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Attitude and beliefs about hypnosis among health care professionals - A cross sectional study

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Abstract--Introduction: Hypnosis is derived from Greek word - Hypnos meaning sleep. It is characterized by focused attention and heightened receptivity for suggestions. Misperceptions about hypnosis has been portrayed in several movies, books and stage plays. Witch doctors, evil scientists, space aliens, and vampires have been depicted using hypnosis to achieve their dubious ends. Myths and misperceptions has raised a skewed and stereotypic view among the lay public and has discouraged participant involvement in feasibly helpful and potential hypnotic interventions. Material and Methods: This is a cross sectional study which employed a quantitative, between subjects, exploratory design. The design and nature of the clinical study was explained to the participants. Healthcare professionals of SN medical college and HSK hospital and research Centre Bagalkot during period from 1st December 2019 and 31st May 2021 were included in the study. All health care professionals including postgraduates and medical students who volunteer for the study were included. Results: One hundred forty-eight health care professionals made up the total sample of the study. Participants included 67 students, 44 PG residents, 11 Senior residents, 15 consultants, 2 nursing staffs and 9 from other medical background. Ages ranged from 21 — 39 years (M=26.77, SD 4.61). The table illustrates the descriptive for various domains of Valencia scale among study participants. The mean scores for fear domain was 1.81 ± 1.45 , for memory domain was 2.25 ± 1.31 , for help domain was 3.52 ± 1.73 , for control domain was 2.44 ± 1.59 , for collaboration domain was 1.51 ± 0.74 , for interest domain was 1.24 ± 1.16 , for magic domain was 1.05 ± 1.12 and for Marginal domain was 1.55 ± 1.11 . The range of scores for various domains of Valencia scale among the study

participants was noted between 0 to 5 scores. Conclusion: The intent of this study is to create awareness among medical professionals concerning the effectiveness of hypnosis and consider its use in their practice in various disorders including pain management, anxiety disorders, phobias, depression etc.as adjunct to cognitive behavioral therapy. We suggest that hypnosis would be utilized more widely if accurate information were widely circulated, in addition to this it shall encourage participant involvement if myths and misconceptions about hypnosis are eradicated.

Keywords---Hypnosis, Myths, Misconceptions

Introduction

Hypnosis is derived from Greek word -Hypnos meaning sleep. It is characterized by focused attention and heightened receptivity for suggestions. Misperceptions about hypnosis has been portrayed in several movies, books and stage plays. Witch doctors, evil scientists, space aliens, and vampires have been depicted using hypnosis to achieve their dubious ends. Hypnosis is highly beneficial, yet it is an underutilized therapeutic technique. It is a well-established therapeutic approach in many clinical applications, such as pain management, medical conditions, treatment of anxiety disorders, and treatment of other psychological condition, useful particularly when used in conjunction with psychological intervention.

Myths and misperceptions has raised a skewed and stereotypic view among the lay public and has discouraged participant involvement in feasibly helpful and potential hypnotic interventions. The Myths and Misconceptions most frequently found when surveying therapists, students and general public include (a) hypnosis is an altered state of consciousness or trance (b) hypnotized people are not in control of their behaviour (c) hypnotized people might not wake up from hypnosis (d) hypnosis can be used to induce individuals to perform antisocial acts (e) hypnosis is a panacea or a quick fix for long standing complaints (f) hypnotic methods require great skill to administer, and responsiveness to hypnosis is greatly determined by skills of the hypnotist (g)some hypnotic inductions are more effective than others(h) hypnosis greatly reduces peripheral awareness (i)focussed attention is essential to successful hypnotic responding (j) The effects of hypnosis are attributable to relaxation(k) hypnosis is mindfulness (l) There are reliable markers of hypnotic state(m) hypnotic age regression can retrieve accurate memories from the distant past.

