

Factors Influencing Compliance to Chemotherapy Among Oncology Patients in Selected Public Tertiary Hospitals in Ekiti State, Nigeria

Oluwabunmi Mercy Adeniji

Federal Teaching Hospital, Ido-Ekiti, Ekiti State, Nigeria

Gabriel Olaniyi Olatunji

Federal University, Oye-Ekiti, Ekiti State, Nigeria

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Abstract: Chemotherapy remains a cornerstone of cancer management, but its therapeutic benefit depends on consistent patient adherence, particularly in resource-limited settings where the socio-demographic and psychological barriers to compliance remain under-researched. This study assessed the level of chemotherapy compliance and examined the psychological factors influencing adherence among oncology patients attending two public tertiary hospitals in Ekiti State, Nigeria. A descriptive cross-sectional design was employed, involving total enumeration of 51 oncology patients receiving chemotherapy at Ekiti State University Teaching Hospital (EKSUTH) and Federal Teaching Hospital, Ido-Ekiti (FETHI). Data were collected using a structured, interviewer-assisted questionnaire covering socio-demographic characteristics, treatment profile, compliance measurement, and socio-demographic and psychological influences on adherence. Data were analysed with descriptive statistics and the chi-square test of association, with statistical significance set at $p < .05$. Compliance was moderate to high: 40% of respondents always attended scheduled appointments, 54% always took supportive medication, and 80% intended to complete the full treatment course; however, 55% had missed at least one session and 52% had delayed treatment, mainly because of financial constraints (46%). Breast cancer was the most frequent diagnosis (37%), and most patients presented at stage II or III. Chi-square analysis showed significant associations between compliance and educational level, occupation, monthly income, health insurance status, distance to hospital, and travel time ($p < .05$), but not age, sex, or marital status. Psychological distress was widespread: 42% reported near-daily anxiety about side effects, 34% reported reduced motivation, and 96% doubted the curative potential of chemotherapy, despite 82% receiving family support. Chemotherapy compliance in this setting is undermined less by lack of intent than by financial, logistical, and psychological barriers. Nurse-led interventions that combine financial navigation, routine psychological screening, and family-centred education are recommended to strengthen adherence and improve treatment outcomes.

Keywords: Chemotherapy compliance; oncology patients; psychological distress

INTRODUCTION

Cancer is a group of diseases in which abnormal cells multiply and spread, invading nearby tissue and spreading to other parts of the body, and metastasis is the biggest cause of cancer-related deaths (World Health Organization [WHO], 2021). It is essentially a disease of the genes, a disease that develops because of changes that upset the normal regulation of cells; such changes may be due to mistakes in the process of DNA replication, or to environmental factors that cause them, such as ultraviolet radiation or tobacco smoke. There are over 100 different types of cancer, usually named for the type of cell or organ in which the cancer develops (National Cancer Institute [NCI], 2021).

In 2020, cancer almost caused one in 10 deaths globally, and is now the second leading cause of death, after cardiovascular disease; as of 2022, there were an estimated 20 million new cases of cancer and 9.7 million cancer-related deaths all over the world, and the number of new cases is projected to reach one in five people at some point during their lives (WHO, 2021). The disease is a significant public health problem in Nigeria, ranking as the fifth leading cause of cancer-related deaths, accounting for over 102,000 new cases each year, and about 72,000 deaths per year (GLOBOCAN, 2020). In Ekiti State in particular, a hospital-based registry study reported 826 cases of cancer; and the age-standardised incidence rate was 78.0 per 100,000 populations with a near-even sex distribution (Adeyemi et al., 2024).

Cancer causes an economic burden in addition to its health impacts. Treatment costs were estimated to increase from US\$183 billion in 2015 to US\$246 billion in the United States alone by 2030 (National Cancer Institute, 2021) and the COVID-19 pandemic alone exacerbated diagnosis and treatment workflows, resulting in poorer outcomes in many settings (Mast & Munoz, 2021). Those inequities in access to cancer care highlight the ongoing need for equity in cancer prevention and treatment strategies around the world (Jones et al., 2021).

