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Substantial reduction of cost of care of PWH by add on homoeopathic medicine reduced the parental anxiety and stress

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Abstract

Introduction and Background: Psychological stress is found to be increasing in the present era because of the number of factors. One of the causes of psychological stress is their concern and anxiety for their child, be it their study or health. Hemophilia is a blood genetic disease which not only carries stress to the patient, but a cause of psychological stress to parents owing to its severity and high-cost management. Stress coping and management becomes difficult for such parents. Therefore this study was undertaken to examine the role of homeopathic medicine in managing psychological stress in parents of people with hemophilia (PWH).

Materials and Methods: 100 parents of PWH were selected by randomized sampling technique from the period 2014-2016 at homeopathy in hemophilia research centre, Nashik. FISC-MR scale was used to measure the levels of stress in 10 different aspects of the life of parents of PWH.

Result: For each scale, the mean difference in before and after treatment was highly significant at $P = 0.0001$.

Conclusion: Parents of PWH suffer from stress associated with children's health condition. It affects parental IPR and relationship with society.

This study has shown that homeopathic medicines are effective in coping with psychological stress among parents of PWH. It has markedly increased the interpersonal relationship and social relationship.

Keywords: Substantial, reduction, cost, PWH, homoeopathic medicines

Introduction

Hemophilia being a chronic disease brings with itself the burden of increased specific demands both medical and non-medical. This increasing demand has an impact on the daily life of the patient as well as their family. Hemophilia being a disease of genetic origin, by birth itself calls for special attention and additional efforts from caregivers than the normal children. While trying to cope with these demands, both financial and extra input for care the parents of people with hemophilia (PWH) experience tremendous stress and anxiety. Be it a minor trauma or massive bleeding, all that is required for the management is factor infusion. So the anxiety of parents, especially mother is directly proportional to the number of factors required by the PWH in hemophilia care and the cost incurred for that. 90% of hemophilia cases reside in villages, which reflect the financial instability with low income per annum and nearby availability of the factors which is patchy and erratic [1]. These two factors are the major stressors for the parents of PWH. The fear of child getting injured, the horrific scenes of unstoppable bleeding and further consequences of a trauma brings about paternal overprotection for the PWH, leading to the caged feeling of the children by parents. While coping with all these the parents of PWH undergo states of depression, anxiety, and altered social relationships. Homeopathy has markedly shown its effectiveness in the management of hemophilia as seen through previous studies [1-7]. Homoeopathic medicines reduce the cost of hemophilia care and management [5]. Moreover, homeopathic medicines are easily available, which relates directly to the major stressor of parents of PWH. So this study was aimed at knowing the effectiveness of homeopathic medicine in management and coping of psychological stress of parents of PWH.

Materials and Methods

Study setting

The samples were collected from homeopathy in haemophilia research centre, Nashik.

Participants

100 parents of PWH were selected by randomized sampling technique from the period 2014-2016.

Method

The data for reduction in the frequency of factors was collected as the factor requirement frequency attributes directly to the parental stress of PWH. The FISC-MR [8] scale was used to measure the levels of stress in 11 different aspects of the life of parents of PWH. The FISC-MR scale is divided into 2 sections. The first section of the scale is used to know the perceived stress of parents. The second section includes coping strategies, which in our research is homoeopathic medicines to PWH. The first sections have 4 areas which include daily care stress, financial-emotional

stress, social stress and financial stress. These 4 areas are further divided into 11 sub scales, for which the data was collected. These 11 sub-scales are marked from high severity to grade 4 and lowest severity to grade 0.

Result

Data of factor requirements before and after of 100 pwh

During the study period the data for factor requirement frequency was taken of 100 patients. It was found that the frequency of factors required after homoeopathic treatment has considerably reduced. The mean of factor requirement before homoeopathic treatment was found to be 9.49 and after treatment the mean was found to be 1.4. The *p* value was found to be 0.0001, which is highly significant.

Table 1: Descriptive statistics

Paired samples - Descriptive statistics						
S. No.	Scale		Mean	N	Std. deviation	Std. error mean
1		Before	9.49	99	7.602	0.764
		After	1.7	99	3.059	0.307

Table 2: Paired t test analysis

Scale	Paired differences			95% CI of the difference		Paired t test value	df	<i>p</i> value	
	Mean	Std. deviation	Std. error mean	Lower	Upper				
	Before- After	7.798	6.588	0.662	6.484	9.112	11.776	98	0.0001***

