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Psycho-educational therapy among Nigerian adult patients with epilepsy: a controlled outcome study

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Abstract

Psychological interventions in relation to epilepsy are worthy of empirical investigation since there is broad agreement that the psycho-social problems of epilepsy are often more disabling than the seizure attacks. The present study using a controlled outcome design evaluated the efficacy of a 2-day psycho-educational program among patients with epilepsy in Nigeria. The psycho-educational program is the consequence of a two-stage study design, which set out to identify and evaluate psycho-social factors that determine interictal psychopathology in people with epilepsy. Thirty out-patients matched according to seizure type and frequency of seizures were randomly assigned to treatment ($n = 15$) or waiting-list control ($n = 15$) groups. The major outcome measures used were knowledge about illness schedule, the Becks depression inventory and the Crown–Crisp experiential index. Significant differences between the two groups were found on the three major scales used. The treatment group by within-group analyses, showed a substantial significant decrease in level of depression, a significant increase in the knowledge about epilepsy as well as a significant decrease in all measures of neurotic disorders except for hysterical sub-scale. © 2001 Elsevier Science Ireland Ltd. All rights reserved.

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1. Introduction

Epilepsy like other chronic medical conditions [1–3] has a high risk for psycho-social and psychiatric problems [4–7] and may require from time to time effective patient education or counseling for the reduction or total cure of exacerbated symptoms [8–11]. Recent interest in this mode of treatment was borne out of the contention that serious emotional

problems which normally result from the illness and which includes such factors as loss of self esteem, anxiety and depression, social isolation and withdrawal, and a subsequent inability to interact appropriately with other people are often more disabling than the seizures themselves [12].

For example, Westbrook et al. [13] presented a conceptual framework of stigma that provided a context for examining the process of stigmatization based on study of adolescents with epilepsy. The model focused on self-esteem as an endpoint, which

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in turn was influenced by perceived stigma, management of disclosure and the attributes of the stigmatizing condition itself. A high degree of perceived stigma from others, for examples, was found to be associated with lower self-esteem.

A number of psychological interventions including reward management, self control, and psycho-physiological methods [9–12] have been empirically used to reduce epilepsy seizures as well as psychological impairments. For example Tan and Brunl [11] found that 70% of 37 patients with ok refractory psychogenic and for neurogenic seizures demonstrated substantial improvement in seizures control (at least one-third decrease in seizure frequency) after psychiatric treatment, which was maintained at 6-month follow-up. The treatment, which was conceptualized as a type of cognitive-behavior modification, consisted of combinations of individual and family psychotherapy, hypnosis, and behavior modification. In another controlled outcome study of 18 children with refractory epileptic seizures, it was found [13] that a 6-week broad-spectrum behavior modification treatment was significantly more effective than attention-placebo and control conditions in reducing a “seizure index” (a combination of seizure frequency and seizure duration), but not seizure frequency or seizure duration alone. These studies consist of case studies and uncontrolled clinical trials with their inherent inadequacies and ambiguities. Others such as those of Motta et al. [5], Adamolekun et al. [8] and Helgeson et al. [12] have considered the use of educational approach in reducing psycho-social impairment among individuals with epilepsy.

The study of Helgeson et al. [12] suggested the need for a psycho-educational treatment approach in providing medical education and psycho-social therapy for people with epilepsy. This was proposed as a way of addressing various psycho-social adjustment problems that often confront them. It is the belief that dealing with all these various psychological and sociologic factors is crucial to making a positive adjustment to epilepsy. Furthermore the alleviation of such emotional factors may become the most important determinant of motivation to carry out a medication regimen, which may help to adapt to the more or less altered life situation.

Specifically, anti-epileptic drug (AED) non-compliance continues to be a foremost cause of seizure

exacerbation [14]. At least one-third of patients do not achieve seizure control because of lack of AED compliance [12]. Most likely the reasons for this are due to lack of instructions, misinterpretation of instructions, or lack of understanding of adequate social and coping skills in the management of attack [15]. In Nigeria reasons for poor compliance in the environment will include cost, as well as availability of such drugs [16].