In addition to surgery and radiotherapy, chemotherapy is one of the main forms of cancer treatment and involves taking drugs that kill cancer cells by interfering with the way their DNA copies itself and the cells grow (Cancer Research UK, 2021). Chemotherapy has come a long way since the time of nitrogen mustard agents, which were introduced in the 1940s, and combination chemotherapy and antifolates were developed in the 1970s and 1980s, respectively, and more recently, targeted therapy and antibody-drug conjugate therapy (American Cancer Society, 2021; Hernandez et al., 2021; Zhou et al., 2021). However, while these developments have been made, chemotherapy remains physically and psychologically burdensome for patients, and patients' clinical benefit from chemotherapy can only be obtained if they follow the chemotherapy protocol.

Adherence, also known as compliance, refers to the degree to which patients take their medication as directed in terms of taking the drug on time, at the correct dose, and for the proper duration, with missed or late doses significantly decreasing the chance of treatment success (Bekalu et al., 2023). A prospective study of breast cancer patients in a tertiary hospital in Ibadan, Nigeria demonstrated that

approximately one-third of breast cancer patients experienced missed chemotherapy sessions, predominantly due to deranged laboratory results, side effects, financial constraints, and transportation difficulties (Folorunso et al., 2023). Side effects of medication, financial constraints, long duration of treatment and fixed clinic hours were the most significant barriers to adherence in Enugu (Ingwu et al., 2019). Similar trends have been observed in East Africa, with one study of 413 patients receiving IV chemotherapy in Southern Ethiopia finding only 42.6% were adherent, with marital status, employment, transport, social support and treating with curative intent as important correlates (Biru et al., 2024), and another study conducted in Amhara finding 42.3% adherent, with sex, co-morbidity status, side-effect burden and social support being reported as correlates (Bekalu et al., 2023). At a larger scale, the factors most commonly associated with treatment abandonment in low- and middle-income oncology care settings include high out-of-pocket expenses, long travel distances, and limited psychosocial support, which suggests a need for comprehensive interventions including financial support, patient navigation, and psychosocial care (Anderson et al., 2023).

Although there is considerable knowledge about clinical factors that may predict non-adherence, such as toxicity and disease stage, little is known about the socio-demographic factors associated with adherence, including age, gender and socioeconomic status, and limited studies on quality of life and coping have investigated their direct impact on adherence behaviour (Adeola et al., 2024; Okafor et al., 2024). Low and middle income countries have well documented barriers to uptake of childhood vaccines, such as financial hardship and limited healthcare access, whilst cultural beliefs, stigma and preference for alternative therapies is poorly understood (Rodriguez et al., 2021). Psychological factors, such as anxiety, depression, and social support, also seem to impact adherence but are not well described, and screening for psychological distress varies between institutions (Amdah et al., 2024; Benson et al., 2024). The impact of non-adherence can be substantial: Nigerian data reveal that breast cancer patients with less than half of their relative dose intensity (RDI) had a 3-year overall survival (OS) rate of 46%, whereas those with full adherence had a 3-year OS rate of 76% (Makanjuola et al., 2024); similarly, non-adherence has been associated with higher rates of hospitalisation, complications, and healthcare spending (Hansen, 2023). Some strategies that have been proven to increase adherence include structured patient education, mobile reminder systems (e.g., SMS alerts) and financial navigation or subsidy programmes, which are all associated with less missed doses and treatment discontinuation (Elhassan et al., 2024, Opoku et al., 2023, Yabroff et al., 2022).

In spite of this growing evidence, there is still a lack of data in Ekiti State and the unique pattern of socio-demographic and psychological barriers faced by patients with oncological conditions in the State is not well documented. It is important to understand these factors to help shape healthcare policy, patient education, design financial support programmes and promote patient-centred cancer care in the region. Based on the Theory of Planned Behaviour (TPB) which posits that attitude, subjective norms, and perceived behavioural control are determinants of adherence behaviour, this study examined the level of chemotherapy compliance as well as socio-demographic and psychological determinants of chemotherapy adherence behaviour among oncology patients attending two public tertiary hospitals in Ekiti State. Specifically, the study sought to (a) assess the level of chemotherapy compliance among

oncology patients, (b) identify the socio-demographic factors influencing compliance, and (c) identify the psychological factors influencing compliance. The corresponding hypothesis tested was that there is no statistically significant relationship between socio-demographic factors and chemotherapy compliance among the study population.

