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Levels of Awareness / Non-Awareness on the Incidences of Cervical Cancer Among Patients Attending Oncology Clinic at the National Hospital Abuja FCT, Nigeria

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KEYWORDS

Population,
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ABSTRACT:

Introduction: Screening for cervical cancer was conducted among patients attending Histology and Oncology departments at the National Hospital Abuja Nigeria. Our aim principally was to determine cervical cancer incidence in women aged forty years and above. At least to gain a fair insight into the cancer cases responding positively to clinical interventions in terms of vaccination.

Methods: Study design- This is a longitudinal and prospective study in which cervical samples were collected and processed from a cohort of female patients aged forty years and above attending histology and oncology departments at the National Hospital Abuja FCT.

Results: Histologically processed Cervical samples cancerous were fewer than those that were not cancerous among the female patients aged 40 years and above attending oncology clinic at the National Hospital Abuja, Nigeria ($P < 0.05$). Likewise Level of non awareness of knowledge on cervical cancer is significantly lower than awareness level among patients attending oncology clinics at 95% confidence limits ($P < 0.05$).

Conclusion: This clearly revealed that incidence cases of cervical cancer among female attending oncology patients aged 40 years and above is on alarming and geometric increase. Although the work is limited by the fact that it was hospital based research!. Despite the unavoidable bias the study corroborated other qualitative global cervical cancer reports from other studies examined [1-7]. The fact remains that the global reduction prompt juvenile women vaccine administration is producing sharp positive reduction in even though Nigeria is still lagging behind in the pursuit of this highly welcoming trend as far as cervical cancer cases are concerned.

1. Introduction

Planning cancer control initiatives and monitoring screening and early detection programs depend on population-based statistics on cancer stage. [31]. Given their significant contributions to the cancer burden and frequent insufficient screening procedures, we concentrated on the annual distributions and incidence trends of breast and cervical cancer in this study and interventions particularly in Nigeria. Our findings more than adequately justifies the early HPV vaccination to young ladies. Nigerian government have tried commendable efforts to curb this rise in cervical cancer however their laudable efforts are often compromised by the ministries supervising the administration of the chemotherapy to the patients of this dreadful disease-Cancer according to the popular adage – "has no face until either a person or somebody very close to him/her falls a victim" We looked at the level of awareness of knowledge about cervical cancer among oncology clinic attendees at the National hospital Abuja. It will be essential to improve the quality of cancer registry data and bolster its role in cancer control for planning, monitoring, and evaluating progress. The incidence of cervical cancer in the former Soviet Union has risen significantly, due to weak health care systems and inadequate screening programs [32]. Compared with other European countries, newly independent states of

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the former Soviet Union have high cervical cancer incidence (age-standardised rate >15·0 per 100 000 population in Kazakhstan and Kyrgyzstan, and 16·3 per 100 000 population in Moldova, compared with 7·0 per 100 000 population in western Europe, according to GLOBOCAN 2020 estimates) [1]. Inadequate coordinated screening programs and insufficient diagnostic capabilities are the primary causes of this high frequency. [3]. Women of reproductive age can have free annual cervical screenings, however the cytology is often of low quality. Instead of using Papanicolaou staining, Romanowski-Giemsa staining was used for cervical smears in the former Soviet Union. Despite the lack of evidence, this practice is nevertheless widespread in the area. [3]

The aim of this study was to analyse Levels of Awareness / Non Awareness on the Incidences of Cervical Cancer Among Patients Attending Oncology Clinic at the National Hospital Abuja FCT, Nigeria.