The Commission for the Control of Epilepsy and its Consequences [9] clearly stated the need for understanding and knowledge on the part of patients in issues concerning their management. The understanding that an individual has about any disability is directly related to the success the individual has in coping with the disability. Patients, therefore, need to accept primary responsibility for coping with their disorder and maintaining their health [17].

The Commission further stated that almost no research is being done on the delivery of an effective psycho-social service for people with epilepsy. This contention despite being pointed out several years ago had continued to receive less attention [8].

The issue of understanding and coping with epilepsy may be of great importance in the management of epilepsy in Nigeria given the level of illiteracy, superstitiousness and myths surrounding their live. This contention was supported in a study [17] where it was found that epilepsy in many developing African communities is regarded as a sign or a manifestation of a visitation of the devil, and the effect of witchcraft. It was also found that epilepsy is the consequence of the revenge of an aggrieved ancestral spirit, or consumption of something harmful while in utero. Epilepsy is classified among the Yoruba, the main ethnic group in the study area, as “*arun*” or a serious disease, in contrast to “*aisan*”, a temporary indisposition. “*Arun*” may be hereditary or highly contagious [18]. The saliva of the epileptic is believed by many Nigerians and other Africans to transmit the disease. A common Yoruba belief is that one may contract epilepsy through “*packing dirt*”, (that is activities involving touching soil, e.g., sweeping the yard, weeding or even construction labor) where an epilepsy patient’s saliva may have fallen. This belief system is a predisposing factor that could influence psycho-social adjustment and medication compliance [19].

There is no reported study on psycho-social management and intervention of epilepsy in Nigeria which has epilepsy as the commonest neurological condition besides headache with a prevalence rate of 13 per 1000 [20], among hospital clientele and 5.3 per 1000 rate [21] in a community-based study.

This study utilized the variables identified as determinants of psychopathology from a previous study [7] and developed a package of psycho-educational interventions and evaluated the efficacy of the program in reducing psycho-social problems as well as psychopathology among a sample of Nigerian epileptics. It was based on the concept of self-efficacy [22], which proposes that expectations of personal mastery and success exert a tremendous influence on psycho-social functioning.

We hypothesized that the treatment/experimental grouped patients who are exposed to a 2-day psycho-educational program will have their level of psychopathology reduced as well as having improved knowledge and awareness concerning their illness at 2-month follow-ups than the waiting-list control grouped patients

2. Methods

The report of this study is the consequence of a two-stage study design which set out to identify and evaluate psycho-social factors that determine interictal psycho-pathology, i.e., abnormal behavior that occurs in-between epileptic attacks among clinically diagnosed Nigerian adult epileptics as well as to investigate the efficacy of a psycho-educational intervention in controlling such psycho-pathology among the sample of the epileptics studied at post-assessment and at 2 months follow-up.

2.1. Stage (1)

The objectives for this stage are to identify and evaluate the effects of certain psycho-social and seizure related variables on psychopathology among clinically diagnosed Nigerian individuals with epilepsy.

A 2×3 way factorial design was adopted to assess the effects as well as interaction effects of

gender, age at onset of epilepsy, seizure control, duration of illness, stigma, emotional adjustment, vocational adjustment, interpersonal adjustment, adjustment to seizures, and financial status among these individuals with epilepsy on the dependent variables of depression and psycho-neuroticism.

2.1.1. Subjects

Three hundred (300) consecutive patients who were on routine case follow-up management at the Neuro-Psychiatry Hospital, Aro, Nigeria over a period of 4 months were sampled and studied. Inclusion criteria of these subjects included: (a) must have been clinically diagnosed as having epilepsy using a combination of clinical and EGG consideration by either a consultant neurologist or a consultant neuro-psychiatrist; (b) must be an adult within the age range of 21–65 years, and (c) there should be no evidence of mental sub normality or other gross diagnosable neurological disorders, and must have been on follow-up at the clinic for at least a period of 3 months prior to interview.

