

ANALYSIS OF NARCO-ANALYSIS AS A SERIOUS DANGER TO THE VIOLATION OF HUMAN RIGHTS: WEAPON OF POWER OR TOOL FOR ABUSE?

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ABSTRACT

This paper seeks to determine the constitutional validity of narcoanalysis tests and its misuse with regard to the application of Forensic Science, which has brought about serious contentions pertaining to the violations of the right against self-incrimination and the very right to privacy, both guaranteed as fundamental rights under the Indian Constitution. Whilst the dubious practice of such tests, are being carried on for a large number of decades, there is however, no denying the serious misuse of the same, especially when perceived through the eyes of torture, wherein the practice of narcoanalysis raises a host of medical, ethical and legal issues. The main object of this research paper is to deal with the constitutionality pertaining to the practice of such tests alongside its utility in the process of investigation and the barrage of interpretations given by the judiciary with regard to the aforementioned concept. The current research paper also plays an imperative role in establishing the aspect of self-incrimination as perceived by various international jurisdictions and international conventions, while taking into account the aspect of forensic science. In totality, this paper plays a crucial role in analyzing the concept of narcoanalysis through the application of Forensic Science, and determining whether the aforementioned concept is in loggerheads with the aspect of fundamental rights and the various principles pertaining to the aspect of natural justice.

INTRODUCTION

As mankind reaches a stage of progression with the passage of time, by wearing off its complexities, one cannot help but notice such resounding capabilities whilst relating the same with the field of Forensic Science which has time and again, redone and has rather proven its emboldening capacities by presenting itself in newer and unique forms, exemplary for the development of criminology. Such tendencies act as prerequisites for necessitating the employment of modern scientific techniques with regard to investigative and judicial processes such as narco-analysis tests, lie-detector tests, brain mapping and DNA fingerprinting tests. That being brought under one's attention, it would be highly pertinent to mention the role and nature of narco-analysis tests, which has with time, attained a highly controversial role when seen through the perspective of human rights violations and the system we perceive to be the rule of law.ⁱ

Endorsed as a more scientific and palatable alternative to “third degree” interrogation methods, narco-analysis tests are being increasingly utilized for the purpose of establishing evidence with regard to determining the criminality of the accused. Be it the infamous Arushi Murder Case, the heinous Nithari Killings or the current possibility of conducting such a test for determining the involvement of the four accused in the shocking Hathras murder and gangrape case, all in all, the importance of narco-analysis tests is generally perceived to be an extraordinary and humane development in the field of criminology. However, it is also vital that one pauses to seriously contemplate the questionable track records or the real violation associated with the nature of such tests, as they go against the very notion of a citizen's right to privacyⁱⁱ or an individual's right against self-incrimination.ⁱⁱⁱ

STATEMENT OF THE PROBLEM

The entirety of the discussion pertaining to the conduct of narcoanalysis tests in connection to its application with regard to the application of forensic science is wholly premised on principles pertaining to the deliberation towards the concept of the right against self-incrimination as has been guaranteed under Article 20(3) alongside the requisites of the right to privacy as has been guaranteed under Article 21 of the Indian Constitution. Having said that,

the aforementioned concept also raises a lot of concerns pertaining to the evidentiary value of the same with regard to the interpretations of its admissibility by the judiciary.

Whilst taking into consideration the legal context of how far the practice of such tests is constitutional, several academicians and researchers have come to the conclusion that it is a brazen attack on an individual's right to be silent alongside the same being misused for the purpose of investigation and the various interpretations of the same by the judiciary. These ambiguous judgements pertaining to their sheer lack of acknowledgement towards the aspect of citizens' personal liberties, brings into consideration the judiciary's ignorance towards the protection of human rights. Whilst various proponents commend the practice of narcoanalysis tests with regard to it being used a tool of investigation, there is however no denying the various loopholes attached to the same, specifically those pertaining to the deprivation of human rights.