Nowadays despite of therapist knowing that hypnosis is a potential and valuable clinical intervention in chronic pain management, treatment of obesity, smoking cessation and as an adjunct to CBT in treating various mood disorders, these misconceptions have led to underutilization of the technique. So, we hope that cultivating more accurate beliefs will maximize the involvement and gains in psychotherapy and encourage more clinicians to combine hypnosis into more empirically supported interventions.

Material and Methods

This is a cross sectional study which employed a quantitative, between subjects, exploratory design. The design and nature of the clinical study was explained to the participants. Healthcare professionals of SN medical college and HSK hospital and research Centre Bagalkot during period from 1st December 2019 and 31st May 2021 were included in the study.

Inclusion criteria:

1. All health care professionals including postgraduates and medical students who volunteer for the study
2. Subjects between ages of 20 years and above.

Exclusion criteria:

1. Subjects who refuse informed consent.
2. Subjects who are non-medical professionals.

Data collection and sample procedure

The institutional ethical committee clearance was obtained. The design and nature of the clinical study was explained to the participants. Healthcare professionals of SN medical college and HSK hospital and research Centre Bagalkot during period from 1st December 2019 and 31st May 2021 were included in the study. Data was collected using 2-part questionnaire. The first section contains specially designed proforma to obtain demographic information about the participants as well as details regarding about their knowledge about and experience with hypnosis. The second section obtains information using a pre-existing scale, the VSABHT scale.

Tools for assessment

Specially designed proforma: This is to elicit information on several aspects of the participants background like age, gender, education, religion, socio-economic status, residential background and questions relating to hypnosis that are mixture of closed, open ended questions.

VSABH-T Scale:⁴ The Valencia Scale on Attitudes and Beliefs Toward Hypnosis-Therapist Version developed by Capafons, Morales, Espejo and Cabanas (2006) in Spain, consists of 8 factor structures comprising of 37 items that are intended to measure general beliefs and attitudes toward hypnosis, based on common misconceptions.

Study design

Because of limited research in hypnosis and its therapeutic use by health professionals in general, the study aimed to explore the current use of hypnosis and the knowledge, interest, attitudes, myths and misconceptions among various groups studied.

Statistical analysis

Descriptive analysis of all the explanatory and outcome parameters was done using frequency and proportions for categorical variables and, whereas in Mean and SD for continuous variables. Chi Square Goodness of Fit test was used to compare the distribution of responses among study participants. Mann Whitney test was used to compare the mean scores of different domains of Valencia scale based on gender and belief and awareness among study participants. Kruskal Wallis test followed by Mann Whitney Post hoc analysis was used to compare the mean scores of different domains of Valencia scale based on the educational status of study participants.

Results

One hundred forty eight health care professionals made up the total sample of the study. Participants included 67 students, 44 PG residents, 11 Senior residents, 15 consultants, 2 nursing staffs and 9 from other medical background. Ages ranged from 21 – 39 years ($M=26.77$, $SD=4.61$). Participants were selected by random allocation method, especially from SN medical college- PG hostels, intern hostel, out patient departments and hospital campus from SN medical college- PG hostels, intern hostel, out patient departments and hospital campus. Data were collected using 2 part questionnaire. First section was designed to obtain demographic information about the participants as well as details regarding awareness, knowledge and beliefs with hypnosis. Second section obtained information about attitudes and beliefs towards hypnosis using a pre-existing scale, The Valencia Scale on Attitudes and Beliefs Toward hypnosis –Therapist version. (Capafons, Morales, et al.(2006) . 8 factor structure containing 37 items.

