



**AWARENESS ABOUT GENETIC TESTING, SCREENING & ENGINEERING  
AMONG DENTAL STUDENTS IN CHENNAI**

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**ABSTRACT**

**Aim:** To spread awareness and to understand individual's opinions on the topic of genetic testing, screening and engineering through a conducted survey/questionnaire.

**Materials and Methods:** Formulation and distribution of a survey/ questionnaire about genetic testing, screening and engineering within the age groups from 18-49.

**Results:** Many individuals who have taken part in the survey had contributed to the various results which was collected:

70% did not consider having their genetic profile analyzed to learn if you are susceptible to diseases. Due the fact of many people not considering to get their genetic profile analyzed, 91% of the individual's of a group of 40 people have never undergone any type of genetic testing. 60%; being the leading cause, have never given it thought or never thought about undergoing genetic testing & 32%; being the second leading cause, have answered cost as a reason for why they have not been tested. The most commonly asked question, of who should have access to the individual's genetic information besides the doctor, resulted in 70% being themselves & 25% being family members.

**Conclusion:** From a controlled group of 40 people ranging from the age groups 18-49, a survey/ questionnaire was conducted to obtain individuals opinion on the topic genetic testing, screening and engineering. Based on the results gathered, I was able to conclude that from the people who have answered the survey, more than half the individuals have never taken part in genetic testing due to factors, such as lack of knowledge on the subject or due to their financial status. In addition, fear of personal information being leaked has created a colossal amount of individuals who would rather want to keep this information personal rather than having it revealed to others. In conclusion genetic testing, screening and engineering is a growing field in science which many people in today's society have never given it much thought or are unaware of the science behind it and this must rapidly be changed in the near future.

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**INTRODUCTION**

Over the course of several years, there have been many advances in the genetic field of study. Genetic testing, screen and engineering has enabled researchers around the globe to detect various inherited traits, diagnose heritable conditions, to determine the likelihood for an individual to develop or inherit a disease and many more. [1] Today's knowledge on the field of genetics was directed by the collected results of the Human Genome Project, which was a thirteen-year international race that begun in 1990 by the United States Department of Energy and the National Institutes of Health. Their ultimate target was to map and sequence the genome in

its entirety. [4] Due to their astonishing achievements, the availability of genetic testing, screening and engineering has been one of the most immediate applications to rise in the research ground and the world. Many people may have the question, what exactly is a 'genetic testing, screening and engineering' in the twenty first century. The genetic test is the analysis of the DNA (Deoxyribonucleic acid), and the RNA (Ribonucleic acid), mutations, chromosomes, proteins, etc., for the purpose of both treatment and diagnosis. [2] Genetic tests are usually performed by when the blood is drawn for a blood sample and when then DNA is extracted from white blood cells. [1] Many individuals do not understand the various detections that can be found through genetic testing which are detection of mutations at chromosomal level. This can include additional, rearranged or absent of chromosomal material, or be abnormalities in the sequence such as substitution in one of the bases. [3] There are wide-

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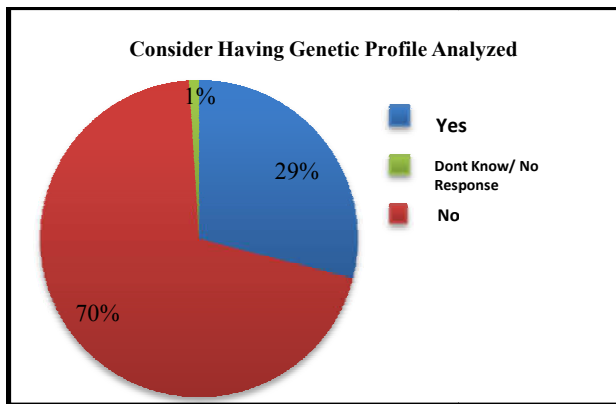
ranging of techniques that are used for genetic testing though out the many years where science has been involving. Genetic tests have created a purpose where they can screen and diagnosis of genetic disease in adults, children and even newborns. These techniques can also identify future health risks which the individual can uptake, prediction of drug responses and can benefit by aiding the risks to future children. [4]

**MATERIALS AND METHODS**

The study to evaluate knowledge and attitude of genetic testing, screening and engineering which was carried out among the general public in Saveetha Dental College and Hospitals. The targeted population for the study was forty subjects within the age groups of 18-49. In this study, there was a formulation and distribution of a survey/ questionnaire, which was conducted to test not only their experiences but also their personal opinions about the subject.

