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Original Research Article

To Study Impact of Targeted Intervention on Knowledge and Attitude towards Perinatal Depression Among Primary Health Care Workers of Jamnagar District

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Abstract:

Background: Around one in seven women experiences perinatal depression. Current Government of India programs and policies focus heavily on the physical health of mother and child in perinatal period, however there is a lacuna when it comes to resources and training of Primary Health Care Workers to cater to the mental health care needs of women in perinatal period.

Aim: To assess baseline knowledge and attitude of Primary Health Care workers working with perinatal women, to train them regarding identification and management of perinatal depression using Targeted training program and to reassess change in their knowledge and attitude post intervention.

Method: This was a pre-post intervention study design with purposive sampling. Study was conducted with Primary Health Care Workers at six Community Health Centers of Jamnagar district. Custom survey instrument was constructed, containing three sections: demography, knowledge and attitude. The pre-post analysis of knowledge scores were done using paired t-test. While the change in responses in Attitude section was analyzed using McNemar's test.

Result: Total knowledge score mean had improved from 10.0 to 11.9. There were also statistically significant positive changes in certain aspects of attitude towards perinatal depression.

Conclusion: Targeted training programs could be an effective way to improve knowledge and attitude of Primary Health Care Workers towards perinatal depression.

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Introduction

Perinatal depression is defined as depression occurring in a woman while she is pregnant or within 12 months of delivery.[1]

An estimated one in seven women experiences perinatal depression.[2]

Within India, prevalence estimates for antenatal or postnatal depression range between 6% and 48%. [3–10] The high variation in estimates could be due to the use of screening tools; two studies from South India which used diagnostic interviews had prevalence estimates of 11% and 16%.[4,10]

Perinatal depression is serious, but treatable medical illness. Its symptoms include feelings of extreme sadness with anxiety, changes in patterns of sleep and appetite and/or lethargy, and at the extreme of its severity, thoughts of harming self or even the child. On presentation the symptoms of perinatal depression do not differ much from depression at any other phase of life, however depression during pregnancy and/or immediately after comes with its own unique challenges and impact in terms of its risk factors, identification and management.

Untreated perinatal depression is not only a problem for the individual's own health and quality of life but can also affect the well-being of the baby who can be born prematurely with low birth weight. Perinatal depression can cause problems with bonding with the baby and can contribute to sleeping and feeding problems for the baby. In the longer term, children of mothers with perinatal depression are at greater risk for cognitive, emotional, developmental and verbal deficits and impaired social skills. [11–13]

The reproductive, maternal, newborn, child and adolescent health (RMNCH + A) Program, in effect since 2013, caters to pregnancy and childbirth-related health needs. The focus is limited to the physical well-being of the woman-childbearing or mother. [14] The mental health needs of the Indian population fall under the National Mental Health Program (NMHP).[15] Even after several revisions

of the program through five-year plans, it still fails to encompass maternal mental health. India also launched a National Mental Health Policy in 2014 focused on vulnerable populations and de-stigmatization of mental health across India's vast population, but it too fails to include women in the perinatal period as a population susceptible to psychiatric problems.[16]

As a result of a lack of focus on training, these Primary Health Care Workers lack adequate knowledge, aptitude, confidence and skills to help and care for women with perinatal depression. [17,18]

Aims and Objectives

1. To assess the baseline knowledge and attitude of Primary Health Care Workers regarding perinatal depression.
2. To determine the effectiveness of a training program on knowledge and attitude regarding perinatal depression using Pre- and Post-intervention surveys.

Methodology

Study Design: This was a pre-post intervention study. The purpose of the study was to train and provide information to Primary Health Care Workers (PHCWs) regarding perinatal depression. The study was conducted at six Community Health Centres (CHCs) of Jamnagar district. The study was conducted over a two-week period in March 2023. As a part of this study, the knowledge and attitude regarding Perinatal Depression (PND) of PHCWs was assessed with the help of a self-administered custom survey instrument. The survey instrument was administered pre-intervention and immediately post-intervention.

Study Population

The participants were Primary Health Care Workers.

- Sampling Technique

The sampling method used in this study was purposive sampling.

- Selection Criteria

1. Inclusion Criteria:

PHCWs working with perinatal women, including Medical officers, nursing staff, female health workers (FHWs) and multipurpose health workers (MPHWs) - male and female who were working at the six CHCs and its associated Primary Health Centres (PHCs) and Sub Centres (SCs) at the time of conduction of study.