2. Literature Review

Cervical Cancer Incidence / Awareness in Nigeria

A key component of the cancer control campaign is raising awareness of the disease. [33]. It serves as the foundation for all other actions. Depending on the demographic under study, the general degree of knowledge in the nation is low [34]. Just 32.7% of women have heard of cervical cancer, according to a cross-sectional survey conducted throughout Nigeria's geographic zones using the UK Cancer Awareness Measure (CAM) [10]. Similarly, among Lagos' urban slums, a 12.8% awareness rate was noted [11]. An examination of knowledge levels about risk factors and preventive measures indicated a poor level of knowledge, despite some studies reporting a greater awareness rate [8,9]. Furthermore, the community believes that cancer is incurable due to the high mortality linked to late case presentation, which creates a vicious circle of late presentation, a high death rate, and mistrust in conventional care [12].

Nigeria Government Policies on Cervical Cancer

The National Cancer Control Plan (NCCP) 2008–2013 was Nigeria's first cancer control policy plan, although it fell short of most of its objectives. In October 2023, Nigeria initiated a phased HPV vaccination introduction campaign to effectively lower the population's chance of contracting cervical cancer [13]. Furthermore, despite the target of screening more than half of the eligible population by 2022, which was based on the establishment of a nationwide routine screening program, cervical cancer screening remains opportunistic [35]. While the NCCP is generic for all cancers, the federal ministry of health developed a national strategic plan prevention and control of cancer of the cervix in Nigeria for 2017-2021 [14]. Mass immunization campaigns against HPV, a "screen and treat" strategy, the creation and upkeep of a treatment referral network, palliative care, mass mobilization, monitoring, and evaluation were the key objectives of the strategic plan. The objectives were to provide adequate and effective treatment of precancerous lesions for 100% of detected cases, increase screening coverage of eligible women by 80% by 2020, and vaccinate 80% of girls aged 9 to 13 with the HPV vaccine by 2020. However, none of these goals were achieved by the time it expired [15]. A five-year strategy plan is anticipated to be developed as the result of an ongoing evaluation process. It is clear from the above that the Nigerian government has a commendable plan for preventing and controlling cervical cancer; the implementation of this plan is however weak. The WHO team and other stakeholders will conduct a cost analysis of the 2017–2021 strategic plan to help make future plans practical and affordable [16].

HPV Vaccination in Nigeria

With an estimated 61 million cases prevented over the next century, HPV vaccination is a crucial intervention in the WHO 90-70-90. Since its launch in 2007, vaccination has been gradually increased in a number of national immunization programs, particularly through the GAVI support program. The types of HPV vaccines and HPV types covered between 2007 and 2014 are displayed in Table 1 [7]

The National Primary Health Care Development Agency has set a number of unsuccessful deadlines for the nation's HPV immunization program. The COVID-19 pandemic has worsened the global HPV vaccination scarcity to the point where the vaccine, which was previously sold through the private sector, is no longer available [7]

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Table 1: Approved HPV Vaccines and Serotypes covered..[7]

HPV vaccine	Approved	Serotype Covered	Availability
Cervarix 2007	2006	HPV 16 AND 18	Not available on National program on Immunization
Gardasil	2007	HPV 6, 11, 16 and 18	Not available on National program on Immunization
Gardasil 9	2014	HPV 6, 11, 16, 18, 31,33,45,52,58	Not available on National program on Immunization

Cervical Cancer Screening in Nigeria

Cervical cancer screening is the foremost public health intervention for cervical cancer control, which has dramatically reduced the burden of the disease in high-income countries (HICs). Poor uptake has prevented low- and middle-income countries (LMICs) from replicating this accomplishment [17] of screening. Just 13.5% of the women surveyed in Ibadan, a multicultural city in southwest Nigeria, had ever undergone cervical screening [14]. Despite the high level of awareness and favorable attitude toward screening, uptake varied from 3% to 54.1% in the 15 research examined in a systematic evaluation of factors influencing cervical cancer screening practice among female health professionals in Nigeria [9]. The World Health Organization currently recommends HPV DNA testing, which also permits self-testing [17]. The specificity of HPV testing is enhanced by p16 INK4a immunohistochemistry. Given the low background acceptance of the earlier screening methods of VIA and cytology, the hefty expense of HPV screening out of pocket makes it extremely difficult [16-18]. Low awareness, low risk perception, low socioeconomic status, a shortage of female providers, fear of positive screening results, partner influence, and sociocultural norms are other factors that affect screening uptake [18-21]. Cytology-based cervical screening is covered by the National Health Insurance Scheme (NHIS), although primarily for people working in the formal sector. Therefore, coverage in the unorganized sector and the inclusion of HPV DNA testing in the NHIS screening choices are necessary to meet the WHO elimination objective of 70% of women being checked with a high performance test twice in their lifetime by the ages of 35 and 45 [36].