Table 1: Age and Gender distribution among study participants

Variable	Category	n	%
Age	21-25 yrs.	75	50.0%
	26-30 yrs.	37	24.7%
	> 30 yrs.	38	25.3%
		Mean	SD
	Mean & SD	26.77	4.61
	Range	21-39	
Gender	Males	73	48.7%
	Females	77	51.3%

Table no 2: Distribution of Socio-demographic characteristics among study participants

Variable	Category	n	%
Domicile	Urban	125	83.3%
	Rural	25	16.7%
Education	Under Graduate	51	34.0%
	Graduate	40	26.7%
	Post Graduate	59	39.3%

Designation	Student	67	44.7%
	PG Resident	44	29.3%
	Senior Resident	11	7.3%
	Consultant	15	10.0%
	Nursing Staff	2	1.3%
	Others	11	7.3%
Marital status	Single	107	71.3%
	Married, living with spouse	42	28.0%
	Married, but separated	1	0.7%
Religion	Hindu	130	86.7%
	Muslim	10	6.7%
	Christian	10	6.7%

Table 3: Comparison of distribution of responses for questions related to belief of Hypnosis using Chi Square Goodness of Fit Test

Questions	Response	N	%	X2 Value	P-Value
1. It is possible for a person to be healed by hypnosis	Yes	85	56.7%	2.667	0.12
	No	65	43.3%		
2. Hypnosis is a quick fix for a long-standing complaint	Yes	47	31.3%	20.907	<0.001*
	No	103	68.7%		
3. People are either hypnotizable or they are not	Yes	91	60.7%	6.827	0.009*
	No	59	39.3%		

Table no. 3 demonstrates that the various responses towards questions related to belief of hypnosis. A significant percentage of study participants [68.7%] disagreed to Question no 2 and responded affirmatively to Question no 3 [60.7%] and the finding was statistically significant at $P < 0.001$ & 0.009 respectively.

Table 4: Comparison of distribution of responses for questions related to Misbelief on Hypnotherapy using Chi Square Goodness of Fit Test

Questions	Response	n	%	X2 Value	P-Value
4. Hypnotic means experiencing imaginary situation that is lacking in factual reality	Yes	101	67.3%	18.027	<0.001*
	No	49	32.7%		

Table no 4: demonstrates that the various responses towards questions related to misbelief on hypnotherapy. A significant percentage of study participants [67.3%: P-value <0.001] agreed to question 4.

Table no 5: demonstrates that the various responses towards questions related to misbelief on hypnotherapy

5. People are stuck in hypnotic trance during or after therapy and cannot come out of it	Yes	34	22.7%	44.827	<0.001*
	No	116	77.3%		
6. Hypnotherapist can make you do things that you don't want to like robbery, murder etc	Yes	65	43.3%	2.667	0.10
	No	85	56.7%		
7. Hypnotherapist has the power to go into your subconscious mind and discover all your secrets like passwords	Yes	76	50.7%	0.027	0.87
	No	74	49.3%		

* - Statistically Significant

Table no 5: Disagreed to question 5 [77.3%: P-value <0.001] and the finding was statistically significant.

Table 6: Comparison of distribution of responses for questions related to awareness on essential skills required for Hypnotherapy using Chi Square Goodness of Fit Test

Questions	Response	N	%	X2 Value	P-Value
8.Hypnotic methods require great skills to administer and response to hypnosis which is determined by the skills of a hypnotist	Yes	127	84.7%	72.107	<0.001*
	No	23	15.3%		
9.Some hypnotic inductions are much more effective than others such as using props and pendulums	Yes	91	60.7%	6.827	0.009*
	No	59	39.3%		
10.Hypnosis greatly reduces or eliminates peripheral awareness and focused attention is essential	Yes	116	77.3%	44.827	<0.001*
	No	34	22.7%		
11. Effects of hypnosis are attributable to relaxation	Yes	104	69.3%	22.427	<0.001*
	No	46	30.7%		

* - Statistically Significant

Table no 6: Demonstrates that the various responses towards questions related to awareness on essential skills required for hypnotherapy. A significant percentage of study participants responded affirmatively to questions 8-12 [84.7%, 60.7%, 77.3% and 69.3%] and the results were statistically significant P <0.009 – 0.001.