HYPOTHESIS

The current piece of research is based on various legal issues pertaining to the legality of narcoanalysis tests. The same can be enumerated under the following:

- Whether the conduct of narcoanalysis tests ultimately results to a violation of the right against self-incrimination as has been guaranteed under Article 20(3) of the Constitution of India?
- Whether such aforementioned results lead to compulsive testimonies thus attracting the aforementioned right against self-incrimination?
- Whether there is a violation of the right to privacy, thereby attracting the provision of Article 21 of the Indian Constitution?
- Whether there is any evidentiary value pertaining to the practice of narcoanalysis tests in India?
- Whether narcoanalysis tests can be utilized for the process of investigation by investigating agencies?
- Whether narcoanalysis tests can be conducted as a tool of investigation?

- Whether there is any requirement for the conduct of narcoanalysis to determine the criminality of the accused?

THE CONCEPT OF NARCO-ANALYSIS TESTS: A DANGEROUS MIRAGE

If one were to introspect on the meaning and theoretical concept of the term, “narco-analysis,” it would imply a procedure in which an individual is injected with barbiturates, which can be contended as a conglomeration of drugs, sometimes referred to and pronounced as a “truth serum” by media powerhouses and various academicians, for the purpose of inducing a disassociated state that is considered to be vital and handy for the process of conducting a criminal investigation. Such a semi-conscious state holds an exemplary role with regard to the release of repressed thoughts, feelings and memories that generally remain hidden from the actions and personality of an individual on a day-to-day basis. Such a hypnotic trance is attained through the support of sodium pentothal that is dissolved in 3000 ml of water which is known to be distilled,^{iv} wherein the individual (to be implied as the accused) is interrogated for hours and the statements put forth by the accused are recorded in video and audio cassettes, useful for the establishment of evidence with regard to the report prepared by the expert. That being stated, it would be imperative to mention that the very concept of narcoanalysis has been derived from the Greek terminology known as “nark”,^v (which is another term for torpor or anaesthesia), and has gained a lot of controversy in the last few decades due to the repercussions of the same not being 100% accurate. What comes across as particularly striking while deliberating upon the same is the role of the judiciary, wherein prior significance is not given to the much-recognized limitations pertaining to narcoanalysis, wherein the aforementioned body in the zeal to appear at the forefront of medical jurisprudence, has however failed to recognize the great set of dangers such narcoanalysis tests represent.

THE EVIDENTIARY VALUE OF NARCOANALYSIS TESTS IN INDIA

The extensive tests of narco-analysis can either directly be used as an evidence in court during the proceedings or can be used solely for the purpose of investigation by the police. Any

statement made by an individual during such narco-analysis tests can be substantiated directly in evidence only on the condition that it not be considered as a confession with reference to **Section 25-26 of the Indian Evidence Act**,^{vi} wherein any proof in terms of the confession of a person during the interrogation in police custody or before the police officer is considered to be inadmissible. However, **Section 17 of the Indian Evidence Act**^{vii} provides that if any statement is simply an admission, that can be substantiated as an evidence which can be considered as a contrary provision of Section 25-26 of the Act.^{viii}

This has been witnessed by the country in the case of **Surendra Koli vs. State of Uttar Pradesh and Ors.**,^{ix} where the honourable apex court did not admit the result of the narco-analysis test of Moninder Singh Pandher and his domestic servant Surendra Koli, however, the police proceeded their investigation based on the confession of Koli which eventually helped the Supreme Court in delivering the judgement. Having said that, it can be inferred from the aforementioned analysis that even though the judiciary does not accept the confession of the accused which has been given during the narco-analysis test directly, even so, if the police is using that confession for the investigation purpose and the court is delivering judgement after relying on the investigation of police, then it can be stated that the Hon'ble Court relied on the confession of the accused.

