

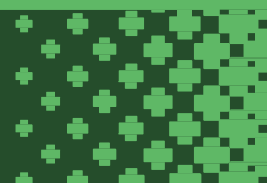


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# DOMAIN HEALTH JOURNAL

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## Editorial

BY PROF (MRS) ESE ANIBOR

EDITOR-IN-CHIEF



WELCOME TO THE INAUGURAL ISSUE OF DOMAIN HEALTH JOURNAL. ONE IS THRILLED TO LAUNCH A VENUE WHERE CLINICIANS, RESEARCHERS, AND POLICY-MAKERS CAN SHARE CUTTING-EDGE INSIGHTS THAT SHAPE THE FUTURE OF HEALTH. DOMAIN HEALTH JOURNAL CELEBRATES ITS MAIDEN ISSUE WITH A PROMISE OF OPEN-ACCESS, HIGH-QUALITY RESEARCH AND GLOBAL COLLABORATION. THE GOAL IS TO BREAK DOWN PAYWALLS AND BRING THE BEST EVIDENCE TO ANYONE WHO NEEDS IT—ESPECIALLY THOSE IN LOW-RESOURCE SETTINGS WHERE KNOWLEDGE CAN CHANGE LIVES. IN THIS FIRST EDITION YOU'LL FIND ORIGINAL RESEARCH THAT SPANS EPIDEMIOLOGY, INNOVATIVE CLINICAL PRACTICE, AND HEALTH-SYSTEM MANAGEMENT—ALL RIGOROUSLY PEER-REVIEWED AND FREELY AVAILABLE. THE EDITORIAL BOARD BRINGS TOGETHER LEADERS FROM EVERY CONTINENT, GUARANTEEING A TRULY INTERNATIONAL PERSPECTIVE AND A

RAPID, TRANSPARENT REVIEW PROCESS. HUGE GRATITUDE GOES TO OUR AUTHORS, REVIEWERS, AND THE BROADER HEALTH-COMMUNITY FOR TRUSTING US WITH THEIR WORK. TOGETHER WE'LL NURTURE NEW IDEAS, ELEVATE PATIENT CARE, AND SET NEW STANDARDS FOR HEALTH PUBLISHING.



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**Research Article****PREVALENCE OF PREAURICULAR SINUS AMONG THE URHOBOS IN ABRAKA, DELTA STATE, NIGERIA.**

EKPE FO

DEPARTMENT OF ANATOMY AND CELL BIOLOGY, DELTA STATE UNIVERSITY, ABRAKA, DELTA STATE, NIGERIA.

CORRESPONDING AUTHOR: EKPE FO

EMAIL: [ekpefavour104@gmail.com](mailto:ekpefavour104@gmail.com).

GSM: +2348137727280

**Article Information****KEYWORDS:**

- Prevalence,
- Preauricular,
- Sinus,
- Urhobo,
- Abraka.

**ABSTRACT**

**AIM:** This study was carried out to determine the prevalence of preauricular sinus among the Urhobos in Abraka, Delta State, Nigeria.

**MATERIALS AND METHODS :** This cross-sectional study considered 384 Urhobo subjects aged 18-65 years, from Abraka, Delta State, Nigeria. Ethical approval was obtained from the Research and Ethics Committee of the Faculty of Basic Medical Sciences, Delta State University, Abraka. A questionnaire was utilized for the data collection. Data analysis was performed using SPSS (Statistical Package for the Social Sciences), version 25. Any p-value lesser than 0.05 was considered statistically significant.

**RESULTS :** The study sample consist of 192 males subjects and 192 female subjects within the age range of 18-65 years and mean age of 31 years. The prevalence of preauricular sinus is 8.3% in the studied populace. Association of the occurrence of preauricular sinus between relatives is significant ( $p= 0.000$ ).

**CONCLUSION :** Unilateral manifestation of preauricular sinus is more common than bilateral manifestation among the Urhobos in Abraka, Delta State, Nigeria. The prevalence rate of preauricular sinus is low in the studied populace.

**INTRODUCTION**

Preauricular sinus (PAS), also referred to as ear or preauricular pit/fistula is a common, benign, congenital malformation characterized by a nodule, dent, or dimple located anywhere adjacent to the external ear (Cho et al., 2020). The trait may lead deeply to an epithelial-lined cyst (Yu et al., 2016). It is a congenital defect that originates during embryonic development and it typically appears near the front boundary of the ascending limbs of the external ear's helix (Aremu and Omotosho, 2018). Preauricular sinus can vary in size, ranging from a small dimple to a larger sinus and can be inherited in an autosomal dominant pattern.