Materials and Methods

Study Design and Setting

A descriptive cross-sectional design was adopted to examine the factors influencing chemotherapy compliance among oncology patients attending tertiary hospitals in Ekiti State, Nigeria. The study was conducted at two public tertiary healthcare institutions in Ekiti State: Ekiti State University Teaching Hospital (EKSUTH), Ado-Ekiti, and Federal Teaching Hospital, Ido-Ekiti (FETHI). Both institutions were selected as the two major tertiary referral and specialist centres in the state, offering oncology services that include chemotherapy administration, diagnostic imaging, and multidisciplinary cancer management, and together they represent the largest concentration of oncology patients in the state.

Population and Sampling

The target population comprised all oncology patients receiving chemotherapy at the oncology units of EKSUTH and FETHI at the time of data collection, including both inpatients and outpatients across cancer types, who were either currently undergoing chemotherapy or had completed at least one full cycle within the preceding six months. A total enumeration (census) technique was used, whereby every patient who met the inclusion criteria during the three-week data collection period was recruited, yielding a final sample of 51 respondents and a 100% response rate. Eligible participants were adults aged 18 years and above who were mentally alert, capable of giving informed consent, had received chemotherapy within the preceding six months, and were willing to participate voluntarily. Patients who were not receiving chemotherapy (for example, those on radiotherapy or surgery alone), critically ill or end-stage patients, minors, and individuals with cognitive impairment or communication difficulties that precluded informed consent were excluded.

Instrument

Data were collected using a structured, interviewer-assisted questionnaire adapted from a comparable instrument used in prior Nigerian chemotherapy-adherence research (Folorunso et al., 2023) and contextualised to the local oncology care setting. The instrument comprised 44 items organised into five sections: (A) socio-demographic data, (B) treatment profile, (C) compliance measurement, (D) socio-demographic influences on compliance, and (E) psychological influences on compliance, the latter incorporating items on depression and anxiety symptomatology and on beliefs and perceptions about chemotherapy.

Validity and Reliability

Content validity was established through review by the project supervisor and further expert review by professionals in nursing research and oncology, who assessed items for clarity, relevance, and comprehensiveness. Internal consistency was evaluated using Cronbach's alpha, which yielded a coefficient of 0.7, indicating an acceptable level of reliability. Participants received a full explanation of the study in both English and Yoruba prior to questionnaire administration, and interviewer assistance was provided for respondents with low literacy to ensure accurate completion.

Data Collection Procedure

Questionnaires were administered by the researcher, with the support of trained research assistants, to eligible patients during clinic visits and chemotherapy sessions over a three-week period. Completed instruments were retrieved immediately after administration to minimise missing data.

Data Analysis

Data were checked for completeness and consistency, coded, and analysed using IBM SPSS Statistics version 25. Descriptive statistics (frequencies, percentages, means, and standard deviations) summarised socio-demographic characteristics, treatment profile, and compliance levels. Given the small sample size, non-parametric methods were applied where normality assumptions were not met: the chi-square test was used to examine associations between categorical socio-demographic variables and compliance, the Mann–Whitney U and Kruskal–Wallis tests were used to compare compliance scores across groups, and Spearman's rank correlation examined relationships involving continuous or ordinal variables. Statistical significance was set at $p < .05$.

Ethical Considerations

Institutional permission was obtained from both hospitals following presentation of formal letters of introduction, and informed consent was obtained from all participants prior to data collection. Participation was voluntary, confidentiality of information was assured, and the data collection procedure posed no harm to respondents.

RESULTS

A total of 51 respondents completed the questionnaire, representing a 100% response rate.

Table 1 presents the socio-demographic characteristics of respondents.

Table 1. Socio-demographic Characteristics of Respondents (N = 51)

Variable	Category	n	%
Age	20–30 years	1	2
	31–40 years	9	18
	41–50 years	23	45
	51 years and above	18	35
Sex	Male	22	41
	Female	29	59
Marital status	Single	7	14
	Married	35	69
	Divorced	5	10
	Widowed	4	8
	Separated	0	0
Educational level	None	4	8
	Primary	9	18
	Secondary	16	31
	Tertiary	22	43
Occupation	Trader	19	37
	Farmer	5	10
	Health worker	4	8
	Civil servant	8	16
	Retired	2	4
	Artisan	4	8
	Teaching	5	10
	Others	4	8
Monthly income (₦)	<30,000	13	25
	30,000–79,999	20	39
	80,000–199,999	17	33
	≥200,000	1	3
Health insurance	Yes	20	40
	No	31	60
Place of residence	Ikere Ekiti	10	20
	Omuo Ekiti	5	10
	Ido Ekiti	5	10
	Ado Ekiti	20	39
	Iyin Ekiti	2	4
	Ikole Ekiti	2	4
	Igbara Odo Ekiti	1	2
	Ilawe Ekiti	2	4
	Others	4	8
Distance to hospital	<5 km	14	27
	5–20 km	21	41
	>20 km	16	30