NARCO-ANALYSIS: DANGERS PERTAINING TO THE VIOLATION OF HUMAN RIGHTS

There is no denying the presumption that lies with the practise of narco-analysis tests which whilst considered to be relevant for bringing about substantial information pertaining to the subject matter of a particular case, has however on the other hand surprisingly, not been considered as the most perfect tool with regard to acquiring information, due to its failure in being fully accurate. More so, because the emboldening power that is apparently bestowed in a "truth serum" is somehow underestimated due to the subconsciousness of the accused that somehow manages to succeed in providing distorted information. This problem arises because it is very hard to determine the suitable dosage of serum considering the dosage will vary from person to person based on the intensity of his/her psychology, physiology and fortitude. To curb this problem, it is imperative that there be an efficient and proficient interviewer who is

not just qualified, but also is competent enough to put forth questions that has the capacity to extract substantial information out of the accused.^x

Another question pertaining to its accuracy is brought into consideration when statements given under the veil of narco-analysis tests are seen in comparison with the statements given to the investigating agency prior to the application of such tests wherein more often than not, such statements are seen and have found to be different from the other, after which it becomes very difficult to ascertain the truth. There is however no denying that the practise of such tests has been greatly misused by the police administration and forensic experts wherein the accused is either manipulated with regard to giving information or is forced to give his/her consent to such narcoanalysis tests. This kind of action can only be considered as mentally and physically torturous for the person on whom such a test has been conducted. The classic and landmark case of **Arun Ferreira** wherein Arun Ferreira, a social based activist in Mumbai was under forced circumstances, made to sign a letter of consent in order to undergo a narco-analysis test, whereby after he refused to sign, his forged signature was presented before the magistrate. The Hon'ble Supreme Court of India held that the compulsion of testimonies, in context to conducting narcoanalysis tests on the accused is a serious violation of the right to privacy, cruel and degrading treatment pertaining to the accused. The Hon'ble Supreme Court also observed and declared to be a violation of the right against self-incrimination which is guaranteed under Article 20(3).^{xi}

THE CONSTITUTIONAL VALIDITY OF NARCOANALYSIS TESTS IN INDIA: A VIOLATION OF THE RIGHT AGAINST SELF INCRIMINATION

One cannot deny that one of the biggest controversies surrounding the very concept of narco-analysis, especially when seen through the perspective of Constitutional Law is the Right against Self Incrimination which has been extraordinarily guaranteed under Article 20(3) of the Indian Constitution.^{xii}

The aforementioned right plays an imperative role in ensuring the immunity of the accused with regard to protecting the rights of the accused, especially in context to being a witness

against themselves. This protection of one's right against self-incrimination has been well preserved in context to both oral and written testimonies. In other words, the mentioned provision acts as an important shield against the right of testimonies given under the influence of inducement or compulsion. Whilst deliberating upon the same, it would be imperative to mention the role of Section 161(2) of the Code of Civil Procedure, 1973,^{xiii} which ensures a similar protection given to the rights of the accused undergoing a criminal trial.

There have been a large number of judgements that have so far set extraordinary precedents with regard to the constitutionality of narcoanalysis tests in India. The ambit of an individual's right against self-incrimination has been well enshrined in the case of *Nandini Satpathy v. P.L. Dani*,^{xiv} wherein a great deal of importance was attached to the mentioned provision even at the stage of interrogation, wherein the very scope of "compelled testimony" was widened and prior and utmost emphasis was given to the accused of the "right to remain silent."^{xv}

The aforementioned principle was similarly applied in the case of *Kalawati v. H.P. State*,^{xvi} wherein the Hon'ble Supreme Court held that the applicability of Article 20(3) of the Indian Constitution will not come into consideration if a confession was made by an accused without the application of any sort of inducement, threat or coercion.

There have however been cases wherein this aspect was given an altogether different meaning. It would be highly pertinent to mention the case of *Dinesh Dalmia v. State*,^{xvii} wherein the Hon'ble Court observed that in situations pertaining to the accused not coming forward with the truth, it is imperative that the recourse of scientific tests be carried out by an investigating agency. Such instances would not necessarily amount to a violation of the right against self-incrimination, unless the accused divulges any information which is violative of the provision known as Article 20(3) of the Indian Constitution.

It is at this point that the sheer concept of "informed consent" comes into play which holds an imperative role and acts as a prerequisite with regard to the exercise of the right against self-incrimination.^{xviii} It would be important to mention the case of *Ramachandra Ram Reddy v. State of Maharashtra*,^{xix} wherein the Hon'ble High Court of Bombay held that requiring the accused to undergo narcoanalysis tests, that too under forced circumstances, would certainly amount to the accused acting a witness against himself.

