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PROBLEMS ASSOCIATED WITH ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG HIV/AIDS PATIENTS IN ILORIN KWARA STATE REFERRAL HOSPITALS, NIGERIA

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Abstract

The study examined problems associated with adherence to antiretroviral therapy among HIV/AIDS patients in Ilorin Kwara State referral Hospitals. Antiretroviral therapy has transformed the HIV infection into a chronic manageable disease. Optimal adherence ($\geq 95\%$) is required to achieve treatment success; but non-adherence still remains a major problem among patients. The objectives of this study includes examination of the association between: Adverse effects of ART among patients; Patients stigmatization; Patients' proximity to hospitals and adherence to ART. A descriptive survey research was used. A total of 50 health workers and 150 people living with HIV/AIDS (PLWHA) who are on ART were used (200 respondents). 15 patients and 5 health workers from each of 10 selected referral hospitals were selected by simple random sampling technique. Researchers' structured questionnaire of four point Likert scale, validated and tested for reliability (with a reliability coefficient of 0.73r obtained) was used. Chi-Square test was used to test the association between adherence and identified problems, using Statistical Package for Social Sciences (SPSS) version 16. All the null hypotheses were rejected implying that adverse drug effects, stigmatization and proximity to health facilities were all problems militating against adherence to antiretroviral therapy among patients in Ilorin referral hospitals. Recommendations proffered includes: Implementation of the existing policy against stigmatization, providing antiretroviral therapy centers to Local Areas towards solving proximity problems, among others.

Keywords: Adherence, Antiretroviral therapy, HIV/AIDS, Referral, PLWHA.

Introduction

Acquired immune deficiency syndrome (AIDS) was first identified in the 1980's and since then has spread globally causing one of the most dreaded pandemics in modern times. HIV infection is spread primarily through sexual contact with an infected person during unprotected sex and in other ways including sharing of needles with someone who is infected and by transfusions of infected blood. In addition babies born to HIV-infected women may become infected during pregnancy or through breast-feeding (Center for Disease Control, 2010). Nigeria currently accounts for about 10 percent of the global HIV burden, hence the need to tackle the pandemic is very imperative (Bello, 2011). Currently, there is no known cure for HIV/AIDS although current treatment with antiretroviral drugs (ARVs) has led to an increase in life expectancy (Bor, Herbst, Newell & Bärnighausen, 2013).

Adherence refers to how well patients implement their prescribed treatment. Adherence according to Mill, Nachega, Bangsberg, Singh, Rachlis and Wu, (2006) is defined as a compliance of 95% of the prescribed doses on time and in the correct way, either with or without food. Adherence is a major predictor of the survival of individuals living with HIV/AIDS. Abdulazeez (2012) defined CD4 lymphocyte cells as types of immune cells otherwise known as T. helper cells which are often used as prognostic markers for monitoring the progression of immune suppression such as HIV infection. Without treatment, HIV slowly weakens the immune system, making it harder to fight off illnesses.

Adverse antiretroviral (ARV) effects according to Department of AIDS Control (2015) have been reported with the use of all ARV drugs as the most common reasons for discontinuing therapy and for medication non-adherence. Several factors may predispose individuals to adverse effects of ART medications. For example, compared with men, women (especially ART-naïve women with CD4 counts >250 cells/mm³) seem to have a higher propensity to develop Stevens-Johnson syndrome, rashes, and hepatotoxicity from nevirapine (NVP) and have higher rates of lactic acidosis due to nucleoside reverse transcriptase inhibitors. Clinical Guide Portal (2016), reported that spontaneous bleeding, hematuria in hemophilia, Anemia, Cholelithiasis and kidney stones may present concurrently, induced hepatitis and hepatic decompensation have been reported; greatest frequency with TPV/r. Jaundice due to indirect hyperbilirubinemia, when given in combination with other drugs were also reported.