WHO Recommendation for the Treatment of Preinvasive and Invasive Cervical Cancer

Cervical cancer screening's ability to successfully lower the cancer burden depends on how well preinvasive illnesses are treated. Cone excision, Loop Electrosurgical Excision Procedures (LEEP), thermocoagulation, and cryotherapy are the primary treatment choices. Due to the dearth of these services in many screening centers, patients are left with no other treatment alternative than a hysterectomy, which is frequently overtreatment. The way invasive cervical cancer is treated depends on its stage. While chemoradiation is used to treat locally advanced disorders, total hysterectomy combined with pelvic lymph node dissection is similarly effective for treating early cervical malignancies. There aren't enough cancer facilities in Nigeria, and there aren't enough qualified physicians to perform radical hysterectomy [18]. With only one radiation equipment per 19.4 million people, the situation is worse than in high-income nations, where there is one machine per 250,000 people [37]. Nigeria is the country with the largest shortage of radiotherapy machines, according to the International Atomic Energy Agency [23]. Similarly, there are insufficiently skilled radiotherapy personnel, outdated radiotherapy equipment that constantly malfunctions, and inadequate infrastructure support [24]. Since 50–60% cancer patients need radiotherapy, reaching the 90% treatment goal will require improvements in radiotherapy services [19].

Palliative Care in Nigeria

Patients with cervical cancer who arrive when a cure is not possible can benefit from palliative treatment. In Nigeria, 80% of cancer patients will need this type of treatment [25]. Palliative care is regrettably still in its infancy and has numerous teething difficulties [25]. Palliative care services are not well known, there aren't enough qualified palliative care professionals, and access

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to painkillers is restricted [26]. A palliative care policy statement for hospice and palliative care was published on October 26, 2021, with the goal of enhancing the existing situation. 90% access to palliative care is the WHO's goal for the eradication of cervical cancer [16].

Cancer Registries and Data Management in Nigeria

Monitoring cancer incidence, prevalence, and mortality as well as the success of national cancer prevention initiatives depends on cancer registries. They act as a repository for information used in etiological and fundamental research [27]. For many years, Nigeria's cancer registries were dormant and did not contribute to the incidence of cancer on five continents (CIV). However, this has changed with the creation of the Nigerian National System of Cancer Registries (NSCR), which now centrally coordinates the operations of hospital-based and population-based cancer registries in Nigeria, strengthens already-existing registries, creates new registries, compiles and analyzes data, and makes these freely available to researchers and policymakers [27].

Cervical Cancer Advocacy and Support Groups

Nigeria has a strong desire to end cervical cancer and lessen suffering. Numerous organizations support women with cervical cancer and advocate for prevention. They actively work to raise awareness, promote cervical cancer screening, and assist with patient navigation under the auspices of the Nigeria Cancer Society [27].

These include Run For a Cure Africa, the Dorcas Cancer Foundation, the Medicaid Cancer Foundation, the Raise Foundation Minna, and the End Cervical Cancer Nigeria Initiative. To expedite efforts in the area of cervical cancer, these NGOs must work together. [27].