It would however be important to note the case of *Smt Selvi v. State of Karnataka*,^{xx} wherein the Hon'ble Court took a very narrow stand with regard to its stand on "compulsion" and held that it was impossible to know beforehand, whether the statements made under the veil of narcoanalysis would be inculpatory or exculpatory, and therefore claimed the whole trend of deliberations pertaining to the need for analyzing the constitutional validity of Article 20(3) to be "premature."

While deliberating upon the aforementioned cases, it would be highly pertinent to mention the case of *M.P. Sharma v. Satish Chandra*,^{xxi} wherein the Hon'ble Supreme Court gave prior emphasis to the words known as "to be a witness" and "to appear as a witness" and held that the constitutional protection against the right to self-incrimination also extends to the person who is not the accused. That being said, the Hon'ble Supreme Court also held that any statement that has the possibility of exposing an accused to the chances of him/her undergoing criminal prosecution has the immunity of the provision known as Article 20(3) of the Indian Constitution.

A VIOLATION OF ARTICLE 21 OF THE INDIAN CONSTITUTION: THE RIGHT TO PRIVACY

It would be imperative to mention the serious dangers posed by the practice of narcoanalysis tests that have raised profound privacy concerns so far and is considered to be a serious infringement of an individual's right to privacy, which is recognized as a fundamental right as per Article 21 of the Indian Constitution.^{xxii}

While introspecting on the same, it would be crucial to mention the case of *Kharak Singh v. State of U.P.*^{xxiii} and the case of *Gobind v. State of Madhya Pradesh*,^{xxiv} which have attached a great deal of importance to the concept of privacy by declaring it as part and parcel of Article 21 of the Indian Constitution.^{xxv}

The very concept of narcoanalysis brings into account a violation of the body and the mind, which is altogether an invasion of the very right to privacy. The reason being, this test directly

intrudes on the mental space of the accused, post which there is a complete loss of control of the accused over the questions placed before him/her. Having mentioned the same, there are also high possibilities of the subject revealing personal information, which may be completely irrelevant to the process of investigation, and may be highly destructive and rather embarrassing to the reputation of the subject alongside his family.

It was unfortunate to note the case of *Rojo George v. Deputy Superintendent of Police*,^{xxvi} wherein the Hon'ble High Court of Kerala gave an interpretation pertaining to the concept of narcoanalysis with regard to its constitutional validity in reference to Article 21 of the Indian Constitution and shockingly noted the absence of the violation of the aforementioned provision. The Hon'ble Court noted that in consideration to the fact that **Section 39 of the Criminal Procedure Code, 1973**,^{xxvii} acknowledges the need to furnish information to the police, pertaining to crimes, there is therefore no infringement of Article 21 of the Indian Constitution.

Such reasons eventually destruct the importance and essence guaranteed to citizens under Article 21 of the Indian Constitution^{xxviii} wherein the judiciary perceives the concept of narcoanalysis to be the sole extraction of information out of the accused. In actuality, the inducement caused by the application of barbiturate hazes is somewhat akin to the idea of a bludgeon, wherein it may seem that while information is being passed on from the accused to the investigative agency, there are also high possibilities of the same stirring up thoughts or imagined disclosures of a somewhat personal nature. Such aspects must therefore be looked into, wherein it is imperative that proper safeguards pertaining to confidentiality be brought about, wherein a definite amount of introspection must be given towards the invasion of one's privacy.

A COMPARATIVE STUDY OF THE STANCE OF SELF INCRIMINATION IN INTERNATIONAL CONVENTIONS

The concept of narcoanalysis has been brought into consideration in several international conventions which are worthy of mention.