Variable	Category	n	%
Time taken to reach hospital	10–44 mins	26	51
	45–59 mins	9	18
	1–2 hrs	13	25
	2 hrs and above	3	6

The majority of respondents (45%) were aged 41–50 years and 35% were aged 51 years and above, indicating that middle-aged and older adults predominated in the sample. Females constituted 59% of respondents and males 41%. Most respondents were married (69%); 43% had attained tertiary education, while 8% had no formal education. Traders formed the largest occupational group (37%), followed by civil servants (16%). Monthly income was concentrated in the ₦30,000–₦79,999 band (39%), and 60% of respondents had no health insurance. Most respondents resided in Ado-Ekiti (39%), with 41% living 5–20 km from the hospital and 51% reporting a travel time of 10–44 minutes.

Treatment Profile

Table 2 presents the treatment profile of respondents.

Table 2: Treatment Profile of Respondents (N = 51)

Variable	Category	n	%
Type of cancer diagnosed	Breast cancer	19	37
	Stomach cancer	4	8
	Cervical cancer	7	14
	Prostate cancer	8	16
	Colorectal cancer	6	12
	Lymphoma	2	4
	Lung cancer	3	6
	Others	2	4
Stage of cancer	I	2	4
	II	26	51
	III	18	35
	IV	5	10
	Don't know	0	0
Year of diagnosis	Below 2020	0	0
	2020–2022	18	36
	2023–2024	24	48
	2024 till date	8	16
No. of chemotherapy cycles prescribed	1–3	0	0
	4–6	26	52
	7–9	22	44
	9 and above	2	4

Variable	Category	n	%
No. of cycles completed so far	1–3	6	12
	4–6	34	68
	7–9	8	16
	9 and above	2	4
Missed chemotherapy appointment(s)	Yes	28	55
	No	23	45
Delayed chemotherapy > 7 days	Yes	26	52
	No	25	46
Refused/discontinued chemotherapy	Yes	11	20
	No	40	80
Major reason for missed/delayed cycle	Financial	23	46
	Side effects	1	2
	Transport	4	8
	Work/family duties	7	14
	Fear/belief	1	2
	Not missed	15	28

Breast cancer was the most frequently diagnosed malignancy (37%), followed by prostate (16%), cervical (14%), and colorectal (12%) cancers. Most patients presented at stage II (51%) or stage III (35%) of disease, and 48% were diagnosed between 2023 and 2024. Just over half of respondents (52%) were prescribed 4–6 chemotherapy cycles, and 68% had completed 4–6 cycles at the time of the survey. More than half of respondents (55%) reported missing at least one chemotherapy appointment, and 52% had delayed a session by more than seven days; however, 80% had not refused or discontinued treatment altogether. Financial difficulty was the leading reason for missed or delayed cycles (46%), followed by work or family responsibilities (14%) and transport problems (8%).

Level of Chemotherapy Compliance

Table 3 presents respondents' self-reported level of chemotherapy compliance.

Table 3: Level of Chemotherapy Compliance Among Respondents (N = 51)

Item	Response	n	%
I attend chemotherapy appointments on scheduled dates	Never	0	0
	Sometimes	13	23
	Often	18	37
	Always	20	40
I take prescribed supportive drugs as instructed	Never	0	0
	Sometimes	2	2
	Often	22	44
	Always	27	54
I inform the health team in advance if I cannot attend	Never	5	8
	Sometimes	19	38
	Often	6	12
	Always	21	42
I intend to complete the full chemotherapy course	Never	2	3
	Sometimes	1	1
	Often	8	16
	Always	40	80

Forty percent of respondents always attended chemotherapy appointments on scheduled dates and 37% did so often, while 54% always took prescribed supportive medication as instructed and 44% did so often. Regarding communication with the health team, 42% always informed staff in advance when unable to attend, whereas 38% did so only sometimes and 8% never did. A large majority (80%) reported always intending to complete the full chemotherapy course.