Two hundred and sixty four (264) patients had their data analyzed, the data for 36 patients could not be analyzed due to missing facts of accurate diagnoses and other seizure related factors. Demographic characteristics of these 264 patients include a mean age of 32.6 years (S.D. 10.2) and mean years of education of 7.2 (S.D. 5.0). The mean age at onset of their epilepsy was 20.4 years (S.D. 10.9), and the mean duration of epilepsy as 14 years (S.D. 9.2). One hundred and fifty-four, 58.6% were males while 110 (41.1%) were females. One hundred and seventeen (44.3%) were diagnosed as having primary generalized epilepsy, four (1.5%) diagnosed as partial epilepsy with simple symptomatology, 13 (4.9%) diagnosed as partial epilepsy with complex symptomatology, 19 subjects (7.2%) were diagnosed as epilepsy of the undifferentiated type, while 111 (42.0%) received a diagnose of partial epilepsy with secondary generalization.

The majority of the subjects were on a single drug treatment regimen. Forty (15.2%) received carbamazepine only. One hundred and twenty-six (47.7%) received phenobarbitone only. Twenty-four (9.1%) received phenytoin only, while 52 (19.7%) received both drug combinations of phenobarbitone, carbam-

azepine and phenytoin. Twenty-two (8.3%) received both in addition to their anticonvulsant drugs, a prescription of neuroleptics. Seventy-five (75%) were of low socio-economic status (SES) as measured by the Hollingshead Two-Factor Index of social position. Most were employed as 166 (62.9%) indicated, 56 (21.2%) were unemployed while 42 (15.9%) has never been employed.

Data were collected using a self compiled Ibadan Epilepsy Behavior Questionnaire (IEBQ) comprising a scale for assessing basic demographic characteristics and a scale for assessing perceived stigma, emotional, vocational, interpersonal, financial, adjustments and an adjustments to seizures. Two other measures of the degree of psychopathology (the Crown–Crisp Experiential Index and the Becks Depression Inventory) were also used. The Crown–Crisp Experiential Index (CCEI), formerly known as the Middlesex Hospital Questionnaire (MHQ), is a self-reported questionnaire providing information on psychoneurotic traits [23]. It has 48 items with an overall score for emotionality or neuroticism and with further sub-scores in six clinical sub-scales, namely free-floating anxiety (A), phobic anxiety (P), obsessiveness (O), somatic concomitant of anxiety (S), depression (D) and hysterical anxiety (H).

For the purpose of this study, a pre-test of the questionnaire was carried out on 80 diagnosed epileptics on follow-up at the Neuropsychiatry Hospital, Aro. Internal consistency of the items with coefficient α are: A = 0.78, P = 0.65, O = 0.75, S = 0.57, D = 0.52 and H = 0.83, for the six clinical scales, respectively.

The Beck Depression Inventory (BDI) is generally an instrument developed for the assessment of stable trait-like properties of depression [24]. It comprises 21 items describing specific behavior manifestations of depression. Criterion validity using a treatment criterion was established ($t = 8.0$, $P < 0.000$; Cronbach α coefficient = 0.81).

Pre-test results revealed that Nigerian adult epileptics who had their seizures poorly controlled reported more psychopathology than adult epileptics who had good seizure control [7]. In a similar manner, adult epileptics who felt more stigmatized reported more psychopathology than those who felt less stigmatized. Also found to determine increased psychopathology among the patients were poor emotional, vocational, interpersonal adjustment.