It would be pertinent to mention Article 7 of the International Convention of Civil and Political Rights, which introspects deeply into the concept of "free consent" while taking into regard the

aspect of medical jurisprudence. Likewise, Article 14(3)(g) of the aforementioned Convention deliberates on the aspect of testifying against oneself and acknowledges their stance towards the right against self-incrimination.^{xxix}

Whilst introspecting on the same, it would also be pertinent to mention Article 6(1) and Article 6(2) of the European Convention for the Protection of Human Rights and Fundamental Freedoms, which deliberates on the importance of a fair trial regardless of any criminal trial against an individual and the essence of the phrase known as “innocent until proven guilty.”^{xxx}

It would also be pertinent to mention the Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment wherein Article 16 stresses its stand against inhuman or cruel treatment pertaining to subjects in custody undergoing incessant torture and violations in the name of the practices pertaining to narcoanalysis.

A Comparative Analysis of the Stance of Self Incrimination in International Jurisdictions

In order to understand the aspect of narcoanalysis with regard to an individual’s right against self-incrimination, it would be imperative to determine and give a comparative stance of the same with regard to the role of same in various international jurisdictions. The same can be enumerated under the following:

United Kingdom

In U.K., the aspect of Forensic Psychological Tests is seen to cover all kinds of extensive tests such as, Narco-Analysis Tests, Brain Mapping Tests and Polygraph Tests which, like India have not been used accurately for the rightful purpose of investigation with regard to any crime, eventually resulting to the absence of discussions pertaining to the constitutionality of such forensic psychological tests that have not been reported till now. It is pertinent to state that the Hon’ble Court of U.K. in actuality, follows the jurisprudence of ECHR with regard to the aspect of the right against self-incrimination. It would be important to note the case of **R vs. S and A**,^{xxxi} wherein the Hon’ble Court introspected deeply into the will of accused, keeping in mind the much-applied principles of free consent. Having said that, it is imperative to state that if the aforementioned test is carried out, the non-invasive aspect of forensic psychological tests cannot be regarded as the violation of the right against self-incrimination.

United States of America

The Constitution of the United States of America provides a provision with regard to an individual's right against self-incrimination which has been enshrined under the 5th Constitutional Amendment Act that also has a provision, in context to the right of remaining silent. Having mentioned the same, it would be pertinent to mention the role of the Hon'ble Apex court of the U.S. in the case of *Townsend vs. Sain*,^{xxxii} wherein there were remarkable introspections on the constitutional validity of the practice of narcoanalysis, alongside it being a violation of the aforementioned Amendment Act. Whilst deliberating upon the same, the Hon'ble Court also held the aspect of narco-analysis to be inadmissible in court. It was however surprising to observe the Hon'ble Court contradict its own judgement, when there was an allowance pertaining to the conduct of narco-analysis tests for the suspects involved in the deadly, 9/11 terrorist attack that had massacred the lives of millions. Having said that, it can be inferred from the aforementioned analysis, that whilst the Hon'ble Courts in the US consider narco-analysis to be unconstitutional, it was however, also surprising to note that it had not banned the practice of narco-analysis tests in a complete manner.

Australia

In Australia, unfortunately, there is no bill of rights ensuring a citizen's right against self-incrimination wherein the same has been ensured by a human rights instrument known famously as the Human Rights Act, 2004, The Charter of Human Rights and Responsibilities Act, 2006. However, this right assured in the Australian jurisdiction is not firmly secured bringing about several restrictions pertaining to its use and relevancy in various case laws and statutes. The aspect of the right to remain silent is also another arena that is yet to be deliberated upon by the Hon'ble Courts in Australia.

Canada

Neither the legislature nor the judiciary of Canada give a vivid clarification about the constitutional validity of narco-analysis or its admissibility pertaining to such tests before the Hon'ble Court. However, the right against self-incrimination is not explicitly provided for in the Canadian Constitution as a right, and is indirectly enforced upon by **Sections 7, 10, 11 and**

13 of the Canadian Charter. Such a privilege has been expressed and extended by the Hon'ble judiciary. This right is granted to the accused at both stages, be it a pre-trial stage or during the stages of trial. The right to silence means the discretion to speak or not speak. The rule also implies that no derogatory conjecture which should be derived from the silence of the accused during the trial. However, there are certain exceptions to this rule which have been recognized. Thus, the right to self-incrimination in Canada can be considered as a limited right and judicial apprehension with regard to the application of Forensic Psychological Tests which is not based on the aforementioned ground.^{xxxiii}