Only 36% of respondents (strongly agree/agree) found the cost of chemotherapy affordable, while 64% disagreed or strongly disagreed, and 54% agreed that transport costs made attendance difficult. Conversely, 82% reported receiving family support to attend chemotherapy, and 58% indicated that their employer granted time off for treatment. In items not amenable to full tabulation, most respondents (74%) disagreed that community or religious beliefs discouraged chemotherapy, 84% agreed that they understood the purpose and benefits of treatment, and 46% agreed that health insurance reduced their financial burden, while 54% disagreed.

Psychological Influences on Compliance

Tables 4 and 5 present the distribution of psychological responses relating to depression/anxiety symptomatology and beliefs about chemotherapy, respectively.

Table 4: Depression and Anxiety Symptoms Affecting Compliance Among Respondents (N = 51)

Statement	Not at all f (%)	Several days f (%)	More than half the days f (%)	Nearly everyday f (%)
I have little motivation to continue with my chemotherapy treatment	18 (36)	12 (22)	17 (34)	4 (8)
I feel down whenever I think about continuing my chemotherapy treatment	17 (34)	10 (20)	16 (32)	8 (14)
I feel depressed during the course of my chemotherapy treatment	14 (26)	11 (22)	13 (26)	13 (26)
I feel hopeless about completing my chemotherapy treatment as prescribed	23 (45)	11 (22)	16 (32)	1 (1)
I feel nervous whenever I have to attend chemotherapy sessions	4 (6)	21 (42)	21 (42)	5 (10)
I feel anxious about the side effects of chemotherapy	0 (0)	18 (36)	12 (22)	21 (42)
I feel on edge while undergoing chemotherapy treatment	6 (10)	17 (34)	23 (46)	5 (10)
I cannot stop worrying that chemotherapy may not work for me	17 (34)	8 (16)	17 (34)	9 (16)
I cannot control my worrying about the outcome of chemotherapy treatment	16 (32)	10 (20)	16 (32)	9 (16)

Table 4: Beliefs and Perceptions About Chemotherapy Affecting Compliance Among Respondents (N = 51)

Statement	SA f (%)	A f (%)	N f (%)	D f (%)	SD f (%)
I believe chemotherapy will cure/help my cancer	0 (0)	3 (4)	0 (0)	23 (46)	25 (50)
I am afraid of chemotherapy side effects	0 (0)	19 (38)	0 (0)	20 (40)	12 (22)
I feel confident I can complete treatment	3 (4)	10 (20)	0 (0)	22 (44)	16 (32)
I worry chemotherapy will stop me from working or caring for family	5 (8)	18 (36)	0 (0)	7 (14)	21 (42)
I can get better with chemotherapy treatment	0 (0)	3 (4)	0 (0)	28 (56)	20 (40)

SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree.

On depression and anxiety items (Table 4), 34% of respondents reported reduced motivation to continue treatment more than half the time, 32% reported feelings of hopelessness about completing treatment more than half the time, 42% reported nervousness before sessions on several days, and 42% reported near-daily anxiety about side effects. On beliefs and perceptions (Table 5), 96% of respondents disagreed or strongly disagreed that chemotherapy would cure or help their cancer, 76% lacked confidence in their ability to complete treatment, and 96% disagreed or strongly disagreed that they could get better with chemotherapy, despite 84% understanding its purpose (Table 4).

Association Between Socio-demographic Factors and Compliance

Table 6 presents the chi-square test of association between socio-demographic characteristics and self-reported attendance at scheduled chemotherapy appointments.

Table 6: Chi-square Test of Association Between Socio-demographic Factors and Attendance at Scheduled Chemotherapy Appointments (N = 51)

Characteristic	Category	Sometimes	Often	Always	Total	χ^2	df	p-value
Age	31–40 years	2	3	4	9	6.543	6	0.365
	41–50 years	2	9	12	24			
	51 years and above	7	6	5	18			
Sex	Male	6	6	9	21	2.064	3	0.559
	Female	5	12	12	30			
Marital status	Single	0	3	3	6	7.280	9	0.608
	Married	7	11	17	36			
	Divorced	2	2	1	5			
	Widowed	2	2	0	4			
Educational level	None	1	1	1	3	30.748	9	<0.001
	Primary	6	2	1	9			
	Secondary	3	11	2	16			
	Tertiary	1	4	17	23			
Occupation	Trader	4	10	4	18	40.614	21	0.006
	Farmer	4	1	0	5			
	Health worker	0	0	4	4			
	Civil servant	0	2	6	8			
	Retired	1	0	1	2			
	Artisan	2	2	0	4			
	Teaching	0	1	4	5			
	Others	0	2	2	4			
Monthly income (₦)	<30,000	7	3	2	12	37.828	9	<0.001
	30,000–79,999	4	13	3	20			
	80,000–199,999	0	2	15	17			
	≥200,000	0	0	1	1			
	Yes	0	4	16	20	26.250	3	<0.001