Table 7: Comparison of distribution of responses for questions related to awareness on effectiveness of Hypnotherapy using Chi Square Goodness of Fit test

Questions	Response	N	%	X2 Value	P-Value
12.Hypnosis is like mindfulness	Yes	84	56.0%	2.160	0.14
	No	66	44.0%		
13.There are reliable markers of hypnotic state	Yes	86	57.3%	3.227	0.07
	No	64	42.7%		
14.Deeply hypnotic person is a robot like, connects automatically with hypnotherapist suggest and cannot resist hypnosis	Yes	78	52.0%	0.240	0.624
	No	72	48.0%		
15.Hypnosis is reliable method to improve recent memory	Yes	75	50.0%	0.000	1.00
	No	75	50.0%		
16.Hypnosis age regression can retrieve accurate memories from the distant past	Yes	82	54.7%	1.307	0.25
	No	68	45.3%		

Table no 7: Demonstrates that the various responses towards questions related to awareness on effectiveness of hypnotherapy. There was mixed response related to question no 12-16 and the results were not statistically significant [p value: 0.14 to 1].

Table no 8: Descriptive for different domains of Valencia Scale questionnaire among study Participants

Domains	Mean	SD	Min	Max
Fear	1.81	1.45	0	4
Memory	2.25	1.31	0	4
Help	3.52	1.73	0	5
Control	2.44	1.59	0	5
Collaboration	1.51	0.74	0	2
Interest	1.24	1.16	0	3
Magic	1.05	1.12	0	3
Marginal	1.55	1.11	0	3

Table no 8: The table illustrates the descriptive for various domains of Valencia scale among study participants. The mean scores for fear domain was 1.81 ± 1.45 , for memory domain was 2.25 ± 1.31 , for help domain was 3.52 ± 1.73 , for control domain was 2.44 ± 1.59 , for collaboration domain was 1.51 ± 0.74 , for interest domain was 1.24 ± 1.16 , for magic domain was 1.05 ± 1.12 and for Marginal domain was 1.55 ± 1.11 . The range of scores for various domains of Valencia scale among the study participants was noted between 0 to 5 scores.

Table no. 9: Gender wise comparison of mean scores of different domains of Valencia scale using Mann Whitney Test

Domains	Males		Females		Mean Diff	P-Value
	Mean	SD	Mean	SD		
Fear	1.70	1.41	1.91	1.48	-0.21	0.38
Memory	2.37	1.17	2.13	1.42	0.24	0.34
Help	3.77	1.54	3.29	1.87	0.48	0.15
Control	2.51	1.63	2.38	1.57	0.13	0.61
Collaboration	1.48	0.73	1.55	0.75	-0.07	0.41
Interest	1.36	1.18	1.13	1.14	0.23	0.22
Magic	1.14	1.18	0.97	1.05	0.17	0.50
Marginal	1.58	1.09	1.52	1.14	0.06	0.76

Table no 9: The test results demonstrate a comparison of mean scores of different domains of Valencia scale scores between genders. The male study participants showed relatively higher mean scores for memory, help, control, interest, magic and marginal domains as compared to their female counterparts, whereas the mean scores of fear and collaboration was relatively higher in females as compared to males. However, no significant differences were noted between genders for various domains of Valencia scale.

Table no. 10: Comparison of mean scores of Valencia Scale based on the education level of participants using Kruskal Wallis test followed by Mann Whitney Post hoc Test

Domains	Under Graduate		Graduate		Post Graduate		P-Value	Mann Whitney Post hoc Test		
	Mean	SD	Mean	SD	Mean	SD		UG vs PG	UG vs PG	G vs PG
Fear	2.20	1.3	1.40	1.6	1.75	1.3	0.03*	0.02*	0.07	0.14
Memory	2.39	1.1	2.28	1.4	2.10	1.3	0.53	0.83	0.26	0.49
Help	3.45	1.6	3.15	1.9	3.83	1.6	0.17	0.62	0.13	0.10
Control	2.53	1.5	2.05	1.4	2.63	1.6	0.18	0.14	0.73	0.08
Collaboration	1.45	0.7	1.40	0.8	1.64	0.7	0.04*	0.94	0.04*	0.08
Interest	1.51	1.0	0.77	1.0	1.32	1.2	0.006*	0.001*	0.36	0.03*
Magic	1.39	1.0	0.90	1.1	0.86	1.1	0.006*	0.02*	0.003*	0.81
Marginal	1.75	1.0	1.38	1.0	1.49	1.1	0.26	0.11	0.24	0.64

* - Statistically Significant

Note: UG - Undergraduate, G - Graduate & PG - Post Graduate.