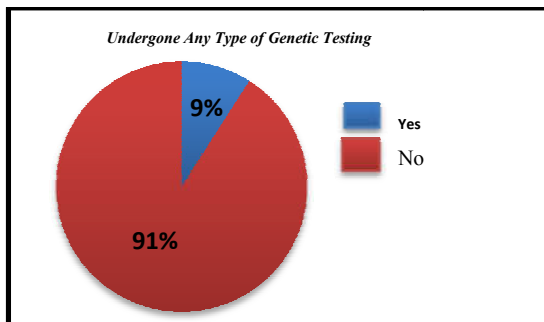
**RESULTS**

By this study I came to comprehend that the public were prone to different opinions on the subject. Each and every subject commented on the fact that this was an area of un-dug knowledge. Though many are aware of genetic testing, screening and engineering, they are not educated about the disadvantages and advantages. Many individuals who have taken part in the survey had contributed to the various results that were collected. I came to understand that around 70% did not consider having their genetic profile analyzed to learn if they are susceptible to diseases (Graph 1).



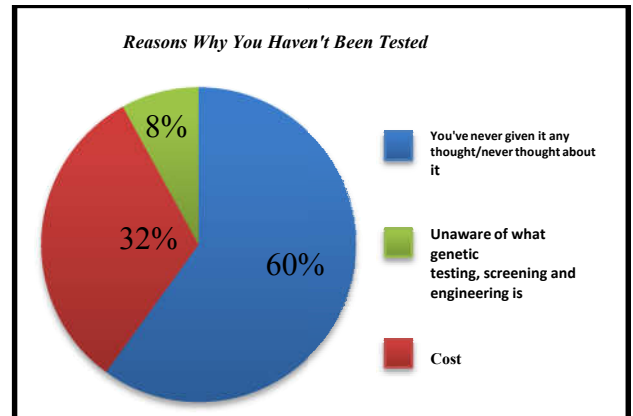
**Graph 1** Analysis of Genetic Profile

Approximately 91% of the individual's of a group of 40 people have never undergone any type of genetic testing. This is due to the fact that many people have not considered getting their genetic profile analyzed for personal, religious and other reasons (Graph 2).



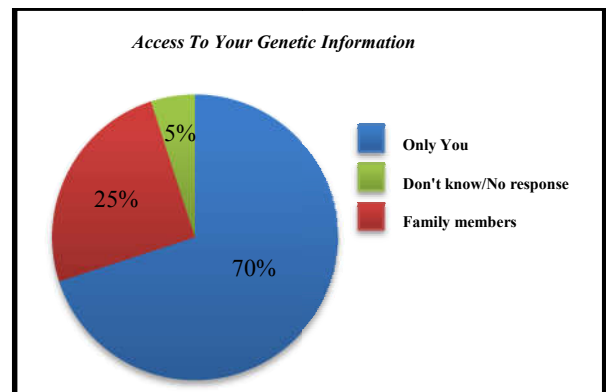
**Graph 2** Undergone Genetic Testing

60%, being the leading cause, of the subjects that took on the survey have never thought about undergoing genetic testing, screening and engineering where as 32%, being the second leading cause, have answered in the survey that cost was a reason for why they have not been tested (Graph3).



**Graph 3** Reasons behind not been tested

Many questions are asked when it comes down to personal information being shared by the individual or a patient. The most commonly asked question, of who should have access to the individuals genetic information besides the doctor, resulted in 70% being themselves where as 25% ended up being family members (Graph 4).



**Graph 4:** Access to Genetic Information

**DISCUSSION AND CONCLUSION**

As I targeted a controlled group of 40 people ranging from the age groups 18-49, a survey/ questionnaire was conducted to obtain individuals opinion on the topic genetic testing, screening and engineering. Based on the results gathered, I was able to conclude that from the people who have answered the survey, more than half the individuals have never taken part in genetic testing due to factors, such as lack of knowledge on the subject or due to their financial status. In addition, fear of personal information being leaked has created a colossal amount of individuals who would rather want to keep this information personal rather than having it revealed to others. In conclusion genetic testing, screening and engineering is a growing field in science which many people in today's society have never given it much thought or are unaware of the science behind it and this must rapidly be changed in the near future. [5][6][7]

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