2.2. Stage (2)

To use the statistically derived factors obtained from stage 1 in forming modules of psycho-education package and to examine the efficacy of such psycho-educational treatment package in reducing evaluated psychopathology among a sample of individual subjects with epilepsy. It is hypothesized that patients will be more informed about their illness and this will have an effect in reducing their level of psychopathology both at post-test and at 2 months follow-up (arbitrarily chosen by the researchers due to limited available time for the completion of the study).

A pre-test–post-test, control group design [25] or before–after research design [26] with a treatment group and a waiting-list control group was employed for this study. This design enables the relationship between treatment application and improvement of patient condition to be observed on a single occasion. It involves the measurement of the patient's problems before, during and after treatment. Thus, the effect of the intervention is reflected in the amount of change from pre- to post-intervention assessment.

Fifty-three patients or 17.7% of the total patients studied in the first stage, constituted the sample for the second study on treatment intervention. These 53 patients were living in Abeokuta, the locality of the first stage study. The reason to concentrate on this category of patients was purely on logistic. They are the kind of patients who are easily accessible and with guarantee of attending the psycho-education program. A list of all patients and their addresses living in the locality and who also participated in study one were compiled. Home visits were conducted for some of these patients, while others were seen on routine follow-up visits. After a 3-week search, 30 patients were actually located and participated in the psycho-educational program. The remaining 23 appeared to have defaulted from treatment, and neither could they be traced at home.

All participants were instructed about the purpose of the treatment program, that it was a follow-up to the previous study and involved counseling on their condition. Since they all took part in the first study, it was easy for them to give their consent. Appointments were made for the patients to report at the Epilepsy Counseling Clinic, the location for the first

study. Patients were then assigned to either the treatment (experimental group) or a control waiting-list group on alternate first come basis and were matched according to seizure type and frequency of seizures, in this way 15 patients constituted the experimental group while the remaining constituted the waiting-list control group. The patients already had their baseline psychopathology measures on file since this assessment was made during the first study.

An immediate pre-assessment adapted for knowledge about epilepsy illness [27] was administered to all the patients [7]. Embedded in this schedule were six sections: (A) diagnosed, (B) aetiology, (C) medication, (D) course and prognosis, (E) management, and (F) desire for information. Scoring (range 0–36) was done by summing up all responses. Higher scores corresponded with being less informed about their illness and therefore in greater need for education. Also pre-assessment psychopathology measures, using the indices of psychopathology as in baseline were undertaken. The questionnaires were administered by National Youth Service Corps members, all of whom had university education. The interviews lasted approximately 4 h.

The experimental group was asked to return the following day, while the waiting-list control group was told by the researcher that their own session would be conducted at later date, i.e., when they came for their next clinic follow-up. A token incentive of transport fare was given each participant.

The repeated-measures analyses of variance (ANOVA) were employed, allowing comparison between treatment and waiting-list control group across time, from pre-test assessment to 2-month follow-up. Immediate treatment program effects were analyzed by conducting a series of paired *t*-tests between the pre-assessment and the post-assessment of the treatment/experimental group. All statistical analyses carried out in this research utilized both the WHO/US Centers for Disease Control Statistical Package, EPI-INFO, and the Statistical Package for the Social Sciences (SPSS).

3. Psycho-education program

The psycho-education program involved a total of 2 days. The first day was used for preliminary

assessment and the establishment of rapport. The second day involved the exposure of the treatment/experimental group to a classroom-like instructional session based on the modules of instruction. It was basically a didactic educational session with patients attended to groups. All instructions pertaining to each modules was given in a total of 90 min incorporating group discussions, time for questions and clarifications on uncleared problem areas. All instruction was conducted in the Yoruba (native) language after assurance from all patients they were able to speak and understand this language. The outcome of the phase one study concerning knowledge about the illness and the psycho-social/epileptic based factors identified (vis-a-vis emotional adjustment, stigma, interpersonal adjustment, vocational adjustment, adjustment to seizures, seizure control) formed the basis for the psycho-educational counseling. The four modules are described below.