Table no 10: The test results demonstrate that comparison of mean scores of various domains of Valencia scale based on the education level of study participants. There was a significant difference in the mean scores of fear, collaboration, interest and magic domains at $P=0.03$, 0.04 , 0.006 respectively. Multiple pair wise comparison between the education levels revealed that the graduate students showed significantly lesser mean scores for fear as compared to undergraduate students at $P=0.03$. The Postgraduate students showed significantly higher mean scores for collaboration as compared to graduate students at $P=0.04$. The graduate students showed significantly lesser mean scores for interest domain as compared to under graduate and post graduate students at $P=0.001$ & 0.03 respectively. The under graduate students showed significantly higher scores for magic domain as compared to graduate and post graduate students at $P=0.02$ & $P=0.003$ respectively.

Table no 11: Comparison of mean scores of different domains of Valencia scale based on the belief & awareness on hypnosis among study participants using Mann Whitney test

Domains	Yes		No		Mean Diff	P-Value
	Mean	SD	Mean	SD		
Fear	2.00	1.41	1.55	1.46	0.45	0.04*
Memory	2.44	1.19	2.00	1.41	0.44	0.04*
Help	3.93	1.48	2.98	1.89	0.95	0.001*
Control	2.73	1.51	2.06	1.63	0.67	0.01*
Collaboration	1.65	0.65	1.34	0.82	0.31	0.01*
Interest	1.41	1.18	1.02	1.11	0.39	0.03*
Magic	1.24	1.14	0.82	1.04	0.42	0.01*
Marginal	1.53	1.12	1.57	1.12	-0.04	0.83

Table no 11: The test results demonstrate the comparison of mean scores of various domains of Valencia scale based on the belief and awareness of hypnosis among the study participants. The mean scores for various domains of Valencia scale was significantly higher in those study participants who had awareness and belief in hypnosis as compared to those study participants who did not had awareness and belief about hypnosis for healing a health condition in a person. The significant differences between this 2 groups of study participants were noted at 0.001 , 0.01 , 0.03 & 0.04 respectively. However, no significant difference was noted for the marginal domain of Valencia scale between 2 groups [$P=0.83$].

* - Statistically Significant

Discussion

In our study was a mixed response from participants who opines that there is possibility for a person to be healed by hypnosis, 56.7 and 43.3 %, respectively. In our study, 91 participants (60.7%) as compared with rest 59 participants (39.3 %) views that people can either be hypnotized or they cannot be hypnotized. This misconception is related to hypnotic responsiveness which is measured by administering a hypnotic induction, followed by suggestions for altered experience and behavior. Conventionally, approximately 15-20 % of participants are

considered to be highly suggestible, another 15-20 % are low suggestible and the remaining medium suggestible (Lynn et al 2020).

Few studies have found that depth of hypnosis varies within a hypnotic session (Cardcfia, Jonsson, Terhunc, & Marcusson-Clavertz, 2013); (b) highly suggestible individuals pass into the depth of some suggestions but not others, implying that hypnotic responsiveness involves multiple and potentially discriminable suggestion-related abilities (Barmier, Terhunc, Polito, & Woody - 2021); (c) some highly suggestible individuals experience greater suggestion-related involuntariness than other equally hypnotizable individuals (Terhunc, Cardcfia, & Lindgren, 2011); and (d) on average, hypnotic responsiveness decreases significantly over repeated testing (Fassler, Lynn, & Knox, 2008) and increases appreciably with evidence-based training.

