

Original Research Article

Nonrestorative Sleep and Dream Recall Frequency in an Adult Population

Celestine O. Mume

Department of Mental Health, Faculty of Clinical Sciences, Obafemi Awolowo University, Ile - Ife, Osun State, Nigeria.

Corresponding Author: Celestine O. Mume E mail: celemume2000@yahoo.com

ABSTRACT

Background and Objectives: In Nigeria there are not enough studies focused on sleep and dreams. The effect of this is that there are even no baseline data for the records. The present study was designed to investigate the occurrence of nonrestorative sleep (NRS) in a sample of apparently healthy individuals and examine its association with dream recall frequency (DRF) among them.

Materials and Methods: Seventy – five apparently healthy individuals were recruited into the study through a multi-stage, stratified random sampling method. They provided information on their sociodemographic characteristics and their ability to remember their dreams in the previous four weeks. They were also evaluated for nonrestorative sleep (NRS).

Results: Nonrestorative sleep was experienced by 65.3% of the subjects while 66.7% were able to remember at least one dream in the previous four weeks. There was no association found between nonrestorative sleep and dream recall frequency.

Conclusion: Further studies are advocated. Such future studies should address among other issues the limitations of this study, one of which is the small sample size, and the other, the fact that no measures of psychopathology were taken.

Keywords: Nonrestorative sleep; sleep functions; dream recall.

INTRODUCTION

The average adult spends about one-third of his or her time sleeping. An individual should normally feel refreshed after a good night's sleep, and be prepared for the challenges of the new day. This is not always the case as some people sometimes wake up feeling unrefreshed.

Nonrestorative sleep (NRS) is a subjective experience of unrefreshing sleep⁽¹⁾ or a feeling that sleep is restless, light, or of poor quality, though the sleep may be normal in terms of its duration.⁽²⁾ Psychiatric conditions as well as drugs used to treat them affect not only sleep, but also cognition, which may include dream recall frequency (DRF).⁽³⁾ Studies on dream recall

frequency are not common in Nigeria. A previous study has shown a statistically significant difference in dream recall ability in healthy control subjects compared with patients suffering from schizophrenia who were receiving neuroleptics.⁽³⁾

Different studies have documented a variety of factors that affect dream recall frequency (DRF). Repeated awakening at night has been found to increase dream recall frequency.⁽⁴⁾ In the same way poor sleep quality is said to be associated with increased dream recall frequency.⁽⁵⁾

An unspecified number of apparently healthy individuals have one or more medical and or psychiatric conditions. Nonrestorative sleep has been documented

in different studies among the general population. Studies have found prevalence rates of nonrestorative sleep ranging from 2.5% to 16.1% in the in the general population in different countries. ⁽⁶⁻⁹⁾

In Nigeria there are not enough studies focused on sleep and dreams. The effect of this is that there are even no baseline data for the records. It is therefore imperative that we embark on studies to fill a number of gaps. The present study was designed to investigate the occurrence of nonrestorative sleep in a sample of apparently healthy individuals and examine its association with dream recall frequency among them.

MATERIALS AND METHODS

This study was carried out in the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC) Ile- Ife, Nigeria. The proposal for the study was approved by the Ethics and Research Committee of the Teaching Hospital. The subjects gave written informed consent after the objectives of the study were explained to them and each of the participants was assured of confidentiality.

In addition to offering clinical services, the Obafemi Awolowo University Teaching Hospitals Complex has schools of Nursing and Medical Records. The Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC) is the Teaching Hospital affiliated to the College of Health Sciences of the Obafemi Awolowo University (OAU); it is the hospital used by the students in the College of Health Sciences for their clinical postings.

Seventy – five apparently healthy students and staff of the Obafemi Awolowo University Teaching Hospitals Complex were recruited into the study through a multi-stage, stratified random sampling method. They were required to provide information on their sociodemographic characteristics and their ability to remember their dreams in the previous four weeks. All those who could remember at least a single dream were regarded as having intact dream

recall ability and this was used as a measure of dream recall frequency (DRF).

Nonrestorative sleep (NRS) was measured using the following single question based on the criteria used by Ohayon ⁽²⁾ and used by other workers ⁽¹⁰⁾ “In the past 4 weeks, how often have you had a full night’s sleep but woken up feeling unrefreshed or not rested?” In response to this question, some previous workers have regarded subjects who had NRS 3 or more times per week as those who truly had nonrestorative sleep. ⁽¹⁰⁾ In the study by these workers subjects who reported nonrestorative sleep once or twice a week were excluded from their analysis; thus comparing those reporting nonrestorative sleep 3 or more times per week with those reporting never experiencing nonrestorative sleep. ⁽¹⁰⁾ In the present study a subject was regarded as having nonrestorative sleep if he or she experienced it at least once in a week.