Characteristic	Category	Sometimes	Often	Always	Total	χ^2	df	p-value
Health insurance	No	11	15	4	30			
Distance to hospital	<5 km	1	4	9	14	23.255	9	0.006
	5–20 km	1	10	9	20			
	>20 km	9	4	2	15			
Time taken to reach hospital	10–44 mins	2	6	18	26	39.739	9	<0.001
	45–59 mins	0	8	1	9			
	1–2 hrs	8	3	2	13			
	2 hrs and above	1	1	0	2			

χ^2 = Pearson chi-square value; df = degrees of freedom.

Educational level ($\chi^2 = 30.748$, df = 9, $p < .001$), occupation ($\chi^2 = 40.614$, df = 21, $p = .006$), monthly income ($\chi^2 = 37.828$, df = 9, $p < .001$), health insurance status ($\chi^2 = 26.250$, df = 3, $p < .001$), distance to hospital ($\chi^2 = 23.255$, df = 9, $p = .006$), and time taken to reach hospital ($\chi^2 = 39.739$, df = 9, $p < .001$) were all significantly associated with compliance. Age ($\chi^2 = 6.543$, df = 6, $p = .365$), sex ($\chi^2 = 2.064$, df = 3, $p = .559$), and marital status ($\chi^2 = 7.280$, df = 9, $p = .608$) showed no statistically significant association with compliance. Because the p-values for educational level, occupation, income, insurance status, distance, and travel time were below .05, the null hypothesis was rejected for these variables, indicating that educational attainment, occupational status, financial capacity, insurance coverage, and geographic accessibility significantly influence chemotherapy compliance in this population.

DISCUSSION

The study aimed to determine the level of chemotherapy adherence in terms of socio-demographic and psychological factors in two public tertiary hospitals in Ekiti State, Nigeria. The high proportion of older respondents (80% aged 41 years and older) and females (59%) are both consistent with a pattern of delayed cancer diagnosis that is typical of low and middle income settings (WHO, 2021) and with the preponderance of breast and cervical cancers that made up 51% of the diagnoses in this sample (GLOBOCAN, 2020). This finding mirrors that of Rodriguez et al., (2021), who pointed out that in similar contexts, socioeconomic status is an under-examined but key determinant of adherence, and is in agreement with Onwusah et al., (2023) who observed that out-of-pocket funding is predominant for cancer treatment in Nigeria.

The treatment profile – mostly stage II–III breast cancer diagnosed within two years – reflects the pattern of late presentation reported by WHO (2021) in the low and middle income countries and corroborates the findings of Folorunso et al. (2023) of missed cycles of treatment among Nigerian breast cancer patients due to financial constraints, side effects and transportation problems. The 55% missed-appointment rate and 52% delayed-treatment rate reported here despite fairly high attendance intentions highlight the ongoing challenge of structural barriers even with relatively good clinical rates of uptake of chemotherapy cycles (Bekalu et al., 2023).

There was moderate to high overall compliance in this study; 40% always attend scheduled appointments and 80% planned to complete the entire course. This result is more positive than adherence of 42.3–42.6% in the Ethiopian cohorts (Bekalu et al., 2023; Biru et al., 2024) but similar to the 65% adherence found in breast cancer patients in Ibadan (Folorunso et al., 2023). This comparatively positive picture may be partly explained by the relatively high proportion of respondents who reported that they were supported by family members (82%), with evidence showing that social support has a material impact on adherence in resource limited oncology settings. However, the difference between behavioural intention (80%) and actual attendance (45% did not miss any appointment) demonstrates that intention is not enough when financial and/or logistical barriers enter the equation, similar to the attitude–behaviour gap that the Theory of Planned Behaviour (Ajzen, 1991) was developed to address.

