



THE INVESTIGATIVE APPROACH OF NARCO-ANALYSIS AND ITS ETHICAL DILEMMAS

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Abstract : Narco Analysis is a diagnostic and cathartic technique employed primarily for investigative purposes with the help of psychotropic drugs. Drugs that are often used in the analysis are barbiturates which induce a sense of instability or stupor but causing the mental conditions to become very active. This is carried out to a stage where it can be used by the therapist to extract out information from the victim or accused. Narco-analysis has a long history with major developments in order to make it less harmful and more beneficial. It has been used for solving various criminal cases in the past and is still quite prevalent in order to gain investigative leads. But no diagnostic approach involving the use of drugs can be entirely ethical. Ethical dilemmas like it not being 100% accurate and the invasion of privacy of the test taker. Thus, it is still not admissible in the court of law as evidence. This review paper will focus on the concept of narco analysis, its approach in investigation and the pros and cons of engaging in such an act.

IndexTerms - Narco- analysis, Ethical dilemma, Psychotropic, Drug, Admissibility, Court.

INTRODUCTION

Law refers to a set of norms that need to be followed in order to maintain a fair and just society for the citizens to live in. The governance in India is based on the 'Rule of Law' that is the law has prime authority and no one shall be ill- treated on any grounds. The basic right of a human being is to be given the right to live, be respected and treated equally and if such an environment is not created then it leads to the 'Law of Fishes' where in the weak will be overpowered by the strong. Criminal law focuses on a particular individual and its daily activities unlike the other branches of law wherein the command is on the various facets of a man in a society well civilized.

The purpose of an investigation is to get hold of the wrongdoer and by adopting appropriate investigating procedure and exhibiting all potential evidences in the court of law in order to prove their opinion. However, the investigations do not take place in a way as expected them to be. The investigators often leave evidences behind and sometimes due to lack of skill they are unable to collect major evidences which lead to the formation of a void in the investigation. This makes it common for the court to give verdicts on circumstantial evidences which might not turn out to be a fair decision.

With the advent of technology, the perpetrators have become advanced too. They now commit fraud or crime with more sophistication and class by employing hi-end machines and latest techniques while on the other hand our investigation agencies are still using the older techniques. They make sure to not leave any traces behind and this makes it difficult to catch hold of them and to also find the manner in which they have committed the crime. So in order to bring out the truth, the investigators take the heinous route by using third degree torture on the accused to reveal the truth. It has been seen that in numerous cases due to political influences the truth never comes out and the cases are falsely created for the sake of closing the investigation. And in cases where in the accused is not ready to cooperate with the authorities, the only option available to the court is to leave the accused as there are no direct evidences to prove his/her guilt. This causes the citizens of the country especially the victim of that particular crime to lose faith in the judiciary. Thus, it is the responsibility of the criminal justice system to give verdicts in a fair and just manner so that the citizens can feel more secure about getting justice.

Narco analysis is a technique being employed in the field of criminal investigation since a long time and has shown to be a helpful tool in investigating various criminal cases. We humans have a propensity to lie especially when our life is at threat. But these lies can be made only in the condition of utmost consciousness or by imagination and not in the state of semi or unconsciousness. This drawback turns out to be a boon for the investigators. They make use of the semi conscious state to reveal the truth that the suspect had been hiding for a long time.

With the emergence of science and newer technologies, the field of criminal investigation has also seen its own set of changes. The perpetrators have become more aware and smart on how they should commit the crime without being caught. There are times

when it has been seen that perpetrators are more technologically sound than the investigative departments running in the country. This poses as a challenge in front of the investigators.

Narco analysis is a procedure which is cathartic in nature and involves the use of psychotropic drugs to induce a sense of sleep in the individual. This is done in order to extract out important information or facts about a case which he/she otherwise won't reveal. This technique is conducted in presence of a specialized doctor and recording of the entire analysis is done to keep it documented for future reference. The correct dose of the drug has to be administered to the subject or else it can be life threatening. Therefore, there is a need for an anesthesiologist to be present throughout the time the analysis is being carried out. Apart from an anesthesiologist, the other team members include a physician and other supporting staff. A video and audio recording system is kept in order to account all the information that he/she discloses.