Stigma as an issue in the fight against non-adherence was reported by Mills, Nachega, Bangsberg, Singh, Rachlis, Wu P, Wilson, Buchan, Gill, and Cooper (2006) that stigma in diverse form was prevalent among the patients. Fear of disclosure of HIV/AIDS status on being seen taking medicines has been a known barrier to ART adherence. Stigmatization creates an unnecessary culture

of secrecy and silence based on ignorance and fear of victimization. According to Agweda and Dibua (2010), stigma is a powerful and discrediting social label that radically and negatively affects the ways individuals view themselves and the ways others view the individual as a person. However, PLWHA, who often show reluctance and delay in accessing healthcare services because of the fear of stigma and discrimination (Feyissa, Abebe, Girma & Woldie, 2012).

Proximity of ART Centers to area where People Living with HIV/AIDS (PLWHAS) live as a problem associated with adherence to antiretroviral therapy remains an ordeal in the management of the scourge. Joglekar, Paranjape, Potdar, Reddy, and Sahay (2011) reported in an assessment of ART centres where exit interviews of the beneficiaries were conducted, showed distance from ART centres and economic factors as major reasons for not visiting the centre regularly. It was observed that the reasons for missing scheduled visits to ART centre reported were having nothing for food, no money for travelling to ART centers among others. Olaleye, Ogwumike and Olaniyan (2013) reported that extending ART centers to rural areas towards decentralising HIV care at government hospitals to reduce travelling distance and transport costs as well as to ensure universal access to healthcare services among PLWHA.

Adhien, Van Dijk, Vegter, Westein, Nijpels, Jacqueline and Hugtenburg (2013) reported that interventions for individual patients are tailored to the underlying causes of non-adherence. Using an intervention guide, the pharmacist is guided to the following interventions: tackling the motivation of patients to take their medicines by means of motivational interviewing; tackling the problem of "the current treatment does not work" in consultation with the general practitioner, so that another dose or drug is selected, and counselling the patients on the effects of treatment and tackling the problem of "side effects".

Rollnick, Butler, Kinnerley, Gregory and Mash (2010) opined with regard to adherence, that patients should be supported to clarify potential barriers to medication use and to formulate their own solutions. As such, motivational interviewing is a balance between directing, advising, and supporting the patients to find possible solutions on the other hand. The increasing non-adherence of PLWHAs to ART has been an issue over the years hence the need for this study examining problems associated with adherence to antiretroviral therapy among HIV/AIDS patients in Ilorin Kwara State referral hospitals, Nigeria.

Problems of adherence to Antiretroviral Therapy by HIV patients seems increasing as they are found skipping their doses resulting from inherent factors to include: adverse effects of ART, Stigmatization of patients' and Patients' proximity to hospitals for treatment.

Adverse effects of ARV drugs has caused a lot of PLWHA to skip their doses of drugs. Ajibola, Akinbami, Elikwu, Odesanya and Uche (2014) reported that the major reason for non-adherence was the unpleasant side effects of the drugs. It is no secret that HIV medication has some unpleasant side effects and because of these side effects, the people who have been exposed find it difficult to take their drugs regimen as prescribed and / or complete doses. These result in poor adherence and as in the case of HIV infection, poor adherence leads to viral resistance, leading to reduced CD4 cells and poor control of HIV. Stigmatization of PLWHAs has drastically reduced adherence level among some patients, thereby increasing the morbidity and mortality of HIV. According to Famoroti, Fernandes and Chima (2013) stigmatization could lead to delays and failures in seeking treatment by PLWHA and delays in diagnosis of high risk patients.

Patients' proximity to hospital has been a hell of problem to PLWHAs, which lead to non-adherence of ART. Most of the HIV referral centers in Kwara State are located in Ilorin meaning patients from every other Local Government Area without such facility will have to travel to Ilorin to access ART. These factors are increasingly militating against adherence among PLWHAs hence the need for this study, problems associated with adherence to antiretroviral therapy among HIV/AIDS patients in referral hospitals in Ilorin, Kwara State. Therefore, in view of the facts that adherence to regimen of antiretroviral therapy importance, the study will examine:

- The association of adverse effects of ART with adherence to ART;
 - The association of patients' stigmatization with adherence to ART;
 - The association of the patients' proximity to hospital with adherence to ART.
- This has become necessary because such study was not conducted within the area of this research.