PHCWs who consented to be part of the study.

2. Exclusion Criteria: PHCWs who refused to consent to be a part of the study.

PHCWs who are not involved in perinatal care such as, pharmacists, dressers, laboratory technicians, peons, clerks, etc.

Intervention: The intervention was a two-hour training program which included a power-point presentation, wherein PHCWs were provided with information about epidemiology, clinical features, screening tools and the role of PHCWs in management of perinatal depression, in the form of psychological first aid. They were also trained how they could integrate screening for perinatal depression as a part of their general practice at their point of contact with perinatal women, with the help of Edinburgh Postnatal Depression Scale-3 (EPDS-3).

Survey Instrument: The survey instrument was a self-administered questionnaire which consisted of 3 parts.

The first part encompassed demographic data of the participants, including their name, age, sex, designation, educational qualification, work experience and marital status. It also included questions on participants past history of psychiatric illness, history of mental illness in their family or friends and history of previous training in psychology or psychiatry as a part of academics or during their career.

The second part consisted of 13 questions to assess knowledge regarding perinatal depression which could be answered from 3 provided options, "yes", "no", or "don't know". This questionnaire was developed after modifying a 15- item tool developed by the Department of Psychiatry, National Institute of Mental Health and Neurosciences (NIMHANS) in Bangalore.[19] The questions 9, 10 and 11 are developed to evaluate the participants' knowledge of the impact of perinatal depression on mother and child. Questions 7, 12 and 13 are concerned with the management of depression.

The third part of the survey instrument was adapted from the Depression Attitude Questionnaire (1992). The statement items of DAQ were modified for use with regards to perinatal depression.[20] The original DAQ consists of 20 statements scored on a 0 to 100 mm visual analogue scale between 'strongly disagree' (0) to 'strongly agree' (100). For ease of administration, it was converted into a 3- point Likert scale; "agree", "don't know" and "disagree." The questions can be grouped into 3 subscales 1) Depression as a disease, 2) Aptitude and 3) Treatment.[21] Changes were made in two items of the original questionnaire, in item 1, " in perinatal period" was added at the end of the sentence to make the statement more relevant to our study, and item 20 was changed to "Depression is a normal thing to experience during pregnancy or post pregnancy which will get better on its own."

The questionnaire was pilot tested on a small group of 10 PHCWs to assess understandability, internal consistency and reliability. Cronbach's alpha was calculated to assess internal consistency and was found to be 0.82 for the knowledge section and 0.79 for the attitude section indicating good internal consistency.

Collection of Data: The survey instrument was filled up on paper by the participants under supervision of the Principal Investigator and the staff from the Psychiatry department who were trained in the details of methods of data collection and details of questionnaires. The pre intervention part of the survey instrument was administered before the training program and post intervention section was filled immediately at the end of training program.

Operational Definition

1. Correct knowledge - The responses in the knowledge section of survey instrument are scored as '1' for each correct response. Correct response for all the questions was 'yes' except for questions 4 and 8 where the correct response was 'no'. The score was given as '0' for any response other than the correct one.
2. Favourable Attitude - The responses in the Attitude section of the instrument are classified into either favourable responses or unfavourable ones. For statements 1,4,8,9,11,14 and 16 'agree' response was considered as a favourable response while for statements 2,3,5,6,7,10,12,13,15,17,18,19 and 20 'disagree' response was considered as a favourable response. Any response other than the favourable one, was considered as an 'unfavourable response'.

Ethical Considerations: The study protocol was reviewed and approved by the Institutional Ethics Committee. Informed written consent was taken from all participants before administering the pre-intervention questionnaire. Participation in the study was voluntary. The collected data was kept confidential and deidentified before analysis.

Data Analysis: The responses of participants who completed both the Pre and Post Intervention surveys were only considered for analysis. The data was assessed in terms of mean knowledge scores of the individuals before the intervention and change in the total knowledge mean score post intervention using paired t-test. The attitude was assessed in terms of the number of individuals with a favourable attitude. The change in number of individuals with favourable attitude pre- and post-intervention was analyzed using McNemar's test.

Results

There was a total of 347 participants working under the six CHCs of the district and 298 completed both the Pre and Post intervention survey. Only these 298 responses were considered for statistical analysis. The mean age of the participants was 30 years. Majority of these individuals were females (61.07%). Most of these participants were working in rural areas (73.93%). Very few of the participants were doctors (7.72%) or staff nurses (2.35%). Mean work experience of these participants was 3.11 years ranging from 1 month to 35 years. However, as table 1 indicates, the majority (53.35%) of the participants' work experience ranged between 1 to 5 years. Majority of these participants (89.93%) had some training in psychology or psychiatry as a part of their curriculum or during their career. Only 8 participants had a past history of psychiatric illness (2.68%) and 47 participants had friends or family with a history of psychiatric illness (15.77%).