Ethics play a major role in our lives. They are the ideals or principles that people set in order to lead a dignified, peaceful and fruitful life. It is the way one approaches a situation in which he/she has to make a decision between his/her belief of right and wrong. The circumstance in which a conflict arises between his/her ethics is called as an ethical dilemma. In terms of narco-analysis, there are a number of dilemmas that the investigator faces leading him to be in the tough spot of choosing between the human rights of the subject and his duty as an investigator. Often in narco analysis, the consent of the suspect is not given much consideration which violates the very basic right of a human being. This paper will discuss about the history, procedure, critical analysis, ethical dilemmas and alternatives to narco analysis.

II. REVIEW OF LITERATURE

2.1 Origin of Narco Analysis

'Narke' meaning anesthesia is a Greek word which forms the root for the term narco analysis. This term came into existence when Horsely coined it for the first time but came into limelight when Robert House used this technique on two prisoners in the year 1922. Truth serum is another term used for the same because this technique engages the use of a number of drugs in order to extract information or important details from people who are not willing to give it in other way.

Narco analysis is a technique which is diagnostic and psychotherapeutic in nature and is carried out with the help of psychotropic drugs. Psychotropic drugs are medications which when induced into the body of an individual starts to affect the nervous system and the chemistry of the brain. Their uses have been found in the treatment mental disorders and are often prescribed by psychiatrists. The ideal working of the drug depends on the dosage of the drug administered. If the drug is taken in excess amount, then it can lead to serious complications so it is necessary to ensure that the right dosage of drug is given to the subject so that the analysis does not pose a threat to his/her life.

The test mainly involves making the person enter into a subconscious state using drugs that have the ability to create a twilight state. This state restricts a person from being able to create imaginations or manipulate anything before speaking. Due to such a feature of these drugs, they are exploited or used by an investigating officer in order to extract valuable information pertaining to a case. The drug that is preferred mostly by those who conduct the analysis is thiopental sodium as it is used as a general anesthetic and one can lose consciousness within seconds of being infused with it. The conduction of the test requires a lot of expertise and appropriate dosage stands as a necessary condition for the usage of this technique to its full potential. It was believed that infusing drugs such as amobarbital, sodium pentathol, etc only made the subject more interactive, relaxed and free from shyness and does not lead him/her to lose control over him and that they are capable of hiding any information they want to. But this belief turns out to be false as the person does lose control of himself/ herself.

2.2 History of Narco Analysis

According to Webster's Dictionary, it is affirmed that the term narco analysis was created in the 20th century. The word Narco Analysis can be broken down into two separate words 'Narco' and 'Analysis' which can be described as conduction of psychoanalysis by bringing the individual to a condition of sleep by the administration of drugs especially barbiturates. This allows the oppressed feelings of the individual to be expressed freely without hesitation. Hence, as earlier mentioned they are sometimes christened as Truth serum.

Narco analysis is the fusion of hypnosis which is a state wherein the individual loses one's consciousness and becomes more responsive to directions; and narcosis which involves the use of drugs to bring a person to a state of sleep. The advantage of this technique is that it can induce sleep in an individual with smaller doses of the drugs itself.

As mentioned earlier, this term came into limelight after Robert House (obstetrician in Texas) used it in the year 1922. Two prisoners were administered with a drug named Scopolamine at a country jail in Dallas. While the drug was being given to the prisoners, they were interrogated at the same time. During the interrogation, they revealed that they have not committed any crime and are not guilty. When later on, the trials began it was found that they were innocent. The reason these drugs are called as truth serum is that they lead the person or the subject to speak the truth. This experiment gave Robert House recognition and he achieved the title of the 'Father of Truth Serum'.

After conducting about 1804 experiments Thomas De Quirky wrote about his experiences that there occurs an expansion of the heart when a person is administered with solutions like wine causing him/her to talk about his/her inner feelings. Narcosis or sleep inducement can be achieved by drugs like cocaine, hallucinogens, alcohol, etc. However, there came a time in 1918 when sodium cyanide came to be used. Investigators in order to reveal the truth, used alcohol which is known to depress the central nervous system and allow the individual to speak freely of his/her concealed emotions and feelings. From the period of 1903 to 1915, the anesthesia of mild type useful in obstetrical practices came into existence. Late 19th century, saw the usage of chloroform/ hashish to create more hypnotic effect.

With the advent of 20th century, when subjects were administered with barbiturates which were found to cause excitation in the subject along with leading him/her to reveal very intimate feelings that he/she won't tell anyone. Later in 1931, mescaline and dhatura seeds were used by Italian psychoanalyst for conducting psychoanalysis. With the discovery of Lysergic Acid Diethylamide in the year 1943, it came to be effectively used for creating hallucinogenic effect. The word 'psycholysis' was used for the first time at a European symposium in the year 1960.