Cancer Care Funding in Nigeria

The cost of cancer treatment is quite exorbitant, particularly in a nation with a high poverty rate like Nigeria. One major factor contributing to late presentations has been shown to be the expense. Nearly all cancer patients will experience financial toxicity due to treatment costs. The Nigeria Cancer Health Fund was established in September 2021 by the government to provide up to 2 million Naira (roughly $4,865) in medication, chemotherapy, and radiation therapy services to patients with breast, cervical, and prostate cancer in six medical facilities.[5]

Clinical Trail:

The care gap in cervical cancer is best demonstrated by the disparity in clinical trials between developed and developing countries. A search on clinical trials.gov returned 3402 trials from the United States and 369 from the United Kingdom, 116 from India, and a paltry three completed studies in Nigeria.[26]

Table 2: Selected Countries and Clinical Trials in Cervical Cancer. [26]

Country	Recruiting clinical trials	Completed clinical trials	Total studies
United States of America	762	1546	3414
United Kingdom	102	136	271
India	15	44	115
Nigeria	NIL	3	3

In summary, Nigeria still needs to work hard to reach the elimination goal. It will take multisectoral cooperation and the methodical execution of plans and policies in Nigeria to meet the 2030 targets of the WHO Cervical Cancer Elimination Program (90-70-90). The milestones can be reached by collaborations with the WHO and NGOs from other industrialized nations, particularly the USA, even though there is a baby step toward elimination. This mini-review's primary goal is to compile data on all necessary steps across the globe in comparison to Nigeria's availability. Improving the epidemiological study, such as actual incidence and death rates in the urban and rural areas of Nigeria; enhancing the screening process, training the health care workers on screening, diagnosing the rates of HPV positive and negative cases, working on the health care sectors to improve and plan on getting vaccination through the WHO and other organizations; enhancing access to treatment, working globally to get access to or register for clinical trials available in Nigeria are

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required. Once some of the goals are achieved, there is a great hope of being on track toward eliminating cervical cancer in Nigeria. [26]

3. Methods

Study Design

This is a longitudinal and prospective study. Papanicolaou stained cervical smears sample slides were prepared at the histopathology laboratory, National Hospital Abuja. The samples were processed for "Koilocytes" identification which could present various grades and stages of the cervical cancer on the slides when viewed under x 10 oil immersion objective.

Hypothesis 1

- **H0**: There is no significant difference in the incidence of cervical cancer among patients attending oncology clinics at the National hospital Abuja and those that were cervical cancer free.
- **Ha**: There is significant difference in the incidence of cervical cancer among patients attending oncology clinics at the National hospital Abuja and those that were cervical cancer free.

Table 3

Number of cervical samples processed	Number of cervical samples confirmed for' Koilocytes'	Number of cervical samples not confirmed for 'koilocyte'
9	2	7
14	2	12
18	7	8
6	4	2
9	NIL	9
7	4	3
18	8	10
9	5	4
7	3	4
4	NIL	4
2	1	1
4	NIL	4
107	36	68
107/12= 8.92	36/12 = 3	68/12 = 5.7
	= 33.6 PER 100	
Combined variance SD^2	80 +130.68/22 = 9.57	
Standard deviation, SD	3.1	
Standard error, SE	SD √ (1/12 +1/12) = 3.1 √ 0.16 = 1.24	
T22 =2.2 AT 22 degrees of freedom T tabulated < T Calculated at 22 degrees of freedom	Mean of cervical *koilocyte* - Mean of non cervical Koilocytes/SE 3- 5.7/1.24 = -2.2 T TAB, 2.07 < T CAL 2.2 significant there was a significant difference in cervical *koilocyte* "cancerous" and those non cancerous at 95% confidence limits ($p < 0.05$). In other words	