Table 1: Demographic Characteristics of the Participants

Age in years	**N (%)**
20-30	188 (63.09)
31-40	68 (22.82)
41-50	20 (6.71)
51-60	22 (7.38)
Gender	
Male	116 (38.93)
Female	182 (61.07)
Designation	
Medical Officer (MBBS, AYUSH)	23 (7.72)
Community Health Officer	98 (32.89)
Female Health Worker	71 (23.83)
Multi-Purpose Health Worker	99 (33.21)
Staff Nurse	7 (2.35)
Location	
Urban	74 (24.83)
Rural	224 (75.17)

Marital status	
Married	168 (56.38)
Unmarried	130 (43.62)
Years of work experience	
<1 year	64 (21.48)
1-5 years	159 (53.35)
>5 years	75 (25.17)
Did they study psychiatry or psychology as part of their curriculum or did they receive any training in psychiatry during their career?	
Yes	268 (89.93)
No	30 (10.07)
Past History of psychiatry illness of participant	
Present	8 (2.68)
Absent	290 (97.32)
History of psychiatric illness in friends or family	
Present	47 (15.77)
Absent	251 (84.23)

Table 2 shows change in mean scores of individual items of knowledge questionnaire, pre and post intervention, which was analyzed for statistical significance using paired t-test. There was significant change in mean scores of 8 of the 13 items of the questionnaire.

Table 2: Item-wise analysis of Knowledge Questionnaire Scores

Sr. No.	Questions	t-statistic	df	p-value	Mean difference	SE difference
1	Have you ever heard of "Depression"?	-1.738	297	0.083	-0.01007	0.00579
2	Have you ever heard of the words like "Perinatal depression" or "Antenatal depression" or "Postnatal depression"?	-8.854	297	**<0.001***	-0.24832	0.02805
3	Do you think depression is a major health problem?	-1.547	297	0.123	-0.03356	0.02170
4	Depression is caused by charms, witchcraft or evil spirits	-0.288	297	0.773	-0.00671	0.02328
5	Patients with depression are danger to themselves and others	-4.008	297	**<0.001***	-0.09732	0.02428
6	Depression can lead to suicide or suicide attempts	-0.727	297	0.468	-0.01007	0.01385
7	Depression is an illness that can be treated with medical intervention	-2.434	297	0**.016***	-0.04362	0.01792
8	Depression can be treated by faith healers	1.444	297	0.150	0.03020	0.02092
9	Depression has effects on delivery and foetal outcomes	-2.744	297	**0.006***	-0.06376	0.02324
10	There is increased risk of perinatal depression in woman who has had perinatal depression in past	-12.215	297	<**0.001***	-0.43289	0.03544
11	There is increased risk for child suffering from depression if mother had perinatal depression	-10.126	297	<**0.001***	-0.39262	0.03877
12	Fluoxetine, Escitalopram and Sertraline are all antidepressants	-13.448	297	**<0.001***	-0.45638	0.03394
13	Mild depression can be treated with psychotherapy alone	-3.318	297	**0.001***	-0.11745	0.03540

* - indicates a p-value of <0.05.

Table 3 shows the comparison of mean total scores of knowledge, mean scores on items related to impact of perinatal depression and mean score of management related questions, pre and post

intervention. As shown in the table, using paired t-test the change was positive and very significant in all three.

Table 3: Category-wise analysis of Knowledge Scores

		Mean and SD	t-statistic	df	p-value	Mean difference	SE difference
Total score	Pre-Test	10.0 ± 1.73	-14.7	297	**<0.001**	-1.883	0.1279
	Post-Test	11.9 ± 1.32					
Impact of perinatal depression (Item 9,10,11)	Pre-Test	1.64 ± 0.858	-12.7	297	**<0.001**	-0.889	0.0700
	Post-Test	2.53 ± 0.739					
Management (Item 7,12,13)	Pre-Test	2.09 ± 0.786	-11.1	297	**<0.001**	-0.617	0.0557
	Post-Test	2.71 ± 0.503					

Note. H_a $\mu_{\text{Measure 1 - Measure 2}} \neq 0$

Table 4 shows change in total number of individuals with favourable responses for each item of the modified Depression Attitude Questionnaire. The change was assessed for statistical significance using McNemar's test and as shown in the table the results were significant in 10 out of the 20 items of the questionnaire.