The formation of preauricular sinus is strongly linked to the development of the auricle, which arises from six mesenchymal

proliferations of the first and second branchial arches during the sixth week of gestation (Song-Hwan et al., 2018). It is caused by the incomplete fusion of His hillocks in the first and second branchial arches (Yuan et al., 2023). Unfortunately, there are no preventive measures of congenital PAS as a consequence of disorders of individual chains of embryogenesis (Tkachenko et al., 2020).

Preauricular sinus can occur also in conjunction with specific hereditary diseases, such as Branchio-Oto-Renal (BOR) syndrome, though this conjunction does not occur frequently (Weinberg., 2020). Researches have shown that individuals with ear pits are more likely to develop hearing loss and/or renal problems at certain ages, though there is no significant correlation between the ear pits and hearing loss (Nguyen et al., 2023). Ear pits may be seen unilaterally or bilaterally and it affects both genders equally. Preauricular sinus is frequently

asymptomatic, it can become infected thereby leading to chronic discharge in the ear, and recurrent infections. These are the most common reasons for their removal (Chris-Ozoko et al., 2016; Kim et al. 2019).

Several studies have been carried out on preauricular sinus among various populations, ethnic groups and countries (Adegbiyi et al., 2013; An et al., 2014; Lee et al., 2014; Aremu and Omotosho, 2018; Song-Hwan et al., 2018). These include a study carried out by Yu et al. (2016) in Canada, which revealed significant ethnic variation in PAS prevalence, with Asians having the highest rate of preauricular sinus. Sogebi and Oyewole (2021) conducted a facility-based study in Southwest Nigeria on adults' preauricular sinuses. They noted that majority of the cases were treatable using medications and only few required surgeries. Despite previous researches on prevalence of PAS, there is a significant gap in research on this condition within specific ethnic groups in Nigeria. There is a gap in knowledge of the prevalence, inheritance pattern, and impact on quality of life surrounding preauricular sinus in Urhobo ethnic group. This research aims to fill the gap by providing insights on the prevalence of preauricular sinus in the studied Urhobo population. The outcome of this research will guide Ear, Nose and Throat Surgeons. Forensic Scientists will also be guided by the outcome of this research.

## MATERIALS AND METHODS

Ethical approval was obtained from the Research and Ethics Committee of the Faculty of Basic Medical Sciences, Delta State University, Abraka in Nigeria. Informed consent was also obtained from the participants. Cluster sampling technique was used in this descriptive cross-sectional study to select 384 subjects (150 males and 234 females) between the ages 18 and 65 years. This study was carried out among the Urhobos at Abraka, Delta State, Nigeria. Only participants who resides at Abraka and are Urhobo up to 2 generations were included in the study. Subjects with deafness and other ear deformities were excluded from the study. Data was collected between the 24th of March and 12th of May, 2025 using a data sheet. All data were collected while the subjects were seated and medical gloves were worn for observation of the ear.

Data obtained from participants was recorded into Microsoft Excel and analyzed using the Statistical Package for the Social Sciences (SPSS), version 25.0. Data was presented in tables and expressed using frequency and mean. Chi-square test was done to check relationship between variables, ETA correlation was done to check correlation between age and presence of preauricular sinus. Any p-value <0.05 was considered significant.



**Figure 1:** Subject without preauricular sinus



**Figure 2:** Subject with preauricular sinus

## RESULTS

**Table 1: Mean Age of the Studied Subjects**

|                    | N   | Minimum | Maximum | Mean Standard Deviation $\pm$ |
|--------------------|-----|---------|---------|-------------------------------|
| <b>Age (years)</b> | 384 | 18      | 65      | 30.61 $\pm$ 12.44             |

Table 1 shows the mean age and standard deviation of the studied populace. The mean is 31 years and the standard deviation is 12 years.

**Table 2: Gender Distribution of the Studied Populace**

| Gender        | Frequency (%) |
|---------------|---------------|
| <b>Male</b>   | 192 (50.0)    |
| <b>Female</b> | 192 (50.0)    |

Table 2 shows the gender distribution of the studied populace. Equal number of male and female subjects participated in the study.

**Table 3: Prevalence of Preauricular Sinus in the Studied Populace**

| Preauricular sinus | Frequency (%) |
|--------------------|---------------|
| <b>Present</b>     | 32 (8.3)      |
| <b>Absent</b>      | 352 (91.7)    |

Table 3 shows that preauricular sinus was present in 32 (8.3%) of the studied sample and it was absent in 352 (91.7%) subjects

**Table 4: Prevalence of Preauricular Sinus in the Studied Populace by Gender**

|               | Preauricular sinus | Frequency (%) | p-value |
|---------------|--------------------|---------------|---------|
| <b>Male</b>   | Present            | 14 (7.3)      | 0.570   |
|               | Absent             | 178 (92.7)    |         |
| <b>Female</b> | Present            | 18 (9.4)      |         |
|               | Absent             | 174 (90.6)    |         |

Table 4 shows that the female subjects were more affected by preauricular sinus than males; however, this difference was not statistically significant ( $p = 0.570$ ).