In module 1, the researcher provided background information on the overall approach. He began by explaining the relationship between the body and the mind using a traditional proverb. The Yoruba culture emphasizes that “*Bi mu ba dun, ara aya*”, which roughly translates as, “if one is happy, then one feels well”. Conversely, one tends to complain about different ailments when one is sad or unhappy. This was used to demonstrate that one could control how one feels in the mind and body. The patient was reassured that though epilepsy could be a source of fear, and anxiety, especially when one does not know the time for the next attack, too much of such anxieties could complicate or exacerbate the frequency of attacks. The psychologist therefore educated patients on judicious drug compliance and follow-up as the best way to cope with such anxieties. An analogy was drawn between epilepsy and a sore on the human body. The carefulness and seriousness with which one takes care of the sore determines the speed of healing. The mechanism of how a seizure occurs was explained in lay language with emphasis on the fact that epilepsy is not a mental illness.

Module II focused on diagnosis and management. Patients were instructed about how the different diagnoses of epilepsy were made, the different types of seizures and how to identify a seizure or an attack. The concept of aura was also explained and how a patient can identify one. Patients were asked to share

their individual experiences. Based on these, counseling focused on how to identify and thereby avoid the seizure inducing situations particular to each patient.

This module also covered the various medical causes of epilepsy, e.g., hereditary, physical trauma and ante-natal, pre-natal and post-natal complications. The possibility of supernatural causes was addressed but not emphasized. Common misconceptions identified during phase one, e.g., that epilepsy can be transmitted through breast feeding, biting or a lizard living in the brain, were carefully confronted. The various manifestations of the illness were also discussed.

The researcher explained why correct doses of drugs are important in the management of their illness. The dangers of non-prescribed medications, including indigenous concoctions, were stressed. Possible side-effects of drugs (e.g., sedation, blurred vision, nausea, and palpitation) and recommended actions were also explained. The researcher described the course of the illness in terms of duration of illness and whether the illness can be totally cured. Issues such as remission and “drug holiday” were explained in the context of conscientious and consistent drug usage.

Module III started with feedback on the outcome of the first study and an explanation of each of the variables that influence day-to-day adjustment, seizure control, emotional adjustment, vocational adjustment, stigma and adjustment to seizures. Seizure control was explained as a follow up to the first module, with continued emphasis on the importance of drug compliance and adequate follow-up as the best way of coping. Basic social skills for follow-up were suggested including (a) memorizing the date of the next follow-up visit, (b) posting the follow-up visit date at a very conspicuous place, e.g., on a calendar or using a known object as a way of remembering, (c) informing a significant other about the follow-up date and explaining the importance of constant reminder, (d) always looking forward to each follow-up date and making adequate preparation in terms of transport, fare and money for the purchase of prescribed drugs, and (e) not feeling shy to seek assistance from any willing relatives, self help groups or charity organizations within their locality. An example of such group/organization was mentioned.

The researcher next explained emotional adjustment, highlighting the relationships between certain individual characteristics and epilepsy. Issues such as irritability, feeling easily hurt or annoyed, and occasional/persistent sexual inadequacy as related to the course of chronicity of epilepsy, were addressed. Patients were again encouraged to educate their significant others about these relationships and also to improve on their drug compliance.

Concerning vocational adjustment, patients were told why many persons who suffer from epilepsy are either unemployed or underemployed. Negative societal attitudes toward illness and societal beliefs that epileptics are not intelligent enough to hold a good job or vocation were confronted. It was noted that while a relationship may exist between mental deterioration and epilepsy, this can only be of significance if an individual cannot maintain adequate seizure control. The possibility of referral for additional assessment and consequent vocational counseling was made known.

The issue of stigma was addressed by challenging misconceptions of the larger society, including beliefs about contagion and the supposed link between epilepsy and mental illness. Again the importance of drug compliance and conscientious follow-up at clinic was emphasized as a way of preventing events that could reinforce stigma.