In the year 1930, in order to produce a narcosis state, amytal was used for the first time by W. J. Bleckwenn to treat psychiatric disorders. This drug was found produce or state was found produce or state of relaxation and alleviation of fear. Erich

Lindermann said that psychiatric or any mental disorder related patients cannot solely be healed by sleeping. So he gave mild doses of amytal to his patients which made them to communicate freely and express their very personal feelings without the fear of any judgment from outside world. Amytal came to be used on civilians after the World War II when Adams treated people struggling with depression using narco analysis. Also Freed was able to reduce the time or length of the treatment using psychotherapy.

2.3 General Procedure for Narco Analysis

The drug has to be given cautiously to the subject. So the role of anesthetist is very important in order to give the correct dose which depends on the age, gender and physical and psychological state. In case, inappropriate dose is given it can even be fatal for the individual undergoing the test. The drug that is administered is usually barbiturates or can be called as Sodium Pentothal. In general, the quantity of drug or truth serum is usually 3 grams which is then mixed in distilled water of about 3000 ml. The subject is injected with this solution after which he/she loses his/her ability to manipulate rather is capable of answering very straight forward questions.

The drug is injected intravenously and as its dosage differs from person to person, the needle is kept intact throughout the procedure. The affect of the drug apart from inducing a sleep like state is that the blood pressure is lowered down, heart rate also slows down as the drug starts to depress the central nervous system. Also, the dosage needs to be given within intervals to make sure that the subject remains in a drowsy or semi-awake state. There is a need to maintain the state of individual, he/she should not go into deep sleep. If deep sleep occurs, then anti-narcotic stimulants are given which brings the subject back into the semi-awake state. The drugs have the capability to depress the central nervous system. Once, the optimum state is acquired by the examiner, he/she can then start asking questions and after the examiner is satisfied the procedure is stopped.

There are technically four stages involved in the narco analysis procedure which are as follows:

- 1st Stage
In this stage, the person's body starts to feel the drug's effects.
- 2nd Stage
In this stage, the person enters the phase of semi-consciousness.
- 3rd Stage
In this stage, if the drug is given continuously to the patient he/she will lead to a phase where he/she will completely lose unconsciousness.
- 4th Stage
If any more drug is given to the patient, he/she will enter the stage of coma which will at the end lead to death of the patient.

The patient has to be kept in the second stage for successful conduction of narcoanalysis. This stage is also called hypnotic stage. All the revelations that the subject makes during the analysis is recorded in the form of both video and audio cassettes. This is then used as a reference and evidence (in some cases) for further investigation.

III. IMPORTANCE AND USES OF NARCO ANALYSIS IN INVESTIGATION

Narco Analysis serves as an investigative aid in order to obtain valuable information in a non-violent and uncomplicated way. The use of narco analysis is always done in concurrence with other test which could be lie detector or brain mapping. In India, the courts have been unclear about the usage of narco analysis investigations. There have been cases where the court themselves have given permission to use it whereas in other cases it has strictly denied it.

The primary advantage of narco analysis is that it helps to save the individuals who are innocent and find the actual culprit behind criminal act. It serves as an alternative to any third degree torture that was earlier used in order to extract information. It is used in the medical field for diagnosis and treatment of any psychology related ailment. It helps the forensic investigators in criminal investigations. The conduction of narco analysis solely depends on the way the suspect reacts to it. There can be two situations:

1. One in which the suspect or the subject cooperates throughout the test with the questioner.
2. The other in which the subject does cooperate with the questioner and is compelled by the court to undergo the test.

It further takes less time for identifying the culprit which would otherwise take a lot of months. A specialized person is given the responsibility to prepare questions and they are framed in such a way that it is almost impossible to lie. Although there are a lot of opinions about whether this technique can be considered reliable or not, it can still give an investigative lead making it a little bit easier to continue with the investigation.