**Table 5: Association of the Occurrence of Preauricular Sinus between Relatives**

|                | Frequency (%) | p-value |
|----------------|---------------|---------|
| <b>Present</b> | 32 (8.3)      | 0.000*  |
| <b>Absent</b>  | 352 (91.7)    |         |

Table 5 shows that there is a statistically significant association in the occurrence of PAS between relatives ( $p = 0.000$ ).

**Table 6: Association of the Occurrence of Preauricular Sinus between Parents and Offsprings**

|                 |         | Frequency (%) | p-value |
|-----------------|---------|---------------|---------|
| <b>Father</b>   | Present | 7 (7.3)       | 0.000*  |
|                 | Absent  | 89 (92.7)     |         |
| <b>Mother</b>   | Present | 9 (9.4)       | 0.000*  |
|                 | Absent  | 87 (90.6)     |         |
| <b>Son</b>      | Present | 7 (7.3)       | 0.000*  |
|                 | Absent  | 89 (92.7)     |         |
| <b>Daughter</b> | Present | 9 (9.4)       | 0.000*  |
|                 | Absent  | 87 (90.6)     |         |

Table 6 shows that statistically significant familial associations were observed with the occurrence of PAS ( $p = 0.000$ ).

**Table 9: Method of treatment for those with Preauricular Sinus**

| Method of treatment              | Frequency (%) |
|----------------------------------|---------------|
| <b>Antibiotics</b>               | 8 (2.1)       |
| <b>Antibiotics and Injection</b> | 1 (0.3)       |
| <b>Ear Drop</b>                  | 2 (0.5)       |
| <b>Nil</b>                       | 21 (6.3)      |

Table 9 shows the treatment methods used for subjects who had infected preauricular sinus. Antibiotics was the most commonly used treatment modality.

**Table 7: Location of Preauricular Sinus in the Studied Populace**

| Side             | Frequency (%) |
|------------------|---------------|
| <b>Right Ear</b> | 12 (3.1)      |
| <b>Left Ear</b>  | 11 (2.9)      |
| <b>Both Ears</b> | 10 (2.6)      |
| <b>Absent</b>    | 351 (91.4)    |

Table 7 shows that preauricular sinus occurred more on the right ear (3.1%), than left ear (2.9%), and both ears (2.6%).

**Table 8: Quality of life for those with Preauricular Sinus**

| Quality of life     | Frequency (%) |
|---------------------|---------------|
| <b>Affected</b>     | 9 (2.3)       |
| <b>Not Affected</b> | 24 (6.3)      |
| <b>PAS absent</b>   | 351 (91.4)    |

Table 8 shows that only 2.3% reported an affected quality of life due to the PAS; 6.3% were not affected.

**Table 10: Correlation between Age and Presence of Preauricular Sinus**

|     | Presence of Preauricular Sinus |       |
|-----|--------------------------------|-------|
| Age | Correlation                    | 0.190 |
|     | Sig.                           | 0.340 |

Table 10 shows that there is a weak positive correlation between age and presence of preauricular sinus. However, it was not statistically significant (correlation coefficient = 0.190,  $p = 0.34$ ).

## DISCUSSION

This study determined the prevalence of preauricular sinus among the Urhobo populace in Abraka, Delta State, Nigeria. The findings revealed a prevalence rate of 8.3%, suggesting that PAS, although a relatively uncommon congenital anomaly, exists at a notable rate in this ethnic set. This prevalence aligns moderately with global variations, which range from less than 1% in some Western populations to over 10% in parts of Africa and Asia (Lee et al. 2014; Yu et al. 2016; Weinberg, 2020). The rate observed here is consistent with prior Nigerian studies that also reported moderate prevalence in Nigerian ethnic groups (Aremu and Omotosho, 2018; Sogebi and Oyewole, 2021).

In terms of gender distribution, PAS was observed more in females (9.3%) than in males (7.2%). This result aligns with the findings of An et al. (2014), Lee et al. (2014) and Chen et al. (2020). The gender difference noted in the current study was not statistically significant ( $p = 0.570$ ). This is consistent with several earlier studies which show no consistent gender predilection, implying that sex may not be a strong determinant of PAS expression (Lee et al. 2014; Chen et al. 2020).

One of the most important findings in this study was the significant association between family history and the presence of PAS. Individuals with relatives (especially parents and siblings) who had PAS were significantly more likely to also have the condition ( $p < 0.001$ ). This supports existing literature that describes PAS as a hereditary condition often inherited in an autosomal dominant pattern with incomplete penetrance (Chen et al., 2020). The strong association observed among immediate family members (father, mother, son, and daughter) reinforces the genetic etiology of PAS in this population.