Research questions

The following research questions were answered in the study:

1. What is the association of adverse effects of ART with patients' adherence to ART?
2. What is the association of effects of patients' stigmatization with adherence to ART?
3. What is the association of patients' proximity to hospital with adherence to ART?

Research Hypotheses

The following research hypotheses were tested in the study:

1. Adverse effects of ART has no any significant association with adherence to ART.
2. Patients' stigmatization has no any significant association with adherence to ART.
3. Patients' proximity to hospital has no significant association with adherence to ART.

Materials and Methods

A descriptive survey research was used in this study. The population of this study, consists of all 218 health workers and PLWHAs in HIV Referral Hospitals Ilorin, (Kwara State Ministry of Health, 2013). The study was conducted in Ten Kwara State Referral Hospitals Nigeria out of the 18 referral Hospitals in Ilorin. Simple random sampling technique of lucky deep was used to select 10 referral Hospitals in Ilorin. Systematic sampling technique was used to select 150 PLWHA referral hospitals in Kwara State. Systematic sampling technique was used to select 150 PLWHA taking ART and 50 health workers (Medical Doctors, Nurses, Pharmacists, Medical Laboratory Technologists, and Technicians) from the selected Referral Hospitals in Ilorin who participated in this study. Fifteen PLWHA getting antiretroviral treatment from each of the selected referral hospitals and five health workers (A Physician, A Nurse, A Pharmacist, A Laboratory Technician and A Counsellor) were selected again by Simple random sampling technique of lucky deep to form two hundred respondents.

The instrument used for data collection was researchers' structured questionnaire validated and pilot tested with a reliability coefficient of 0.73r obtained before its administration. The questionnaire used comprised 15 questions (5 on each hypothesis) in a 4-point Likert scale of "Strongly Agreed (SA), Agreed (A), Disagreed (D), and Strongly Disagreed (SD)" pattern. Ethic clearance was obtained and ethical consideration of the PLWHAs was ensured. A total of 200 copies of questionnaire was administered to the PLWHAs, using the health workers as research assistance (for confidentiality) while the researchers themselves administered to health workers in the ten referral hospitals selected in Ilorin. Interpretation of the questionnaire was done to some PLWHAs who are illiterates. Data emanating from the study was subjected to appropriate inferential statistics of Chi-square (χ^2) test at 0.05 alpha level of significance.

Table 1: Kwara State HIV/AIDS Referral Centers and their Health workers' population.

S/N	Referral Centres	Population of Health Workers	Sampled Centers	Referral	Sampled Health workers and HIV Patients
1.	Anchor Clinic Ilorin, Kwara State, Nigeria.	12	Anchor Clinic Ilorin, Kwara State, Nigeria.		5 HCWs & 15 Patients
2.	Delnic Clinic Ilorin, Kwara State, Nigeria.	11			
3.	Dayspring medical centre, Tanke, Ilorin, Kwara State, Nigeria.	10	Dayspring medical centre, Tanke, Ilorin, Kwara State, Nigeria.		5 HCWs & 15 Patients
4.	Eyitayo Clinic Ilorin, Kwara State, Nigeria.	12			
5.	Federal Staff Clinic Ilorin, Kwara State, Nigeria.	14	Federal Staff Clinic Ilorin, Kwara State, Nigeria.		5 HCWs & 15 Patients
6.	Hassanat Memorial Hospital Ilorin, Kwara State, Nigeria.	10			
7.	Kiddies medical centre, Ilorin, Kwara State, Nigeria.	09	Kiddies medical centre, Ilorin, Kwara State, Nigeria.		5 HCWs & 15 Patients
8.	Murab medical centre, Ilorin, Kwara State, Nigeria.	12	Murab medical centre, Ilorin, Kwara State, Nigeria.		5 HCWs & 15 Patients
9.	Ola Olu Hospital, Ilorin Kwara State, Nigeria.	10			5 HCWs & 15 Patients
10.	Olalomi Hospital, Ilorin, Kwara State, Nigeria.	15	Olalomi Hospital, Ilorin, Kwara State, Nigeria.		5 HCWs & 15 Patients
11.	Sabo oke medical centre, Ilorin, Kwara State, Nigeria.	13	Sabo oke medical centre, Ilorin, Kwara State, Nigeria.		5 HCWs & 15 Patients
12.	Tolulope hospital tanke Ilorin, Kwara State, Nigeria.	10			
13.	Unity hospital shao junction Ilorin, Kwara State, Nigeria.	08	Unity hospital shao junction Ilorin, Kwara State, Nigeria.		5 HCWs & 15 Patients
14.	Olanrewaju Hospital, Ilorin, Kwara State, Nigeria.	13			
15.	Omolola Hospital, Ilorin, Kwara State, Nigeria.	09			
16.	Sobi Specialist Hospital, Sobi, Ilorin Kwara State, Nigeria.	14	Sobi Specialist Hospital, Sobi, Ilorin Kwara State, Nigeria.		5 HCWs & 15 Patients
17.	Surulere Medical Center, Ilorin, Kwara State, Nigeria.	13			
18.	University of Ilorin Teaching Hospital, Ilorin, Kwara State, Nigeria.	23	University of Ilorin Teaching Hospital, Ilorin, Kwara State, Nigeria.		5 HCWs & 15 Patients
	Total	218	10		50 HCWs & 150 Patients (200)