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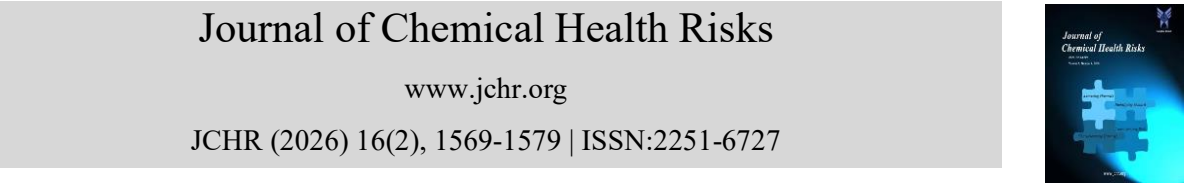

Number of cervical samples processed	Number of cervical samples confirmed for' Koilocytes'	Number of cervical samples not confirmed for 'koilocyte'
	those cancerous were significantly lower than those not cancerous;We had no enough evidence to reject the alternative hypothesis, Ha, so it was retained	

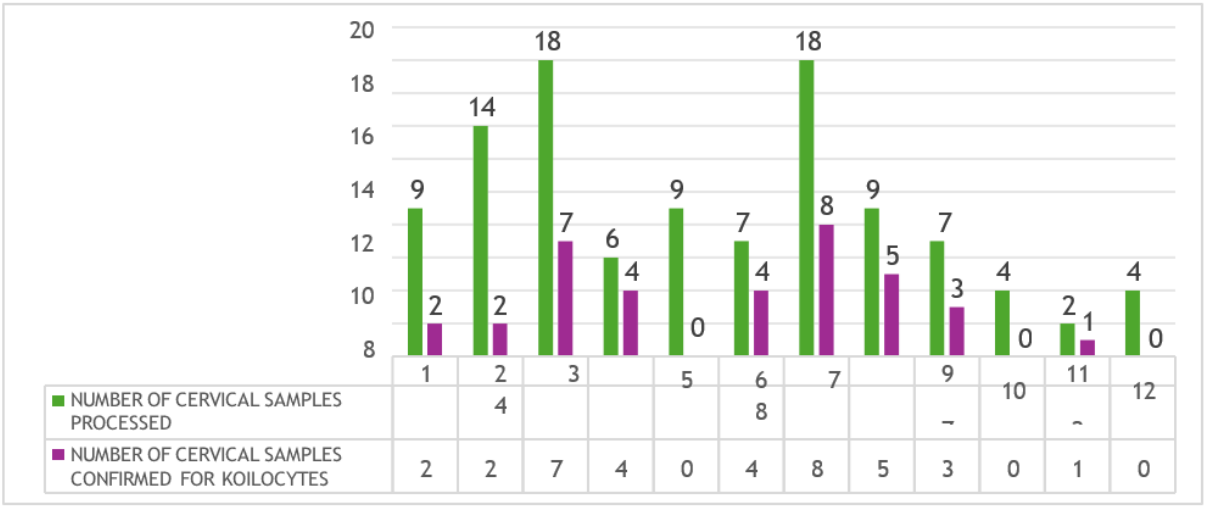

Figure 1: Number Of Cervical Samples Processed Versus Confirmed Cervical Koilocytes (Cervical Cancer Indication) Cases.

Hypothesis 2

- **H0:** There is no significant difference among oncology clinic attendees that had knowledge awareness in the cervical cancer and those that had no knowledge awareness of cervical cancer among same group of patients.
- **Ha:** There is significant difference among oncology clinic attendees that had knowledge awareness in the cervical cancer and those that had no knowledge awareness of cervical cancer among same group of patients

Table 4: Cervical cancer knowledge awareness analysis among sampled oncology patients.