Counseling on adjustment to seizures dealt with the feelings of embarrassment about seizures. Patients were taught the way to cope with this through the rationalization of the situations. “My epilepsy is a better illness” (than, for example, leprosy). “Epilepsy is (only) a physical illness. Epilepsy is not a mental illness.” “I will get over this soon” (if I take my drugs regularly).

In module IV, the therapist reviewed the program to date and summarized. He then gave room for questions from patients and made clarifications. Finally the patients were discharged, wished good luck and given an appointment for 2-months time.

4. Results

Table 1 shows that a series of repeated-measures ANOVA yielded a substantial significant main effect on groups for the scales on depression, neurotic disorders and epileptic knowledge, respectively. For

Table 1
A comparison of pre- and post-assessment scores by group

Scale/sub-scale	Treatment/experimental i-Pre	Mental group Post	Control Pre	Group Post	Main <i>F</i> value	Effect <i>P</i> value
Depression (BDI)	15.00 (8.2) ^a	1.47 (0.04)	15.10 (3.4)	10.00 (2.6)	13.02	< 0.0001
Neurotic disorders	36.40 (13.8)	7.33 (1.6)	35.60 (10.4)	34.31 (11.4)	26.74	< 0.0001
Free floating anxiety	7.00 (3.8)	1.33 (0.05)	7.8 (3.7)	8.38 (4.5)	12.69	< 0.0001
Phobia	4.93 (3.4)	2.27 (1.0)	4.00 (3.0)	5.00 (2.1)	2.39	> 0.05
Somatic concomitant of anxiety	6.60 (3.9)	1.73 (0.7)	6.15 (3.2)	5.00 (2.0)	7.41	< 0.0001
Obsessionality	5.60 (3.0)	1.40 (0.05)	5.30 (4.6)	4.85 (1.7)	5.01	< 0.0001
Depressive anxiety	7.86 (2.8)	2.00 (1.1)	7.76 (3.0)	8.00 (2.3)	13.77	< 0.0001
Hysterical anxiety	4.47 (4.2)	4.60 (3.5)	4.62 (3.6)	5.23 (4.0)	1.56	> 0.05
Knowledge about illness ^a	23.53 (8.9)	2.07 (1.7)	19.85 (8.2)	16.38 (5.6)	5.73	< 0.0001

^a Note: Standard deviation in parentheses; higher knowledge score means less awareness about illness.

depression, as compared with the control group, the treatment group showed a significant decrease in depression. In addition, as compared to the control group, the treatment group showed a significant decrease in overall neurotic disorders. Moreover, the treatment group also demonstrated a significant increase in overall level of information and knowledge regarding epilepsy, when compared with the control group. As regards the subclassifications of neurotic disorders, the treatment group equally showed a significant decrease in all the dimensions except the phobic and hysterical sub-scales.

Although the primary interest of this study is to evaluate the long-term effects of the treatment intervention, the immediate effects of this study were investigated. Due to the intensive type of intervention involved, and the proximity in time between the pre- and immediate post-assessment (2 days) control group subjects were not asked to complete the immediate post-assessment. They had not attended the intervention program; hence they were not expected to show significant changes in the 2-day interval. Therefore, paired *t*-tests were performed to assess only the treatment group's changes from pre- to immediate post-assessment.

Results showed that the treatment group by within-group analyses, showed a substantial significant decrease in level of depression from pre- to immediate post-assessment, as measured by the BDI ($t = 8.04$, $P < 0.001$) and a significant increase in the knowledge about epilepsy, as measured by the knowledge about illness schedule ($t = 5.97$, $P < 0.001$).

The treatment group also showed significant decrease in all measures of neurotic disorders except

for hysterical sub-scale as measured by the CCEI from pre- to immediate post-assessment. Overall neurotic disorders showed a significant decrease level from pre- to post-assessment ($t = 5.19$, $P < 0.001$).