The chi-square analysis actually verified that the socio-demographic factors associated with socioeconomic capacity (educational level, occupation, income, insurance) and geographic access (distance, travel time) were significantly associated with compliance, but age, sex and marital status were not. These findings are consistent with those of Okafor et al. (2024) who found socioeconomic status and education also to be salient yet under-examined correlates of adherence in Nigeria and also with similar findings in the general literature, which highlights financial hardship and access barriers in low- and middle-income countries (LMICs) (Rodriguez et al., 2021). It should be noted that the non-significant association for age and sex may be due to the relatively small age range and predominately female population of this sample and should be interpreted with caution as there may not be a true clinical relationship.

Psychological distress was a common theme throughout the sample, with large percentages experiencing decreased motivation, feeling hopeless, and aware of side effects almost every day, and with strikingly low ratings of the efficacy of chemotherapy (96% doubted it would help the cancer, despite 84% saying they understood its purpose). This mismatch in understanding and confidence in the effectiveness of the treatment may indicate that health education within this context could be communicated without sufficient consideration for the emotional evaluation of treatment, which aligns with the suggestion to screen patients for psychological reactions more systematically in the field of oncology care (Amdah et al., 2024; Benson et al., 2024). These results suggest that in the context of the Theory of Planned Behaviour, weak attitudes towards the effectiveness of treatment and low levels of perceived behavioural control (hopelessness and anxiety) may act as psychological barriers to adherence, despite comparatively high levels of subjective norms (family and workplace support).

These findings taken together suggest that factors influencing the adherence to chemotherapy among patients with oncology conditions in Ekiti State are not necessarily a function of the demographic determinants, including age and sex, but a combination of financial capacity, access to healthcare and psychological readiness, which has been observed in similar settings in Nigeria and other Sub-Saharan African countries (Bekalu et al., 2023; Folorunso et al., 2023; Okafor et al., 2024).

Limitations

There are a number of limitations to this study. Heterogeneity of cancer type, stage and number of treatment cycles within the respondents may have affected individual compliance within the categories and reduced the generalisability to all categories of oncology patients. Response bias is a possibility, as the respondents filled out the self-report items during an emotionally and physically demanding chemotherapy course. Respondents may have been sensitive to financial disclosure, which could have resulted in underreporting of the actual economic cost of treatment, and so understated the financial barriers they actually faced. Finally, the small sample size (N = 51) reflects the entire population eligible for the study at the study sites during the period of enumeration, but it reduces statistical power for some sub-group comparisons, and limits generalisability beyond the two study hospitals.

CONCLUSION

Oncology patients who attended public tertiary hospitals in Ekiti State had moderate to high chemotherapy adherence but were always challenged with avoidable financial, logistical and psychological challenges. Educational level, employment status, income, insurance coverage, and geographic accessibility were all significantly associated with compliance, but age, sex and marital status were not. Psychological distress (anxiety, decreased motivation and generally low treatment efficacy) co-occurred with satisfactory family support and treatment intention. The study's findings indicate the need for interventions to foster adherence to chemotherapy in this context that go beyond clinical management and consider the financial, logistical, and psychological aspects of care, with nurses playing a pivotal role in bridging the gap between patients' willingness to complete chemotherapy and their capacity to follow through.

Recommendations

1. Hospitals should establish dedicated chemotherapy financial assistance funds, or partnerships with non-governmental organisations, to subsidise treatment costs for low-income patients.
2. Health authorities should advocate for the inclusion of chemotherapy and supportive medications within the National Health Insurance Scheme benefit package, supported by targeted enrolment drives in oncology clinics.
3. Hospitals should introduce transport support programmes, such as shuttle services or transport subsidies, for patients residing more than 20 km from treatment centres.
4. Routine psychological screening using brief, validated tools should be integrated into every oncology clinic visit, with clear referral pathways to counselling services.
5. Nurse-led adherence clinics should be established to provide structured education, progress monitoring, appointment reminders, and side-effect management support.
6. Family-centred care should be strengthened through mandatory caregiver orientation at diagnosis, equipping a designated family member with structured guidance on their supportive role.
7. Health literacy programmes should employ culturally adapted materials, including local-language resources and peer testimonials, to address misconceptions about treatment efficacy.

8. Hospitals and professional bodies should engage employers and labour organisations to advocate for paid medical leave policies that reduce work-related interruptions to treatment.
9. A chemotherapy adherence monitoring registry should be implemented to track missed doses, underlying reasons, and the outcomes of adherence-support interventions over time.

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