DESCRIPTION OF CONCERNED AWARENESS	Synopsis	Awareness level %	Synopsis	Non-Awareness level %
Early detection of cervical cancer involves regular pap's smear examination and HPV types detection	C1	70	N1	30
Early HPV Vaccination awareness among teenagers young ladies below	C2	80	N2	20
Human Papilloma Virus -as the meaning of HPV	C3	75	N3	25
Serious and rigorous HPV early Vaccination program in Nigeria	C4	10	N4	90

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DESCRIPTION OF CONCERNED AWARENESS	Synopsis	Awareness level %	Synopsis	Non-Awareness level %
High rates of out of pocket payment among oncology patients with cervical cancer	C5	82	N5	18
Cervical cancer could metastisize	C6	90	N6	10
Keeping multiple sexual partners is one of the risk factors of cervical cancer	C7	100	N7	100
Wart inducing virus is the common name for HPV	C8	100	N8	0
Nigeria falls as one of the least countries in the world that show lukewarm attitude in early HPV vaccination and prevention programs	C9	95	N9	5
HPV Types 16 and 18 are the most relevant in the cervical cancer development	C10	80	N10	20
Koilocytes detection are used as diagnostic means of HPV in Pap's smear examination	C11	70	N11	30
HPV detection in women is from > 35 years and above in women	C12	100	N12	0
Age range for the commencement of cervical cancer HPV Vaccination <15 years and above for young and old women	C13	100	N13	0
Government enforcement of HPV education on all adults oncology and non oncology female patients especially	C14	100	N14	0
Examples of silent cancers are cervical , colorectal, ovarian and lung cancers	C15	75	N15	15
There must be compulsory cervical screening for all women	C16	95	N16	05
Religious bias opposes compulsory breast screening	C17	100	N17	0
Advocacy for full Government financing of breast cancer management is a must	C18	100	N18	0
Advocacy for cervical cancer management in various hospitals is a must for National Health Insurance Scheme	X19	100	N19	0
Establishing oncology centers of excellence in all the thirty six states of the federation is a task that must be accomplished and endorsed by the government	C20	100	N20	0

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DESCRIPTION OF CONCERNED AWARENESS	Synopsis	Awareness level %	Synopsis	Non-Awareness level %
Free specialist training in the fields of oncology for more health care providers is also a task that must be accomplished and endorsed by the government	C21	100	N21	0
Government advocating for full scale financing of all types of cervical cancers and other cancers	C22	0	N22	100
Immediate relieve by government of oncology patients from the heavy financial burden of cervical cancer from out of pocket expenses through complete saddling and shouldering of such responsibilities on National Health Insurance Scheme NHIS	C23	0	N23	100
Government establishing oncology centers of excellence in all the thirty states of the Nigerian Federation	C24	0	N24	100
Free training for all current and future intending health care providers in oncology throughout the health institutions in the Nigerian federation	C25	0	N25	100
Total		1882		768
Mean		75.28		30.72
Variance, SD^2		1047.79		1601.29
Standard deviation, SD		32.37		40.02
COMBINED VARIANCE , SD^2		1047.79+1601.29/48 =55.19,		
SD		√ 55.19 =7.43		SD= 7.43
Standard Error, SE AT 48 DEGREES OF FREEDOM		SD √ 1/NI +1/N2 = 7.42 √ 1/25 +1/25 = 7.42√0.08 2.09		SE= 2.09
T48 = MEAN OF NON AWARENESS- MEAN OF AWARENESS / SE		30..72 -75.28 /2.09 = - 21.3 -44.56/10.19 = - 21.3		T48 = -21.3
T 48 TAB , 2.02 < T48 CAL , 21.3 for two way test	**LEVEL OF AWARENESS OF KNOWLEDGE ON CERVICAL CANCER IS SIGNIFICANTLY HIGHER THAN NON- AWARENESS LEVEL AMONG PATIENTS ATTENDING ONCOLOGY**			