IV. ADMISSIBILITY IN THE COURT OF LAW AND CRITICISM OF NARCOANALYSIS TEST

There are numerous countries round the globe which still use narco analysis to aid in an investigation and India being one of them. The admissibility of evidence in the form of confession given by any individual in the sub-conscious state is not acceptable in the court of law. The validity of the results of narco analysis depends on the conditions under which they are taken (still they are not fully admissible). Narco analysis when undertaken by a person willingly can be considered as valid wherein he/she wants to prove his/her righteousness. but when the person is persuaded by the investigator by giving him/her hopes of being released, then it is termed as involuntary. Narco analysis solely cannot stand out as evidence but can be colluded with other important evidence or used to find any evidence that is admissible in the court to prove a valid point. However, a situation wherein the result acquired from the narco analysis is not accepted in the court, any other evidence obtained with the help of the same will be no longer valid. The questions framed by the investigator are tricky and confusing at times which leads the subject to give statements which he/she does not even mean to because their conscious mind does not allow them to manipulate answers.

There have been varied opinions on whether or not it should be used in investigations because of the nature of the test. When a person is brought into a state wherein he/she cannot remain conscious and give answers on their own will, the authenticity of the same cannot be determined. It has been long believed that narco analysis violates the Article 20 (3) of the Indian constitution.

This article safeguards the individual from self incrimination i.e. no person will be forced to become a witness against himself hence protecting him from exploitation. So when the test is conducted against the will of the subject, it leads to self incrimination and a violation of Article 20 (3) of the constitution.

As we know that narco analysis makes use of varied drugs causing the person to become extra expressive. This test is considered better than any third degree torture but in reality it works in a similar manner as a softer version of it. According to Dr. P. Chandra Shekharan, narco analysis is an unscientific and torturous technique which should be disregarded. The test is not considered as completely accurate i.e. not 100% accurate. It cannot be claimed that after inducing with the drug the individual will not lie. There can be situations in which the dosage of the drug does not affect the subject much, like if someone is already addicted to high doses of drugs or alcohol. This might allow him/her to also develop tolerance to thiopental sodium making it not that difficult for him/her to deceive. Thus, it cannot be considered as a completely reliable method.

Another criticism that narco analysis has faced is the violation of human rights privacy. In any case where the individual refuses to undertake the test, they cannot be forced to take the same. There is a need to record a video of the suspect giving the consent to take and this need to be presented before the jury.

It has been observed that the dosage of the drug plays a major role in the effective conduction of the test. Issues have been raised on the dosage of thiopental sodium as the drug can cause lower blood pressure immediately after being infused with. Thus, it has been found that there are health implications of conducting the test on individuals such as respiratory problems. If an individual previously has any respiratory ailment, then it might even turn deadly for the individual.

As for some individuals, lying even under the influence of the drug are possible people can falsely involve innocent individuals in the case and they can fall prey to the criminal conspiracies. Therefore, it can be concluded that narco analysis cannot be considered as a 100% reliable method for investigation but in around 80-90% cases, they have been found useful.

V. ALTERNATE SCIENTIFIC TOOLS

5.1 Polygraph

Polygraph is a technique which involves the measurement of various body operations in order to detect if someone is lying or telling the truth. It is a scientific tool useful in investigation and is commonly referred to as the lie detector. It focuses on the individuals pulse rate, skin conductivity, blood pressure, etc. It works on the principle that an individual will show varied symptoms in case of a lie as he/she will try to hide the truth this lead to changes in the physiology of the individual and the detection of the same can help to find out if someone is telling the truth or a lie.

In this test, the interrogator asks questions and these questions are generally controlled like address of the individual or the name to begin with. During, these questions, usually no physiological changes are observed. Slowly, the interrogator starts to ask questions relevant to the case and if while answering these questions any changes in the blood pressure, heart rate, etc occurs it can be determined. Polygraph primarily focuses on three aspects which are as follows:

1. Polygraph testing (related to the respiration of the individual)
2. Tracing of Electrodermal activity (as the name suggests, it relates to the conductance of the skin)
3. Tracing of Cardiovascular activity (it is concerned with the pulse rate)

Therefore, whenever telling a lie changes will be observed in the above mentioned physiological aspects. The changes are represented in the form of a graph called as the polygram. This can be carefully examined to come to a conclusion.

However, there have been varied opinions as to whether, they are reliable not as they only tell about the physiological changes observed in an individual and not assert that that they are telling a lie. It would be near to impossible to observe such changes in an individual who has a lot of control over his/her emotions. There might be a possibility that innocent individuals even when telling the truth may have fear of the investigators. Thus, this technique is very subjective and can vary from person to person.