Source: Kwara State Ministry of Health (2013).

Result and Discussion of Findings

Hypothesis 1: Adverse effects of ART has no any significant association with adherence to ART.

Table 2: Showing chi-square analysis on adverse effects of ART and adherence to ART

S/N	Variables	SA	A	D	SD	Row Total	Cal. X	DF	Crit. Table	Decision
1.	Complete dose weakens the body	0 (0%)	121 (60.5%)	75 (37.5%)	4 (2.0%)	200				
2.	ARV has no side effects	4 (2.0%)	61 (30.5%)	129 (64.5%)	6 (3.0%)	200		12		
3.	ARV has side effects	0 (0%)	182 (6.0%)	12 (91.0%)	6 (3.0%)	200	161.0		21.03	
4.	ARV has side effect on the unborn	2 (1.0%)	64 (32.0%)	130 (65%)	4 (2.0%)	200				Ho1 Rejected
5.	ARV takes away appetite	2 (1.0%)	155 (77.50%)	43 (21.5%)	0 (0%)	200				
Total						1000				

0.05 alpha level

Table 2 revealed that the calculated chi-square (X²) value of 161.0 was greater than the table value of 21.03. Therefore, the stated null hypothesis was rejected. This implies that, adverse effect of ARV is associated with the problems of adherence to ART among HIV/AIDS Patients visiting referral hospitals in Ilorin Kwara State. Negative association existed between adverse effect of ART with patient's adherence to ART.

Hypothesis 2: Patients' stigmatization has no any significant association with adherence to ART.

Table 3: Showing chi-square analysis on Patients' stigmatization and adherence to ART.

S/N	Variables	SA	A	D	SD	Row Total	Cal. X	DF	Crit. Table	Decision
1.	Stigmatization law is not used on defaulters	38 (19.0%)	151 (75.5%)	11 (5.5%)	0 (0%)	200				
2.	Stigmatization increases patients' psychological disorder	8 (4.0%)	112 (56.0%)	78 (39.0%)	2 (1.0%)	200		12		
3.	Stigmatization prevent patients from taking their drugs	45 (22.5%)	111 (55.5%)	44 (22.5%)	0 (0%)	200	136.9		21.03	
4.	Stigmatization has no effects on patients	4 (2.0%)	39 (19.5%)	149 (74.5%)	8 (4.0%)	200				Ho2 Rejected
5.	Stigmatization prevents patients from attending ART	2 (1.0%)	148 (74.0%)	50 (25%)	0 (0%)	200				
Total		97	561	332	10	1000				

0.05 alpha level

Table 3 revealed that the calculated chi-square (X²) value of 136.9 was greater than the table value of 21.03. Therefore, the stated null hypothesis was rejected. This implies that, stigmatization is associated with the problems of adherence to ART among HIV/AIDS Patients visiting referral hospitals in Ilorin Kwara State. Negative association existed between the patients' stigmatization with adherence to ART.