Nearly 65 participants (43.3%) felt that a hypnotist can make people do things that they would not like to do otherwise and the rest 85 participants (56.7%) did not hold the same view. Another misbelief is that a hypnotist has the power to go into people's subconscious mind and discover all the secrets of the people who are being hypnotized; with regards to this misbelief we observed that 76 participants (50.7%) responded affirmatively whereas the remainder 74 participants (49.3%) disagreed.

One prevalent misconception is that people believe, an expert hypnotist has an exceptional ability to hypnotize anybody. In one survey by Green et al - 2006, nearly 79% of participants concurred that "accomplishing a desired result of hypnosis depends on the skills of the hypnotist." In our study, majority of the participants (84.7%) also agreed for the same. However, this is entirely myth; in reality, conducting hypnosis on any individual does not require any exceptional skills or capabilities beyond those required for essential basic social interactions.

There are various methods which had already been used to induce hypnosis, especially in clinical practice, such as the use of props and pendulums, which may or may not be effective as compared to some other hypnotic induction methods. In our study, we found that 91 participants (60.7%) viewed that some hypnotic induction methods are much more effective than use of props and pendulums. However, various studies concluded that there is no formal structured evidence that suggests the effectiveness of some induction methods over others (Terhunc and Gardena - 2016, Lynn, Maxwell and Green -2017).

Nearly 117 participants (77.3%) in our study are aware that responsiveness to hypnotic suggestibility results in reduced peripheral awareness and increases focused attention. In few studies that were conducted in the past had demonstrated varied responses. In one such study by Green et al - 2006, 62 % of the participants were of the view that "throughout the time of hypnosis, the individual who are being hypnotized are not mindful of the surrounding but are only conscious of what the hypnotist is demonstrating." Nevertheless, in another study conducted by Sheehan and McConkey - 1982, they described several capabilities of hypnotized individuals who were responsive to the hypnotic suggestibility while at the same time they were aware of the things happening in

their surrounding environment.

In our study, we found that 104 participants (69.3%) believed that the effects of hypnosis are due to relaxation. E. I. Banyai, F. R. Hilgard- 1976, found that physical training based-induction methods were as effective as relaxation based induction. Capafons -2004 and Wark- 2006 had also demonstrated that other hypnotic induction technique such as alert induction which was not less effective than a relaxation-based induction technique.

We found that 78 participants (52%) view that “a deeply hypnotized individual is robot like, follows and responds automatically to hypnotic suggestibility and thus cannot resist hypnosis,” whereas 72 participants (48%) holds the opposite view. This is one of the many misconceptions among the people. In one study by Spanos et al - 1985, it was observed that participants did not respond to 95 % of the suggestions when they were informed that they may get absorbed during hypnotic suggestibility and yet resist them.

Seventy-five participants in our study view -hypnosis is a definitive method in improving recent memory whereas the rest of the seventy-five participants disagreed. Lynn et al - 2009, reviewed 23 studies and mentioned that individuals who were hypnotized demonstrated a high degree of confidence in recollecting their memories during the time of hypnosis or after hypnosis as compared to individuals who did not undergo hypnosis, and also there was a high degree of confidence in recalling incorrect memories among hypnotized individuals which they had previously denied.

Can hypnotic age regression retrieve accurate memories from the remote past? This is another myth. We observed that 82 participants (54.3%) agreed for the same whereas 68 participants (45.3%) disagreed. Nash's - (1987) Meta-analytic review of several years of research on hypnotic age regression in which individuals hear suggestions to recall childhood memories and it usually differs from memories of children of a particular age group.

Conclusion

The intent of this study is to create awareness among medical professionals concerning the effectiveness of hypnosis and consider its use in their practice in various disorders including pain management, anxiety disorders, phobias, depression etc. and as adjunct to cognitive behavioral therapy. We suggest that hypnosis would be utilized more widely if accurate information were widely circulated, in addition to this it shall encourage participant involvement if myths and misconceptions about hypnosis are eradicated.

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