patients on psychotropic drugs was significantly different from that of healthy individuals. **Methods:** The study was done on 53 neuropsychiatric patients with different diagnoses who were on medication and 144 healthy individuals. The number of participants in each group who recalled their dreams and those who did not were compared and analyzed statistically for any significant difference. **Results:** Thirty-five out of the 53 neuropsychiatric patients and 133 out of the 144 healthy individuals were able to recall their dreams. A significantly ( $p < 0.001$ ) higher proportion of the healthy individuals compared to neuropsychiatric patients on medications were able to recall their dreams. **Conclusions:** This study has shown that neuropsychiatric patients on medications may have reduced dream episodes or that their ability to remember their dreams may be impaired. A combination of both factors is not unlikely. Thus, the patients have reduced dream recall frequency (DRF) compared to healthy subjects. There might also be individuals who do not dream.

### INTRODUCTION

A dream is a mental activity that occurs during sleep. Dreams involve a visual experience with a plot that evolves over time. They are more or less considered to occur every night in every person. This presumption is based on the high recall rates following awakenings from rapid eye movement (REM) sleep and sometimes also following non-rapid eye movement (NREM) sleep [1].

Dreams differ from person to person, and even for the same individual. Also dreams differ from night to night. Studies have shown that the dreams of various patients with one psychiatric disease are different from another group of patients with different psychiatric problem. For example, while schizophrenic patients dream predominantly about strangers, depressed patients tend to dream about family members [2]. Many psychotropic drugs, such as the benzodiazepines and the neuroleptics, tend to decrease dream recall frequency [3].

While there is generally no direct relationship between dream recall frequency and socioeconomic status [4], dream recall frequency has been found to vary with age and gender. The ability to recall dreams

declines with age, and females are said to have higher dream recall frequency than males [5].

Studies on dreams have been done in Nigeria [6,7] but none of these studies compared dream recall of neuropsychiatric patients who were on medication with dream recall in healthy individuals. This study was designed to accomplish this objective.

### MATERIALS AND METHODS

The Ethics and Research Committee of the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria, approved this study. The participants were informed that the information they would give would be used for research purposes and that their anonymity would be maintained.

This study took place in Ile-Ife, a university town in Osun State, in southwestern Nigeria. The first group of subjects consisted of fifty-three patients attending the Psychiatric Outpatient Clinic of the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife. Forty patients had a schizophrenic disorder, two had bipolar affective disorder, five had

depressive episodes, and six had a seizure disorder. All these patients had recovered from the acute phase of their illnesses and were asymptomatic, but were on maintenance psychotropic drugs. They attended the clinic regularly and demonstrated evidence of good drug compliance. They were all literate in English language. The patients were seen during their routine attendance at the clinic.

The second group of participants consisted of 144 healthy individuals who were not on medications. They reside and work in or around Ile-Ife and were all literate in English language. They were recruited using a random sampling method, and were age- and sex-matched with the patients.

All the subjects were asked to give the number of dreams they had in the preceding one month and if necessary to calculate it based on the number of dreams they had in the preceding one week. Information was obtained by using a questionnaire for both groups, but for the patients additional information such as the diagnosis and medication was obtained from their case notes.

**RESULTS**

The age range for the psychiatric patients was 18 – 52 years, with a mean of 34.2 years (SD = 8.8). The range for the healthy control individuals was 17 – 50 years, with a mean of 33.5 years (SD = 10.2). Among the 53 patients, there were 29 males (54.7%) and 24 females (45.3%). Out of the 144 controls, there were 79 males (54.9%) and 65 females (45.1%). The socio-demographic characteristics of the participants are shown in Table 1. In each group, some participants indicated they do not dream. All those who reported that they could recall at least one dream per month were put together as dream recallers while those who indicated that they do not dream were designated as non-recallers.

Thirty-five out of the 53 neuropsychiatric patients (66%) and 133 out of the 144 healthy individuals (92.4%) were able to recall their dreams; the difference between these frequencies was statistically significant (p < 0.001) (Table 2).

The comparison of dream recall ability between schizophrenic patients receiving neuroleptics (n=40) and the control group (n=144) showed that 133 out of 144 (92.4%) normal subjects and 28 out of 40 schizophrenics (70%) recalled their dreams,

and the difference was significant ( $\chi^2 = 12.34, P < 0.05$ ). On the other hand, 28 out of 40 schizophrenic patients (70%) and 7 out of 13 non-schizophrenic patients (53.8%) recalled their dreams, but the difference was not statistically significant ( $\chi^2 = 0.535, P = 0.465$ ).