5.2 Brain Mapping/P300

Brain mapping is one of the most recent scientific tool which was invented in 1970 by Dr. Lawrence A Farewell. This technique makes use of the individual's memory to determine if he/she is aware of such a crime taking place. In this, sensors are attached to the head of the individual and he/she is made to sit in front of a monitor. Herein, instead of asking questions like that in polygraph and narco analysis, the subject is shown images or made to hear sounds connecting to that of a crime scene. If the brain, recognizes the image or sound it will send a stimuli within 300 miliseconds. The faster the brain is able to detect the sound or image, the faster will be the response. This test has around 100% accuracy.

However, it comes with a lot of limitations. Just because an individual is able to recognize a scene or sound, cannot prove that the individual is guilty. He/she can be a mere witness of the scene as well. Also, one of the major criticisms it faces is that it violates the privacy of an individual i.e. he/she has no right over his/her thoughts. This technique has also been considered an unscientific and not a proper tool for investigation by NIMHANS.

The establishment of large hospitals where hundreds to thousands of patients are treated, it has created a serious problem of biomedical waste management. The seriousness of improper biomedical waste management was brought to the light during summer 1998. In India studies have been carried out at local / regional levels in various hospitals, indicate that roughly about 1-5 kg/bed/day to waste is generated. Among all health care personnel, ward boys, sweepers, operation theatre & laboratory attendants have come into contact with biomedical waste during the process of segregation, collection, transport, storage & final disposal. The knowledge of medical, paramedical staff & ward boys, sweepers about the biomedical waste management is important to improve the biomedical waste management practices. The biomedical waste requiring special attention includes those that are potentially infectious, sharps, example needle, scalpels, objects capable of puncturing the skin, also plastic, pharmaceutical & chemically hazardous substances used in laboratories etc.

VI. ETHICAL DILEMMAS ENCOUNTERED IN NARCO ANALYSIS

Ethical dilemmas refer to a state or situation in which choosing either of the option leads to a decision which is not justifiable from the perspective of ethics. Ethics are one of the major aspects of any psychological testing and they should be maintained in all situations. A psychologist is bound to maintain certain ethics and violation of which can lead to cancellation of their

certification. Some of these ethics include debriefing (making the subject aware of the test he/she is undertaking), informed consent (taking permission from the test taken before hand), confidentiality (protection of information provided by the subject), etc.

Although there are a lot of scientific tools that can be used for obtaining information from a human mind like polygraph, brain mapping, etc but narco analysis is still considered as the most common and safest method. However, this test has a lot of problems that need to be addressed. The major concern is the conclusiveness which is getting on to a conclusion immediately and the violation of the privacy of an individual. The ethical principle of human dignity, self-incrimination and beneficence with respect to narco analysis are being discussed further.

1. *Human Dignity*

Human dignity in the modern day refers to the worthiness of an individual from within and respect he/she receives from the society. Human life is considered as the most beautiful creation of God and narco analysis creates a culture that threatens the very basis of human life. From the beginning of the investigation process, all the information given by a suspect like the chargesheet i.e. given to the court is available in a public domain accessible to the opposite parties.

There can be situations in which the individual/ suspect made a confession under the influence of the drug which may not be accurate as narco analysis is not a reliable method scientifically. The two primary problems which are encountered during the conduction of narco analysis is that firstly the individual is subjected to harassment and secondly the confessions made by the suspect during the procedure is broadcasted on public platforms like television and social media. These broadcasts leave the social status of the individual in a bad light making him/her to lead a normal life difficult. The individual will be looked upon as a suspect throughout his life and this destroys his/her self esteem and reputation.

2. *Human Integrity*

The sole purpose of narco analysis is to find a lead in a investigation by conducting an analysis of the suspect's mind. The use of drugs makes him/her lose control over his/her thoughts and actions and his/her mind starts to react in a manner in which the investigator manipulate it. This leads to a violation of the integrity of a human. It appears that suspect no longer has the right over his/her thoughts and the privacy of his/her mind is being hampered.

3. *Self-Incrimination*

According to Article 20 (3), it is said that no one can be forced to give a statement or make a confession which can make him/her prove himself/ herself guilty. So in a situation where narco analysis is conducted the individual in becoming a witness to himself/herself. Thus, there exists a visible violation of the article 20 (3).

4. *Beneficence principle*

The conduction of narco analysis requires the active participation of a doctor. The act of narco analysis clearly falls in alignment with the definition of torture given by United Nations. The entire process of going through the narco analysis test can leave the suspect in a traumatic state which can affect his/her mental health for a long period of time. Doctors take the oath that they will not perform any activity which will give mental trauma to their subjects. But performing narco analysis violates the same.