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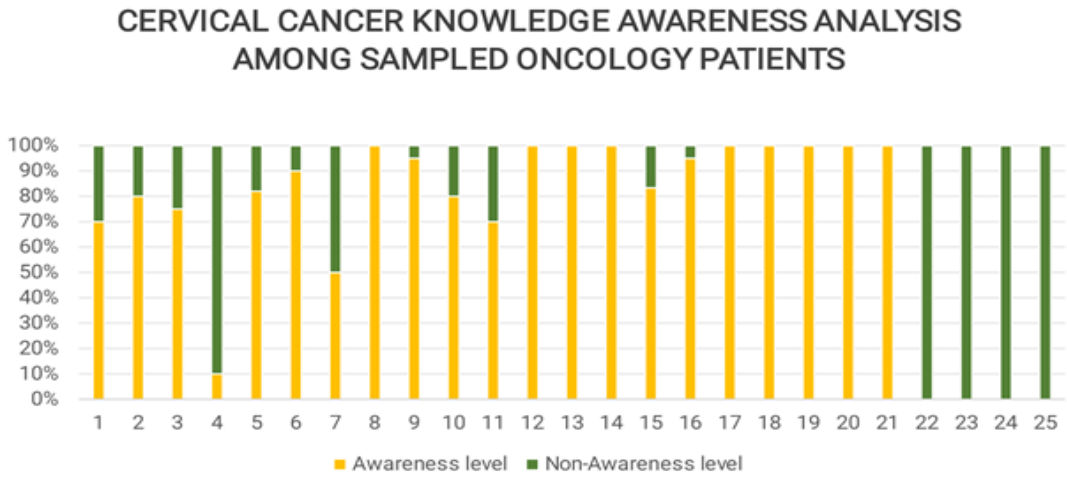
DESCRIPTION OF CONCERNED AWARENESS	Synopsis	Awareness level %	Synopsis	Non-Awareness level %
	CLINICS AT THE NATIONAL HOSPITAL ABUJA, P< 0.05 (95% CONFIDENCE LIMITS.)			

Ha: Level of awareness of knowledge on cervical cancer is significantly higher than non-awareness level among patients attending oncology clinics at the national hospital Abuja. We had no enough reason/evidence to reject the alternative hypothesis, hence it was retained.



4. Discussion

A Papanicolaou stained cervical sample smear from a patient was confirmed positive for cervical cancer if it showed the presence of Koilocytes using x100 oil immersion objective of the binocular microscope. From January to December we prospectively assayed the following quantities of cervical smear samples, 9, out of which 2 were koilocyte positive. In February, we assayed 14 samples in which 2 were positive for cervical cancer. In March, we assayed 18 samples in which 7 were positive for cervical cancer. In April, we assayed 6 samples in which 4 were positive for cervical cancer. In May, we assayed 9 samples in which none were positive for cervical cancer. In June, we assayed 7 samples in which 4 were positive for cervical cancer. In July, we assayed 18 samples in which 8 were positive for cervical cancer. In August, we assayed 9 samples in which 5 were positive for cervical cancer. In September, we assayed 7 samples in which 3 were positive for cervical cancer. In October, we assayed 4 samples in which none were positive for cervical cancer. In November, we assayed 2 samples in which 1 was positive for cervical cancer. In December, we assayed 4 samples in which none was positive for cervical cancer.

The annual incidence rate of cervical cancer among the oncology patients were far lower than the incidence of non-cervical cancer cases as we obtained values of 33.6% for cervical cancer. The calculated t test value was also lower for cervical indicating high level of significance of difference between lower incidences of confirmed cases of cervical cancer and non-cervical cancer cases that were higher in number at 95% confidence levels ($P < 0.05$). These findings agreed perfectly with the work of other workers on cervical cancer and that of Ajayi., et al. 2019 and the paper of Jedy Agba., et al. 2015.

5. Conclusion

We advanced the reasons for these findings on the levels of awareness and non-awareness of cervical cancer, and also the extent of efforts by various stakeholders at early detection strategies. The extent of early HPV vaccination strategies/interventions for cervical cancer and free Papanicolaou smear screening for women at risk and

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even those not at risk of cervical cancer, had played a principal/major role in drastically reducing its annual incidence rate.

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