**Table1:** Socio-demographic characteristic of the subjects in the different groups

	Healthy individuals	Psychiatric patients
Age range (years)	17-50	18-52
Male	79	29
Female	65	24
Single	50	29
Married	88	18
Separated	3	3
Divorced	1	2
Widowed	2	1

**Table 2:** Dream Recall (at least once per month) - Healthy individuals versus Psychiatric Patients on Neuroleptics/ Antidepressants

Status	Dream recall		Total
	yes	no	
Healthy individuals	133	11	144
Psychiatric patients	35	18	53

$\chi^2 = 19.338, df = 1, p < 0.001$

A separate comparison of dream recall ability between all the patients (N53) and the control subjects (N144) was also done using the mean number of dreams over the previous month for the two groups. For the control group, the mean number of dreams ± standard error of the mean was 23.4±1.2, while in the patients it was 12.2 ±0.4 (t = 5.612, df = 195, p = 0.000). This shows that dream recall was significantly better among the healthy participants.

Table 3 shows the sex distribution of the patients as well as the number of males and females who could recall their dreams. There was no statistically significant difference in dream recall between the male and female patients (p =0.839).

The different psychotropic drugs the patients were on and their dream recall frequencies are shown in Table 4. All the patients suffering from seizure disorder were on carbamazepine whereas all those with a diagnosis of depressive episode were on amitriptyline. The

schizophrenic patients were on various neuroleptics. This was also the case for bipolar patients.

**Table 3:** Sex distribution and dream recall among the psychiatric patients

Sex	Dream recall		Total
	yes	no	
Males	20	9	29
Females	15	9	24

$\chi^2 = 0.041, df = 1, p = 0.839$

**Table 4:** The different psychotropic drugs used by the patients and the respective dream recall distribution

Drugs	Dream recall		Total
	yes	no	
Fluphenerzine decanoate/ Chlorpromazine	9	3	12
Fluphenerzine decanoate	2	0	2
Chlorpromazine	3	6	9
Trifluoperazine	5	2	7
Haloperidol	7	0	7
Carbamazepine	5	1	6
Amitriptyline	2	2	4
Amitriptyline/ Chlorpromazine	0	2	2
Risperidone	2	2	4

**DISCUSSION**

There are a number of issues in the consideration of the observed difference in dream recall frequency between the subjects in the Psychiatric Outpatient Clinic and the healthy individuals. The patients in the clinic were primarily in remission from diseases that affect the central nervous system (CNS). They were also on centrally acting drugs. These conditions and drugs used to treat them affect not only sleep, but also cognition, which may include dream recall. It is also possible that some individuals do not dream.

Previous studies suggest that dreams are affected by drugs acting on the central cholinergic system. For example, scopolamine has been shown to prevent dreams or dream recall in healthy adults [8].

The emerging concepts of sleep neurophysiology are consistent with the cholinergic-aminergic imbalance hypothesis of mood (affective) disorders, which associates depression with an increased ratio of central cholinergic to aminergic neurotransmission.

The characteristic sleep abnormalities seen in depression are considered to be a reflection of relative predominance of cholinergic activity [9].

Antidepressant drugs reduce rapid eye movement (REM) sleep presumably by their anticholinergic properties [9]. Selective serotonin reuptake inhibitors (SSRI) have also been reported to cause a decrease in dream frequency, which may be a reflection of serotonergic REM suppression [10].

Many antipsychotic drugs have intrinsic anticholinergic properties. In addition antipsychotics result in different changes in sleep. In one study [11], significant increase in total sleep time (both REM and NREM sleep) with decreases in wake time were observed after treatment with olanzapine, while decreases in wake time and REM sleep were observed with risperidone. In the same study, the use of haloperidol was associated with increases in NREM sleep and a tendency to decrease wake time.

Increased frequency of nocturnal awakening is known to increase dream recall frequency [12]. In a study of dream recall frequency of psychiatric inpatients in comparison with healthy controls [13], it was found that patients' dream recall frequency was related to low sleep quality and frequent nocturnal awakenings and did not differ substantially from that of healthy controls. It is worthy of note that the psychiatric patients in this study were all stable and had no sleep difficulty just before or at the time of the study.

Thus, drugs that increase total sleep time, reduce REM sleep and/ or decrease wake time are associated with a low frequency of dream recall. That would explain why the patients in this study had a significantly lower dream recall than healthy individuals. Again, although the patients did not show obvious clinical evidence of cognitive impairment, there still exists a likelihood that their primary pathology contributed to their poor dream recall frequency.

There is still an issue to be addressed: among the healthy individuals, there were some who reported that they do not dream, as has been reported by others [7]. Pagel [14] evaluated a group of subjects who reported never having recalled a dream and reported no dreams when awakened during polysomnographically defined sleep and concluded that such individuals might not experience dreaming.

Similarly, it is possible that some of the participants in the present study (both patients and healthy individuals) do not experience dreaming. More studies on dream recall, awakening subjects during polysomnographically defined sleep, will resolve this issue.

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