Data Analysis

The data were analysed statistically to obtain the socio-demographic characteristics of the subjects; the number and percentages of those who experienced nonrestorative sleep and also to determine the dream recall frequency (DRF) of the subjects. Comparisons were done using Chi – squared (SAS Institute, Cary, NC) with $p < 0.05$

RESULTS

All the subjects provided complete data. The age range of the subjects was 18-55 years with a mean age of 34.1 years (SD = 10.2, SEM= 1.2). There were slightly more males (41 out of 75 participants) as they accounted for 54.7% of the total sample while females were 34, representing 45.3 % of the total number of subjects. There were 28 students (37.3 %) and 47 (62.7%) staff. Sixty of the participants (80%) were in some sort of intimate relationship while 15 (20%) were not. These sample characteristics are shown in Figure 1.

Nonrestorative sleep was experienced by 49 (65.3%) of the subjects

while 50 of the participants (66.7%) were able to remember at least one dream in the previous four weeks. When put together 31 of the subjects (41.3%) had nonrestorative sleep and were able to remember their dreams. There was no significant association between nonrestorative sleep and dream recall frequency ($X^2 = 0.361$, $df = 1$, $p = 0.548$). Figure 2 illustrates the distribution of nonrestorative sleep (NRS) and dream recall frequency (DRF).

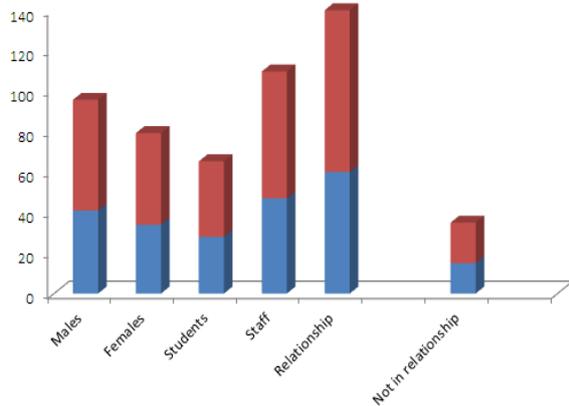


Figure 1: Sample Characteristics

The upper part of each bar represents the percentage while the lower part represents the actual number.

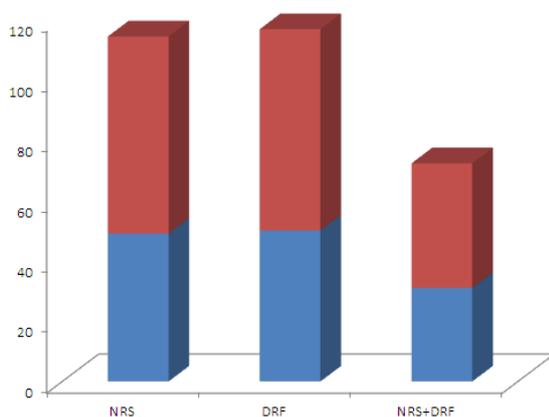


Figure 2: Distribution of nonrestorative sleep (NRS) and Dream recall frequency (DRF).

The upper part of each bar represents the percentage while the lower part represents the actual number.

DISCUSSION

This study has shown that the prevalence of nonrestorative sleep is high in the study population. The prevalence rate of

nonrestorative sleep of 65.3% found in this study is at variance with the prevalence rates of 2.5% to 16.1% in the in the general population in different countries reported in different studies. (6-9) Methodological issues (such as operational definition and sample size among others) as well as environmental factors may be responsible for the differences.

The dream recall frequency of 66.7% found in this study is considered low. In a previous study, dream recall frequency of 66 % and a prevalence of 92.4 % have been found among psychiatric patients and healthy subjects respectively. (3) It is also striking that no association was found between nonrestorative sleep and dream recall frequency. This is because as already documented, repeated awakening at night has been found to increase dream recall frequency. (4) In the same way poor sleep quality is associated with increased dream recall frequency. (5) In the light of these one expected nonrestorative sleep to be significantly associated with dream recall frequency.

An important limitation of this study is the small sample size, and the other one is the fact that no measures of psychopathology were taken. It has been found that psychiatric conditions as well as drugs used to treat them affect not only sleep, but also cognition, which may include dream recall frequency. (3) It is important for these limitations to be addressed in future studies.

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