A breakdown of results by sub-scale showed significant decrease in generalized freefloating anxiety ($t = 5.26$, $P < 0.001$), phobia ($t = 2.26$, $P < 0.04$), somatic concomitant of anxiety ($t = 4.62$, $P < 0.001$), obsessionality ($t = 2.43$, $P < 0.02$), and depressive anxiety ($t = 9.95$, $P < 0.001$) from pre- to immediate to post-assessment, respectively.

5. Discussion

This study examined the efficacy of a psycho-educational treatment program in decreasing psychopathology among a sample of epileptic patients. It was hypothesized that the treatment group would show an increased understanding of epilepsy and significantly less depression and neurotic disorders as compared with the waiting-list control group. Confirming the hypothesis, the results showed that the treatment group had a significant decrease in the level of depression, a significant decrease in aggregate neuroticism and a significant increase in overall knowledge about epilepsy when compared with the waiting-list control group.

Other neurotic measures used to evaluate the efficacy of the psycho-education program in alleviating psycho-social problems also revealed much impact. Except for hysteria and phobia sub-scales, all other neurotic measures revealed significant value at the 0.05 level. There was a significant decrease of

fares floating anxiety for the experimental group from pre-assessment to 2-month follow-up. Also a significant decrease in somatic concomitant of anxiety, neurotic depression and obsessionality were recorded for the experimental group from pre-assessment to 2-month follow-up. The results of this study provide some initial data that address the concern of the Commission for the Control of Epilepsy and its Consequences [9], which was reiterated by Helgeson et al. [12], about the dearth of research on the delivery and effectiveness of psycho-social services for people with epilepsy. These data also provide agreement with previous findings of Tan and Brunl [11], Helgeson et al. [12] and Dahl et al. [10].

Though in all of these studies, none considered a short period of 2-months evaluation time and also apart from Helgeson et al. [12] who studied fewer sample all others had a large sample size. Nevertheless one implication for this present study is its encouraging but cautious support for the efficacy of a psycho-educational program in treating medical and psychological aspects of epilepsy among Nigerians. One must be cautious in claiming patients who were thought to be clinically depressed (above BDI cut-off score of 10, suggestive of depression) [24] could be less depressed just because of attending a 2-day seminar. However, the effect of individual therapy may explain the effect and is supported by previous study [11]. The observed decrease in all dependent measures may not have been unconnected with the personal influence of the researcher on the subjects over the period of the total study that spanned approximately 24 months, that is, all the subjects who took part in the study were drawn from the previous needs assessment study.

This perhaps serves as limitation for the present approach. Subsequent and future study should endeavor to consider the relative effectiveness of individual oriented psycho-educational program and groups oriented psycho-educational program and perhaps draw samples from an independent epileptic population. The present study despite its limitations emphasized the important of patient education in the course of their medical as well as psychological management which has consistently been a problem to both health care providers and contemporary researchers in recent past. Also it gives an insight into how a psychological framework of patient

management could guide and guarantee effective and psychological treatment of not only epileptics but also many other conditions and infectious diseases, which have a high prevalence in Nigeria. Such psycho-social interventions may become the most important determinants of motivation to carry out a medication regimen that will effect quick recovery from resistant ailments.

Finally, it should be pointed out that the present study yielded one positive finding on the ability of Nigerian therapist or educators to monitor patient's psychological adjustment in the expected direction. It therefore suggests that consistent group (psychological) therapy to a certain extent may be effective in producing significant improvement in general psychological functioning of patients.

6. Conclusion

In conclusion therefore, the significant reduction in depression and neurotic disorders in this study provides encouraging data regarding the efficacy of a psycho-educational program. These results are particularly notable in that a 2-day information dissemination would have a strong long-term therapeutic effect to create statistically significant changes in a relatively small sample of subjects. Nevertheless, further controlled studies using larger samples are needed before broader and more conclusive statement can be made.

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