ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) Vol. 10, Issue 8, August 2023

Ear Lobe Patterns Comparison among Males and Females of Madhya Pradesh

1Ishika Chakraborty,2Pinky Nishad, 3Anamika Sharma.
1 Student, Department of Forensic Science,Institute of Sciences, Sage University, Indore, India.
2 Assistant Professor, Institute of Sciences, Sage University, Indore, India.
3Assistant Professor, Institute of Sciences, Sage University, Indore, India.

Abstract**:** Ear lobes are the soft, rounded fleshy part hanging from the lower margin of the ear. In ear lobes we observed two different types which are attached lobes and free lobes. So the purpose of conducting this research is to observe the comparison between types of lobes between male and female and find out the percentage between free and attached lobes. Ear lobe plays a very vital role for individualization between each and every individual. This also helpful in forensic perspective for identification of the suspect because every person have different shaped ears and different ear patterned lobes. This observation comes under somatoscopic examination. For conducting this study of comparison between male and females via ear lobes we collect 80 samples which are divided in a manner like – 40 from females and 40 from male. Here we observe the outer pattern of ear which is ear lobe and concluded the research. This research was conducted at Indore, Madhya Pradesh, India at the month of April. The samples were taken between age group of 19 – 22 years.

Keywords: lower margin, ear lobes, comparison, patterned, suspect, individualization, identification, forensic, somatoscopic examination.

I. INTRODUCTION

Forensic Science is the application of science which uses the scientific methods or expertise to investigate crimes, examine evidences for law and legal purpose. Forensic science used in both civil and criminal cases. Forensic science includes different branches like forensic ballistic, forensic toxicology, forensic biology and serology, forensic anthropology and many more. Here we majorly lfocus on forensic anthropology. Forensic Science is important because forensic scientists is responsible to examine &analyze evidences from crime scenes and other places that helps to connect a link between criminal and victim and develop objective findings that can assist in the investigation which helps in solve crime by using various scientific methods. Not only with the biological fluids but with the skeletal remains we can find the clue and find the culprit of the respective crime and it is also useful for the individualization of the person. Here we mainly focus on forensic anthropology.

Forensic Anthropology:-

Anthropology is the scientific study of humanity, concerned with human behaviour, human biology, cultures, societies, and linguistics. Forensic Anthropology is the examination of human skeleton remains for law enforcement agencies to help with the recovery of human remains, determine the identity of unknown human remains. Forensic anthropology includes somatoscopic and somatometric studies which is helpful for identification of human beings.

aSomatoscopic Examination:

Somatoscopic examination is the description of human morphological traits which are not indicated by measurements. Somatoscopy is made with two words i.e., soma means body and scope means observation. Here we include hair, eye slit opening, forehead study, eye colour, nose, ear shape and patterns, etc. In this we don't need any instrument to study the human being, by looking the person we differentiate it.

b.Somatometric Examination:

Somatometric Examination is the systematic technique to measure living body including head and face. The measurement includes different kinds, such as linear measurement, girth measurement, skinfold measurement, weight measurement, etc. It measures the whole body in different parameters like head measurement is divided into three sub categories which is head height, maximum head length, and maximum head breadth. Also it includes Morphological Facial Height or Total FacialHeight, Nasal height and breadth, Ear length and breadth and so on.

II. SOMATOSCOPIC EXAMINATION:-

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) Vol. 10, Issue 8, August 2023

Somatoscopy means observation of body. It refers to qualitative expression of human body whether alive or dead based on visual observation of morphological traits. It belongs amongst all basic methods which is used to study biological variability in human beings, that's why it is used in forensic anthropology, forensic medicine and other forensic fields. Somatoscopic examination includes hair, eye, nose, and ears. In hair we observe hair form [straight, flat, wavy, broad wavy, curly, pepper corn, spiral, fizzle], hair texture etc. In eye we observe it's color, eye fold, slit opening,, etc. In nose we go through with Nasal root, Nasal Bridge, and Nasal septum. And in ear it will be its shape and types of ear lobes in it.In this research we observe one of its somatoscopic examinations which is ear. Ear, if we talk about ear so it is an organ which is used to detect sound and further analyze it. Ear lobes are a soft, rounded fleshy part hanging from the lower margin of the ear. In case of somatoscopic view, ear lobe plays an important role in illustrating basic gundi's. On the basis of attachment of ear lobes to cheek skin, ear lobes can be divided into two categories that are:

i. Free Lobe
ii.Attached Lobe

i. Free ear lobes:-

Also called unattached ear lobes. These are the most common types of ear lobes. Earlobes that curve up between the lowest point of the ear lobe and the point where joint the head are known as ear free ear lobes. It hangs below the point of attachment to the head.

ii. Attached Ear Lobes:-

These are those earlobes which are directly attached with the side of the head. Attached lobes are not commonly seen. These are formed due to the absence of dominant allele and presence of recessive allele.