Table 4: Item-wise analysis of Depression Attitude Questionnaire responses

Sr. No.	Statement	Favourable response	N = participants with Favourable responses		p-value
			Pre-test	Post- test	
1	During the last 5 years I have seen an increase in the number of patients presenting with depressive symptoms in perinatal period	Agree	129	263	**<0.001***
2	Majority of depression cases I see originated from recent misfortune	Disagree	97	77	**0.033***
3	Most depressive disorders improve without medication	Disagree	94	109	0.120
4	Biochemical abnormality is at the basis of more severe depression.	Agree	121	213	**<0.001***
5	Difficult to differentiate unhappiness or a clinical depressive disorder that needs treatment	Disagree	64	77	0.144
6	It is possible to distinguish two main groups of depression, one psychological origin and other with biochemical mechanism	Disagree	102	219	**<0.001***
7	Becoming depressed is a way that people with poor stamina deal with life difficulties	Disagree	64	94	**<0.001***
8	Depressed patients are more likely to have experienced deprivation in early life than other people	Agree	226	265	**<0.001***
9	I feel comfortable dealing with the depressed patients	Agree	165	222	**<0.001***
10	Depression reflects a characteristic response which is not amenable to change	Disagree	127	126	0.929
11	The primary health care worker could be a useful person to support depressed patients	Agree	274	282	0.194
12	Working with depressed patients is heavy going, tedious	Disagree	201	225	**0.007***
13	There is little to be offered to depressed patients who do not respond to what primary health care workers do	Disagree	195	179	0.102
14	It is rewarding to spend time looking after depressed patients	Agree	202	238	**<0.001***

15	If depressed patients need antidepressants, they are better off with psychiatrists than with primary health care workers	Disagree	44	39	0.508
16	Antidepressants usually produce a satisfactory result in the treatment of depressed patients in general practice	Agree	188	282	**<0.001***
17	Psychotherapy for depressed patients should be left to a specialist.	Disagree	81	80	0.914
18	If psychotherapy were freely available, this would be more beneficial than antidepressants for most depressed patients	Disagree	33	36	0.639
19	Psychotherapy tends to be unsuccessful with most depressed patients	Disagree	47	34	0.063
20	Depression is a normal thing to experience during pregnancy or post pregnancy, which will get better on its own	Disagree	94	108	0.162

Table 5 shows analysis of the change in response in the three domains explored by the DAQ ('depression as disease' (items 1, 2, 4, 5, 6, 7, 8, 10 and 20), 'aptitudes' (Items 9, 12 and 14) and 'treatment' (Items 3, 11, 13, 15, 16, 17, 18 and 19). Statistically significant changes were noted in the three domains after the intervention. [21,22]

Table 5: Subscale analysis of Depression Attitude Questionnaire responses

	Pre-Test N= 298	**Post-Test N=298**	**McNemar Test p-value**
Subscale 1 Depression as a disease (Items 1, 2, 4, 5, 6, 7, 8, 10 and 20)			
Favourable	113.78	160.22	<0.001
Unfavourable	184.22	137.78	
Subscale 2 Aptitudes (Items 9, 12 and 14)			
Favourable	189.33	228.33	<0.001
Unfavourable	108.67	69.67	
Subscale 3 Treatment (Items 3, 11, 13, 15, 16, 17, 18 and 19)			
Favourable	119.5	130.13	<0.001
Unfavourable	178.5	167.87	

No significant correlation was found between the various aspects of demography and change in Pre- and Post intervention survey knowledge scores or attitude.

Discussion

a) Knowledge

The total knowledge score pre intervention was 10.0 out of a maximum possible score of 13. This could be in part due to psychology and psychiatry being a part of curriculum of most of nursing courses in the country. Also, the continuous awareness programs regarding mental illnesses being conducted may have contributed to good scores. [15]

Two Indian studies which aimed to assess the effectiveness of training program on knowledge regarding postnatal depression had similar outcomes where the training programs had been effective in improving knowledge scores.[23,24] Both these studies were conducted on staff nurses working in a tertiary care hospital. In the study by Varotariya et al. the knowledge scores were compared based on 3 categories: 1. Aetiology and epidemiology, 6.94 to 7.87, 2. Clinical features and diagnosis, 3.17 to 4.27 and 3. Management and prognosis, 5.42 to 5.68.[23] The change in scores was significant only for the first 2 categories. As the questionnaire used in our study is different from the one used in this study, direct comparison cannot be made, however the categorical mean score for management had significantly improved in our study, from 2.09 to 2.71.[23] In the study by Hiremath et al. the knowledge score had improved from score 8.22 to 23.94, with a t-value of 31.59 and post intervention survey was conducted on 7th day.[20] To put this into context, in our study the t-value for change in total knowledge mean score was 14.7 and the post intervention survey was conducted immediately after intervention on the same day. This indicates a greater improvement in the study by Hiremath et al. post intervention.