VII. CASE STUDY: AARUSHI-HEMRAJ DOUBLE MURDER CASE

Name: Aarushi Talwar (14 years)

Hemraj Banjade (45 years)

Type of case: Murder

Number of suspect: 2

Place of crime: Noida, Uttar Pradesh

Summary of case:

On May 16, 2008, in the morning, a body of a 14 year old girl named Aarushi Talwar was found in her bedroom and her throat was slit. Initially, it was believed that their live in cook killed her but later his body was also find on the terrace.

Investigation:

The case was handled by both Delhi and Uttar Pradesh police. Both Rajesh and Nupur Talwar (parents of Aarushi Talwar) came to be considered as suspects and it was claimed that the case was of honour killing. Soon the case was handed over the CBI and another suspect Krishna (Talwar's domestic help) came into limelight. Rajesh and Nupur were asked to undergo a lie detection test at the CFSL in Delhi. Nupur Talwar was subjected to two more tests as no conclusion could be made from the previous tests. Rajesh and Nupur Talwar were summoned by the court in 2011 on the charge of murder. In 2009, February, Rajesh and Nupur were put through a narco analysis test but due to lack of evidence the servants were considered innocent and her parents became the suspects. The couple was given the punishment of life imprisonment in 2013.

Conclusion

The Aarushi-Hemraj double murder case saw the usage of narco analysis to convict the suspects but due to the lack of sufficient evidence, the results of the test were inconclusive. The conviction in this case turns out to be a loophole in the investigative process as no valid evidence was found against the victim's parents. Thus, narco analysis can aid in an investigation but there needs to some corroborative evidence to support it.

VIII. RESULTS AND DISCUSSION

Narco analysis has been an integral part of investigation since the 20th century. Though it is not admissible in the court of law, still the investigative leads it gives helps in investigation process making it a useful tool. It has been seen that though narco analysis serves as a better alternative to any other third degree torture but it is nothing more than a softer version of the same. A lot of

expertise goes behind the conduction of narco analysis in a proper way as the life of the suspect or subject will be under threat if even a single mistake is committed. The involvement of drugs in order to reveal any information has always looked skeptically. Drugs affect the mental operations in an individual's brain which can be termed as a torture.

There exists ethical dilemmas which a doctor has to face. The doctor takes the oath that he/she will not commit any task that will result in any torture on his/her patient. But conducting narco analysis violates this oath as they are performing an activity which will leave a traumatic impact on the individual. However, the doctors claim that they are bound to do so because of the orders of the court. Then, the question arises. 'as to what is the need for a consent from the subject then'. Informed consent turns out to be a mere formality which shouldn't be the case.

The reason for narco analysis to not be admissible in the court of law is that any confession made in a semi-conscious state cannot be relied upon. But the stand of the court in the usage of narco analysis for investigation seems shaky as there are cases where the court itself has given the permission to conduct the test whereas in other cases it has been strictly prohibited to do so.

In the Aarushi- Hemraj double murder case, the use of narco analysis did not play a major role as there was no solid evidence to support the confessions made in the test. Even the test conducted on Nupur were re-done as the results obtained seemed inconclusive. This case is one among many in which narco analysis did not aid much in investigation.

Thus, there is a need to view narco analysis from an ethical perspective as well and not just seen as an investigative aid.

IX. CONCLUSION

Technology has come with its own sets of boon and bane. As far as crimes are concerned they have become much more advanced and systematic. So there exists for a change in the way these crimes are investigated. Narco analysis saves the purpose becoming an investigative aid and an alternative for the traditional third degree police custody torture. It has been found useful in many infamous criminal cases and have also helped in finding the culprit. These are other alternatives to narco analysis like the polygraph and brain mapping. They also serve the same purpose as that by narco analysis but are less commonly used. Brain mapping being the most recent advancement claims to have 100% accuracy. But still there are a lot of limitations which should not be disregarded.

Our judiciary has always uphold the rights of the people as its topmost priority but when it comes to narco analysis being used in investigation, conflict of interest occur. The failure of providing the right to privacy of thoughts to an individual undergoing a narco analysis test appears as a loophole in the justice system. Thus, there is a need to make more provisions and laws relating to conduction of narco analysis any investigations in order to protect the basis right of the suspect or the test taker. Just and fair verdict should be the priority of any judicial system but not at the cost of someone's privacy and mental health.

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