Hypothesis 3: Patients' proximity to hospital has no significant association with their adherence to ART.

Table 4: Showing chi-square analysis on Patients' proximity to hospital and adherence to ART.

S/N	Variables	SA	A	D	SD	Row Total	Cal. X	DF	Crit. Table	Decision
1.	Many patients can't afford to attend ART	33 (16.5%)	161 (80.5%)	6 (3.0%)	0 (0%)	200				
2.	Transport fare affect patients' ART	8 (4.0%)	108 (54.0%)	82 (41.0%)	2 (1.0%)	200		12		
3.	Many patients don't have ART Centers in their LGAs	6 (3.0%)	154 (77.0%)	40 (20.0%)	0 (0%)	200	91.5		21.03	
4.	Patients skip doses because of ART hospitals distance	56 (28.0%)	90 (45.0%)	54 (27.0%)	0 (0%)	200				Ho3 Rejected
5.		2 (1.0%)	38 (19.0%)	128 (64.0%)	32 (16.0%)	200				
Total		105	551	310	34	1000				

0.05 alpha level

Table 4 revealed that the calculated chi-square (X²) value of 91.5 was greater than the table value of 21.03. Therefore, the stated null hypothesis was rejected. This implies that, proximity of referral hospital to PLWHAs is negatively associated with their problems of adherence to ART in Ilorin Kwara State. Negative association existed between patients' proximity to hospital with adherence to ART.

Discussion

The findings on hypothesis one revealed that adverse effect of ARVs is negatively associated with adherence to ART among patients visiting referral hospitals in Ilorin Kwara State. This implies that many patients failed in following their drug regime because of the side effects it has like, headache, vomiting, nausea, Dizziness, weakness among others. This finding is in line with the report of Department of AIDS Control (2015) that adverse drugs effects have been reported with the use of all ARV drugs as the most common reasons for discontinuing therapy and for medication non-adherence.

The findings on hypothesis two revealed that stigmatization of PLWHAs is negatively associated with adherence to ART among patients visiting referral hospitals in Ilorin Kwara State. This implies that many patients skip their ART appointments because of stigmatization by the public or even the health workers some time. This finding is in line with Agweda and Dibua (2010) who found out that stigma is a powerful and discrediting social label that radically and negatively affects the ways individuals view themselves and the ways others view the individual as a person thereby contributing towards non-adherence, mortality and continuous spread of HIV/AIDS pandemic.

The findings on hypothesis three revealed that proximity of HIV Referral hospitals is negatively associated with adherence to ART among patients visiting referral hospitals in Ilorin Kwara State. The referral centers are found in Ilorin most of the Local Areas don't have as such, the adherence to ART visit becomes difficult considering distance, transport fare and the strength to keep going there monthly. This finding is in line with Joglekar, et. al (2011) who reported in their study, that distance from ART centres and economic factors are major reasons for not visiting the centre regularly for their ART.

Conclusion

Based on the findings of this study, the following conclusions were drawn:

PLWHAs attending ART in referral hospitals in Ilorin are associated with adverse effects of ARV and adherence to ART. Patients felt the drugs are so strong that when taken, destabilize their general physical state. They complain of nausea, vomiting, dizziness, and general body weakness among several other effects.

Stigmatization according to patients has a serious negative association with adherence to ART. They feel very bad psychologically when people despise them and feel disgusted in their presence. This led to non compliance with ART.

Patients' proximity to hospital also has a negative association with adherence to ART. Patients complain that all the HIV referral centers are in Ilorin, most of them have to travel to Ilorin to access ART. Some of them spend two to four hours to get to Ilorin with increasing transport fare, hence they skip doses leading to non-compliance.

Recommendations

Based on the findings of this study, the researchers proffered the following recommendations:

1. The composition of the ARV drugs should be made with less adverse effects on PLWHAs, so that skipping of doses will be prevented thereby improving adherence level among them.
2. The existing Government's laws prohibiting stigmatization of patients' should be implemented on defaulters with stiffer penalties so that PLWHAs will have access to normal livelihood and be encouraged towards optimal adherence to ARV.
3. Government should make available ART centers in all local government areas towards solving the problems of patients' proximity to therapy centers.