RESEARCH OUTCOME: CONCLUSION AND SUGGESTIONS

The entire practice of narcoanalysis is a highly unregulated field, specifically with regard to the same posing a threat to the abrogation of fundamental rights. Whilst the judiciary plays an imperative role in being dispensed with regard to the necessity pertaining to the consent of subjects, there has also been a decline with regard to the presence of judicial oversight in relation to the practice of such tests. Be it the *Rojo George v. Kerala High Court*,^{xxxiv} case or the *Smt. Selvi v. State of Karnataka*,^{xxxv} case, the Hon'ble High Courts have erroneously conflated the conduct of such tests in connection to the collection of evidence. What comes across as particularly striking is that the Hon'ble Courts have been ironically overawed with the government's arguments, evading concerns pertaining to the reliability, usefulness or the safety of such scientific tests, and have unfortunately not felt the need to enquire into the matter critically. While it is understandable that the judiciary may not have a vivid or a detailed knowledge of the application of forensic science, it is highly essential that the judiciary make use of such facilities to introspect deeply into the violation of such civil liberties. It would be trite to conclude that narcoanalysis tests by all means, undermine an individual's very right against self-incrimination and have had the very potential to adversely impact and affect the fairness required during the conduct of such trials. Widespread use of such tests will most likely result in laxity pertaining to investigation standards carried out by the police force. There therefore needs to be a proper consensus amongst the Hon'ble Courts wherein it is agreed upon by such bodies that the narcoanalysis is to be recognized as a tool of investigation only and

further declare it as inadmissible before the Hon'ble Courts. The aforementioned deliberation is of little solace, mostly because corroborative evidence that is uncovered through the procedure of narcoanalysis, may very well be regarded as admissible, eventually providing a road map resulting to an end run of the concept regarded as the right against self-incrimination.

Having said that, in order to ensure a more legitimate and effective use of the practice of narcoanalysis, there arises a need for various guidelines or recommendations under which the aforementioned tests can be further utilized as a tool of investigation. They can be enumerated under the following:

- ❖ **The Dire Need of an Amendment in the Code of Criminal Procedure, 1973:** While it can be stated that the Indian legislature has given a whole lot of recognition to scientific tools involved in the process of investigation, there is however a **dire requirement of an amendment while taking into account Section 53 of CRPC**. The reason being, the Code of Criminal Procedure, does not ensure or bring into consideration any provision, with regard to prerequisites of the principles pertaining to “informed consent.” What is in fact surprising is that no code in the CRPC, necessitates the vital principle of consent of any accused during the investigation process. There is therefore, a requirement of an amendment under such grounds in the CRPC. That being stated, mere recognition under the veil of “such other tests” will not effectuate into bringing about the relevance of such a procedure in any criminal investigation.
- ❖ **The Need for an Improvement of Services in the field of Forensic Science:** The recommendations of the Malimath Committee on Criminal Justice Reforms alongside the Menon Committee that is currently being followed in countries like Germany and France must be implemented in order to bring about an effective and more legitimate use of Forensic Services in India. It must be ensured that there be more coordination and more networking amongst State and Central Forensic Science Laboratories in order to ensure there is enough efficiency with regard to the functioning and more cultivation in the knowledge pertaining to the arena known as Forensic Science. Apart from the mentioned recommendations, it must be ensured that the aforementioned services, cater to the overall technological and scientific needs of criminal investigation. Whilst introspecting on the same, it must be ensured that policy initiatives be brought before

the field of forensic science in connection to the process of criminal investigation, with accountability and efficiency, so as to ensure an emphasis on professionalism, training, accreditation, alongside the aspect of research and development with regard to the field of forensic science. Having said that, the State and Central Government must bring about initiatives with regard to improving the manpower, infrastructure and other facilities pertaining to the field of Forensic Science.