Fig.1 Few Samples of Males and Females

III. Procedure for Conducting Research:-

• AIM:

To study the comparison between male and female by examining their ear pattern lobes and find out the ratio between both ear lobes and prepare a graph and find the ratio of ear lobe patterns in a population.

• Materials Required:

80 sample photos was used which is divided in a manner like 40 ear samples of male, and 40 ear samples of females between age group of 19 to 22 years at Indore, Madhya Pradesh, India.

•Procedure:

i. For conducting the research, firstly we collect 40 samples of ear for males, and 40 samples of ear from females from Indore.
ii. Now take the photographs of the sample and observe their ear lobe pattern like whether they are free ear lobes and attached ear lobes.
iii. After identifying the type of ear lobe, make an observation table and write down the observations which we have observed by examining the samples.
iv. After preparing the observation table, now pie charts was formed and it was prepared in three parameters.
v. The samples were taken between age groups of 19 to 22 years of people at Indore.

IV. Observation Table:-

I. Observation Table for Male:

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology
(IJARTET) Vol. 10, Issue 8, August 2023

SAMPLES OF MALES			
S.No.	**Sample**	**Attached Lobes**	**Free Lobes**
1	1		Present
2	2		Present
3	3		Present
4	4		Present
5	5		Present
6	6		Present
7	7	Present	
8	8		Present
9	9	Present	
10	10		Present
11	11		Present
12	12		Present
13	13		Present
14	14		Present
15	15		Present
16	16		Present
17	17		Present
18	18		Present
19	19		Present
20	20		Present
21	21		Present
22	22		Present
23	23		Present
24	24		Present
25	25		Present
26	26	Present	
27	27	Present	
28	28	Present	
29	29		Present
30	30		Present
31	31		Present
32	32	Present	
33	33	Present	
34	34		Present
35	35		Present
36	36	Present	
37	37		Present
38	38	Present	
39	39		Present
40	40	Present	

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) Vol. 10, Issue 8, August 2023

II. Observation Table for Female:

SAMPLE OF FEMALES			
S.No.	**Sample**	**Attached Lobes**	**Free Lobes**
1	1	Present	
2	2		Present
3	3		Present
4	4		Present
5	5		Present
6	6	Present	
7	7	Present	
8	8		Present
9	9		Present
10	10		Present
11	11		Present
12	12		
13	13		
14	14	Present	
15	15		Present
16	16		Present
17	17		Present
18	18	Present	
19	19		Present
20	20	Present	
21	21		Present
22	22		
23	23		
24	24	Present	
25	25		
26	26	Present	
27	27		
28	28		
29	29		Present
30	30		Present
31	31		Present
32	32		Present
33	33		Present
34	34		Present
35	35		
36	36		
37	37		
38	38		Present
39	39		
40	40	Present	

V. Graph:

i. Individual Calculation for Male & Female.

FOR MALES-

a. Here from 40 samples, 30 are with free lobes and rests 10 are attached lobes.

b. Out of every 20 males in a population 5 are with attached lobe and 15 with free lobes.

Fig.2 Man Different Ear Lobe Pattern

FOR FEMALES –

a. Here from 40 samples 31 are with free lobes and rest 9 are attached lobes.

b. Out of every 19 females in a population 4 are with attached lobe and 15 with free lobe.

Fig.3Woman Different Ear Lobe Pattern

ii. Average for Male & Female:

AVERAGE FOR MALE-

Out of 40 samples it is reported that 20 are attached lobes and 20 are free lobes in a population.

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) Vol. 10, Issue 8, August 2023

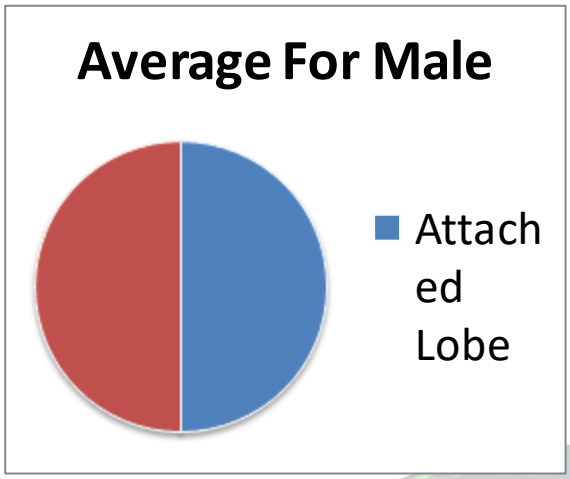

Fig.4 Average for Males

AVERAGE FOR FEMALES -
Out of 40 samples it is reported that 20 are attached lobes and 20 are free lobes in a population.