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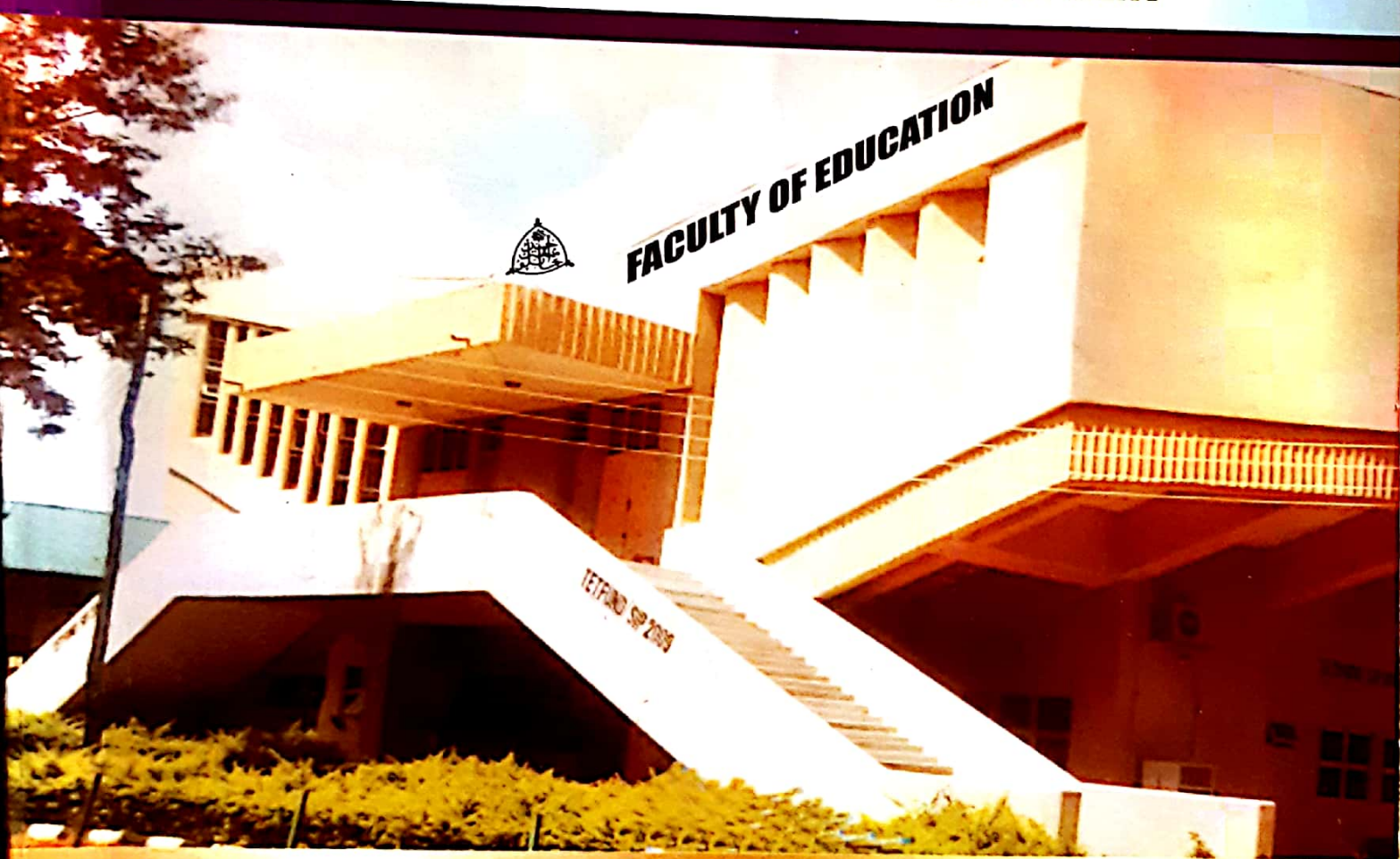
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