- ❖ **The Requirement for an Improvement in the Functioning of Investigative Agencies:** Proper number of steps must be taken to ensure the improvement of the professional competency pertaining to investigative agencies. That being brought under one's attention, utmost concentration must be given to officers in the aforementioned field with regard to training such members in the arena of scientific investigation, human rights and psychology.
- ❖ **The Need for Training Forensic Psychologists:** More emphasis needs to be given with regard to the training of the aforementioned psychologists. There needs to be a proper and detailed feedback mechanism, that would be essential in bringing in more transparency and reliability post the conduct of such tests.

ENDNOTES

ⁱ Abhyudaya Agarwal and Prithwjit Gangopadhyay, Use of Modern Scientific Tests in Investigation and Evidence: Mere Desperation or Justifiable in Public Interest, 2 NUJS Law Rw. 31, 31-54

ⁱⁱ INDIA CONST. art. 21

ⁱⁱⁱ INDIA CONST. art. 20, cl. 3.

^{iv} South Asia Human Rights Documentation Centre, Narco Analysis: A Dangerous Mirage, 42 E&PW 2857, 2857-2859 (July 14th 2007)

^v *ibid*

^{vi} The Indian Evidence Act, 1872, No. 1, Acts of Parliament, 1872 (India)

^{vii} *ibid*

^{viii} Rajani Nanda, Evidentiary Value of Forensic Science with Special Reference to Narco-Analysis Test, 15 GNDU 158, 158-166

^{ix} Surendra Koli vs. State of Uttar Pradesh and Ors., 15th February 2011

^x Sonakshi Verma, The Concept of Narco-Analysis in view of Constitutional Law and Human Rights, rmlnlu 1, 1-10

^{xi} SAHRDC, The Ferreira Case: All That Is Wrong with Torture and Narcoanalysis, 45 E&PW 13, 13-15 (22nd May 2010)

^{xii} INDIA CONST. art. 20, cl. 3.

^{xiii} Code of Criminal Procedure Act, 1973, No. 2, Acts of Parliament, 1974 (India)

^{xiv} Nandini Satpathy v. P.L. Dani, 1978 AIR 1025

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- ^{xv} Ananthi S Bharadwaj and Sumithra Suresh, Narco Analysis and Protecting the Rights of the Accused, 12 Nalsar Stu. Law Rev. 121, 121-133
- ^{xvi} Kalawati v. H.P. State, 1953 AIR 131
- ^{xvii} Dinesh Dalmia v. State, 2006 CriLJ 2401
- ^{xviii} Sonakshi Verma, The Concept of Narco-Analysis in view of Constitutional Law and Human Rights, rmlnlu 1, 1-10
- ^{xix} Ramachandra Ram Reddy v. State of Maharashtra, 5th March 2004
- ^{xx} Smt Selvi v. State of Karnataka, (2010) 7 SCC 263
- ^{xxi} M.P. Sharma v. Satish Chandra, (1954) AIR 300.
- ^{xxii} Sourodip Nandy and Himanshu Garg, Constitutionality of Narco Analysis and Polygraph Examination, 2 IJLMH 6-7, 1-9 (2019)
- ^{xxiii} Kharak Singh v. State of U.P., (1963) AIR 1295.
- ^{xxiv} Gobind v. State of Madhya Pradesh, (1975) 2 SCC 148.
- ^{xxv} *Supra* Note 19
- ^{xxvi} Rojo George v. Deputy Superintendent of Police, 2006 (2) KLT 197.
- ^{xxvii} Code of Criminal Procedure Act, 1973, No. 2, Acts of Parliament, 1974 (India).
- ^{xxviii} INDIA CONST. art. 21.
- ^{xxix} Dr. Dharmendra Kumar Singh, Constitutionality and Evidentiary value of Narcoanalysis, Polygraph & BEAP tests, 3 IJL 84, 84-89
- ^{xxx} *ibid*
- ^{xxxi} R vs. S and A, (2009) 1 All E.R. 716
- ^{xxxii} Townsend vs. Sain, 372 U.S. 293 (1963)
- ^{xxxiii} Forensic Psychological Tests and Right Against Self Incrimination, Chapter-IV, Cochin University of Science and Technology, 82-122
- ^{xxxiv} *Supra* Note 30
- ^{xxxv} *Supra* Note 24
- 