A study by Oladeji et al. conducted in Nigeria was aimed at evaluating the effectiveness of "Cascade Training Program for Perinatal Depression" administered to Primary Health Care Workers. The survey for knowledge about perinatal depression was conducted at 3 points of time, pre training, post training and 6 months post training. The mean of total score had improved from 12.3 to 15.4 and it was statistically significant.[25] A correlation was found between years of service and knowledge scores; however, no such significant correlation between knowledge scores and various aspects of demography was found in our study. In the study by Phoosuwan et al, mean knowledge scores had improved significantly from 8.94 pre intervention to 9.45 post intervention.[26]

b) Attitude

A majority of participants (52% in pre and 61% in post survey) believed that depression was a normal thing to experience during pregnancy and that it would get better on its own without an intervention. Such attitude can lead to poor identification of perinatal depression and worsen the patient's outcome. This would also align with their low agreement with the statement that there were increasing number of patients of perinatal depression in last 5 years.

Majority of participants (55.7 % pre to 61.74% post) believed that (item 3) most depressive disorders do not need medication. This may be due to misinterpretation of the caution ascribed to use of psychotropic medications in perinatal depression. The impact of this attitude could be providing patients with wrong information regarding management of perinatal depression.

47.99% participants in pre- and 69.46% participants in post-survey agree that majority depression cases they see originated from recent misfortune (item 2), indicating their difficulty in differentiating grief from depression. This particular point is also evident from item 5 where around 70% participants agreed that they find it difficult to differentiate unhappiness from depression.

67.11% participants agreed and held onto their opinion post intervention also, that (item 7) being depressed was the way that people with poor stamina deal with life difficulties. Although, there was a statistically significant increase in the number of participants who disagreed with that particular statement. Additionally, there was increase in number of individuals agreeing to the statement (item 10) "depression reflects a characteristic response which is not amenable to change", from 26.17% pre intervention to 52.35% post intervention. The result of these two items indicate that the participants believe that certain individuals are prone to depression, whereas people with strong mindset and adaptability are less susceptible to Depression.

In a study by Oladeji et al. used the Revised Depression Attitude Questionnaire which is a revised version of the instrument used in our study, to assess attitude of the health care workers. Though items have changed in the revised instrument, some of the items which are same, reveal similar results. For example, the increase in the individuals responding favourably or positively to the statement "It is rewarding to spend time looking after depressed patients", "I feel comfortable in dealing with depressed patients" which are similar to item 9 and 14 of our survey instrument. However, the proportion of people with positive or favourable attitude reduced in post survey in the referenced study for items such as "My profession is well placed to assist patients with depression", "Becoming depressed is a way that people with poor stamina deal with life difficulties", "Depression reflects a response which is not amenable to change", "There is little to be offered to depressed patients who do not respond to initial treatments" and "psychological therapy tends to be unsuccessful with people who are depressed" which are comparable to items 11, 7, 10, 13 and 19 respectively. Out of these items 10, 13 and 19 showed similar negative change while the items 7 and 11 showed a contrasting positive change post intervention survey in our study. [25]

Limitation

Since we did post intervention survey immediately, we were unable to assess how much of the impact was retained over a period of time and whether or not that impact translated to practice in terms of better screening and management for perinatal depression. The act of taking the pre-test itself might sensitize participants to the topic or influence their performance on the post-test, which is a common limitation for all pre-post intervention study designs.

Conclusion

This study shows that the most PHCWs have good knowledge regarding Perinatal depression and can be improved even further with the help of targeted training. It was also evident that good knowledge doesn't directly equate to a positive attitude towards perinatal depression. Overall, there was statistically significant positive change in Health Workers' attitude towards perinatal depression. This study asserts the need for more robust, focused and regular training programs catering to the needs of PHCWs and mental healthcare needs of perinatal women.

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