PAS was found more commonly in the right ear (3.1%), though not exclusively, as some cases involved the left ear and both ears. This aligns with known anatomical presentations, where unilateral right-sided PAS is more common than bilateral occurrences (Adegbiji et al. 2012; Yu et al. 2016; Sogebi and Oyewole, 2021).

Regarding clinical impact, the majority of individuals with preauricular sinus were asymptomatic, with only 2.3% of affected participants reporting that the condition had a negative impact on their quality of life. This finding is consistent with previous literature, which noted that PAS is often clinically silent unless complicated by infection. Among those who received treatment, antibiotics were the most commonly used interventions (2.1%), indicating that infections were likely mild and managed conservatively. These patterns support the understanding that most PAS cases are benign and do not necessitate aggressive medical or surgical intervention unless symptomatic (Rataizak et al. 2017; Ding et al. 2019; Knipe et al. 2025).

No significant correlation was found between age and the presence of PAS ( $r = 0.190$ ,  $p = 0.340$ ), supporting the view that PAS is a congenital condition with stable occurrence across age groups, not acquired later in life (Aremu and Omotosho., 2018).

Overall, this study provides valuable epidemiological data on PAS among the Urhobos, reinforcing its congenital and hereditary nature and highlighting its generally benign clinical course. These findings suggest the need for increased awareness, especially in families with history of PAS. This enlightenment can contribute to early detection and genetic counseling.

## CONCLUSION

The prevalence rate of preauricular sinus is low in the studied Urhobo populace. Unilateral manifestation of preauricular sinus is the most prevalent form. Preauricular sinus is substantially heritable among Urhobo subjects. There is no significant association between age, as well as gender and the occurrence of preauricular sinus.

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## News

Checkout health headlines that dropped in June 2025:

- COVID-19 “Summer Surge” – Several countries, including Nigeria, saw a modest uptick in cases driven by the new Omicron-X subvariant. Vaccination campaigns were ramped up, with a focus on booster shots for seniors and immunocompromised folks.
- Mpox vaccine rollout – The WHO approved a second-generation mpox vaccine for emergency use. Nigeria began a targeted rollout in high-risk states, aiming to vaccinate 1 million people by year-end.
- Gene-editing breakthrough – A team in the UK reported successful CRISPR-based treatment for sickle-cell disease in a Phase II trial. The therapy is now moving toward regulatory review in the EU and US.
- Obesity drug hype – A new GLP-1 agonist, “Lira-Fit,” hit the market in the US and Europe, sparking both excitement and supply-chain worries. In Nigeria, the drug is still under review, but there’s buzz about potential import options.
- Mental-health tech – A Nigerian startup, “MindPulse,” secured \$12 million in funding to expand its AI-driven counseling platform, which now offers services in English, Hausa, Yoruba, and Igbo.
- Air-quality and health – The Lancet published a study linking long-term exposure to particulate matter (PM2.5) in Lagos to a 15 % increase in cardiovascular events. The Nigerian government announced plans to upgrade monitoring stations and enforce stricter emissions standards.



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Written consents of the use of patient's images in form of

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**Abstract:** Abstract of original research should be structured with objectives, materials and methods, results and conclusions briefly stated and not more than 400 words. Abstracts of case reports should not be structured but should briefly describe the case(s) reported, highlighting the unique features, treatment method employed, and conclusions drawn. The abstract page should bear 4-5 key words and a short running title of no more than 40 characters.

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**Introduction:** Should be brief and end with a statement of the objective of the study. A review article should be a major didactic article that clarifies and summarizes the exhaustive review of the literature.

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**Results:** Results should be presented in a logical sequence in the text of the manuscript. Repetition of data in the text and in the tables should be avoided. Emphasis should only be on important observations.

**Discussion:** Repetition of results should be avoided. Rather, there should be analytical discussion of the implications of the results and other observations as related to the study.

**Conclusion:** This should be an objective summary of the most important findings in response to the specific research question or hypothesis. A good conclusion states the principle topic, key arguments and counterpoint, and might suggest future research.

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Reference to an article: Anibor E, Okobiah R. Photometric analysis of the facial angle of the Igbo in Nigeria. *Afr J Cell Pathol.* 2014; 2(1):1-6.

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Reference to a report: Guidelines for self-care in oral health. Copenhagen: World Health Organisation 1988, publication no. ICP/ORH 113.

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All correspondences advertising and submission of manuscripts should be addressed to: Prof (Mrs) E. Anibor, Editor-in-Chief, Domain Health Journal, Department of Human Anatomy and Cell Biology, Faculty of Basic Medical Sciences, College of Health Sciences, Delta State University, PMB 1, Abraka, Nigeria. E-mail: [ese.anibor@domainjournals.com](mailto:ese.anibor@domainjournals.com) Phone number: +2349156263372.

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