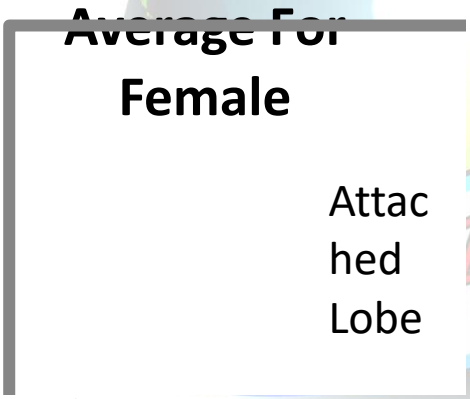

Fig.5 Average for Females

iii. Total Average of a Population:
Out of 80 people population, it is observed that 20 are attached lobes and rests 60 are free lobes.

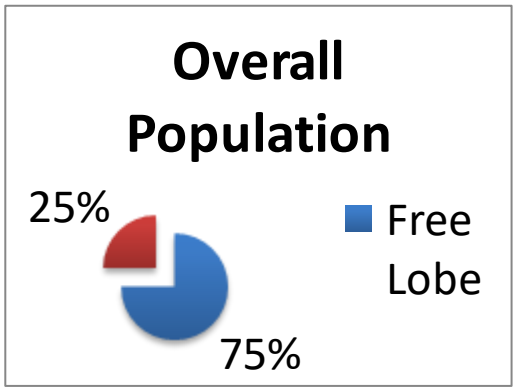

Fig.6 Total Average of a Population

VI. Conclusion:-
By conducting the following research which stated presence of free ear lobes and attached ear lobe to the samples , it concluded that free ear lobes was found more in number as compared to the attached ear lobes. This research was conducted in the month of April at Indore, Madhya Pradesh,India and the samples were collected at the age group of people between 19 – 22 years. In males out of 40 samples; 10 are attached ear lobes and 30 are free ear lobes, in females out of 40 samples; 31 are free ear lobes and 9 are attached ear lobes. Also we found out the average of males and average of females in which males and females have same ratio stated 20 are attached lobes and 20 are free lobes. We also concluded a calculation in average between the overall population and the result which comes out is out of 80 sample population ; 60 samples are free lobes [75%], and 20 are attached ear lobes[25%]. All the calculations and observation are portrayed in observation table followed by preparing pie charts. At the end after studying all the parameters it is concluded that free ear lobes pattern act as a dominant character in the population and attached ear lobe pattern act as a recessive character in the following population.

VII. Result:-
From the above research it is concluded that the percentage of free ear lobe pattern was more and the percentage of female ear lobe was less. Hence, we can say that the free ear lobe act as a dominant character and the attached ear lobe act as a recessive character here. Also in females we found more free ear lobe patterns and less attached ear lobe pattern and for the males same ratio came and if we talk about overall whole population so we observed greater number of free ear lobes and less number of attached ear lobes.

References

1. https://www.sciencedirect.com/science/article/abs/pii/S0379073808000984
2. https://images.app.goo.gl/1NGtH5Zei3Dg4jJA
3. https://behindthechair.com/articles/texture-breakdown-understanding-your-clients-curl-pattern/amp/
4. https://www.researchgate.net/publication/313866284_Inheritance_Pattern_of_EarlobeAttachment_amongst_Nigerians
5. https://ejfs.springeropen.com/articles/10.1186/s41935-019-0111-0
6. https://www.researchgate.net/publication/320587674_A_Preliminary_Study_on_Frequency_Distribution_Inheritance_Pattern_of_Different_Characteristics_of_Ear_among_Population_of_Moth_Region_of_Jhansi_District
7. https://ijcrr.com/uploads/4201_pdf.df
8. https://cyberleninka.org/article/n/1359189.pdf
9. https://www.researchgate.net/publication/268063 21_Observations_of_external_ear-An_Indian_study
10. https://www.researchgate.net/publication/6250968_Morphometric_study_of_ear_lobule_in_northwest_Indian_male_subjectsenrichId=rgreq05d1879800b9be6c5569d2cfd1321112XXX&enrichSource=Y292ZXJQYWdlOzYyNTA5Njg7QVM6NTg4Mzg1NTEzMTI3OTM2QDE1MTcyOTM0NDY3NjM3D&el=1_x_2&_esc=publicationCoverPdf
11. https://www.news-medical.net/amp/health/Genetics-of-Earlobes.aspx
12. https://www.pnrjournal.com/index.php/home/article/download/5365/6448/6591
13. https://www.academia.edu/download/33414548/1.ISCA-RJFS-2013-010.pdf
14. https://gsconlinepress.com/journals/gscarr/sites/default/files/GSCARR-2021-0116.pdf