*** Highly significant

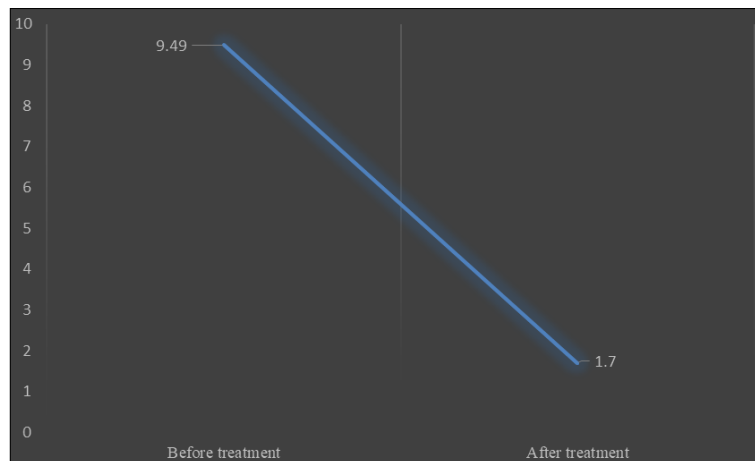


Fig 1: Mean score plot for before and after treatment

Data of FISC-MR scale

The results of subscales of FISC-MR scale showed a great variation in responses of parents, before and after treatment. The subscale 1 for extra inputs for care, the mean was found to be 3.91 before treatment which is very high care: felt to be highly demanding throughout the day, which has reduced to 1.28 which signifies low extra input for care. The subscale 2 had decreased leisure time with mean 3.63 before treatment which is all leisure time totally affected to 1.02 after treatment which is minimally affected. The subscale 3 had neglect of others with mean 2.49 before treatment which is care of family members affected, to mean of 0.78 which is not at all affected. The subscale 4 had disturbed behaviour with mean of 2.53 before treatment which is occasional disturbance and needs extra care to mean of 0.77 after treatment which is nil that is not at all. The subscale 5 had personal distress with mean of 2.35

before treatment which is severe distress, to mean of 0.65 which is no personal distress. The subscale 6 had marital problems with mean of 1.82 before treatment, which is moderate to mean of 0.41 after treatment which is no marital difficulties. The subscale 7 had other interpersonal problems with mean of 1.03 before treatment, which is non co-operativeness and quarrels between family members to mean of 0.24 after treatment, which is no interpersonal problems. The subscale 8 had effects on siblings and other family worries with mean of 0.80 before treatment, which is apprehension and worry regarding others to mean of 0.13 after treatment which is no demonstrable effect. The subscale 9 had altered social life with mean of 1.45 before treatment, which is social contacts cut in one or two areas to 0.37 after treatment which is social life not altered at all. The subscale 10 had social embarrassment with mean of

1.03 before treatment, which is anticipated apprehension regarding stigma to 0.15 after treatment which is no social embarrassment.
The subscale 11 had financial implications with mean of

3.38 before treatment, which is very high to 0.07 which is no financial implications.
The p value of all the 11 subscales was found to be 0.0001 which is highly significant.

Table 3: Scale Homeopathic treatment for PWH Std. deviation Std. error mean N

Que. No.	Scale	Homeopathic treatment for PWH	Mean	Std. deviation	Std. error mean	N
1	Extra inputs for care	Before	3.92	0.31	0.03	100
		After	1.28	0.90	0.09	100
2	Decreased leisure time	Before	3.63	0.91	0.09	100
		After	1.02	0.93	0.09	100
3	Neglect of others	Before	2.49	1.35	0.14	100
		After	0.78	0.95	0.10	100
4	Disturbed behaviour	Before	2.53	1.29	0.13	100
		After	0.77	1.00	0.10	100
5	Personal distress	Before	2.35	1.39	0.14	100
		After	0.65	1.11	0.11	100
6	Marital problems	Before	1.82	1.28	0.13	100
		After	0.41	0.83	0.08	100
7	Other interpersonal problems	Before	1.03	1.26	0.13	100
		After	0.24	0.68	0.07	100
8	Effects on sibs and other family worries	Before	0.80	1.18	0.12	100
		After	0.13	0.44	0.04	100
9	Altered social life	Before	1.45	1.46	0.15	100
		After	0.37	0.85	0.09	100
10	Social embarrassment	Before	1.03	1.44	0.14	100
		After	0.15	0.70	0.07	100
11	Financial implications	Before	3.38	0.69	0.07	100
		After	0.07	0.33	0.03	100

Table 4: Paired t test analysis

Scale	Paired differences				95% CI of the difference		Paired t test value	df	p value
	Homeopathic treatment for PWH	Mean	Std. dev.	Std. error mean	Lower	Upper			
Extra inputs for care	Before-After	2.64	0.91	0.09	2.46	2.82	29.18	99	0.0001***
Decreased leisure time	Before-After	2.61	1.15	0.11	2.38	2.84	22.80	99	0.0001***
Neglect of others	Before-After	1.71	1.23	0.12	1.47	1.96	13.87	99	0.0001***
Disturbed behaviour	Before-After	1.76	1.27	0.13	1.51	2.01	13.83	99	0.0001***
Personal distress	Before-After	1.70	1.36	0.14	1.43	1.97	12.50	99	0.0001***
Marital problems	Before-After	1.41	1.24	0.12	1.16	1.66	11.37	99	0.0001***
Other interpersonal problems	Before-After	0.79	1.15	0.12	0.56	1.02	6.88	99	0.0001***
Effects on sibs and other family worries	Before-After	0.67	1.10	0.11	0.45	0.89	6.08	99	0.0001***
Altered social life	Before-After	1.08	1.24	0.12	0.84	1.33	8.73	99	0.0001***
Social embarrassment	Before-After	0.88	1.43	0.14	0.60	1.16	6.15	99	0.0001***
Financial implications	Before-After	3.31	0.75	0.08	3.16	3.46	44.25	99	0.0001***

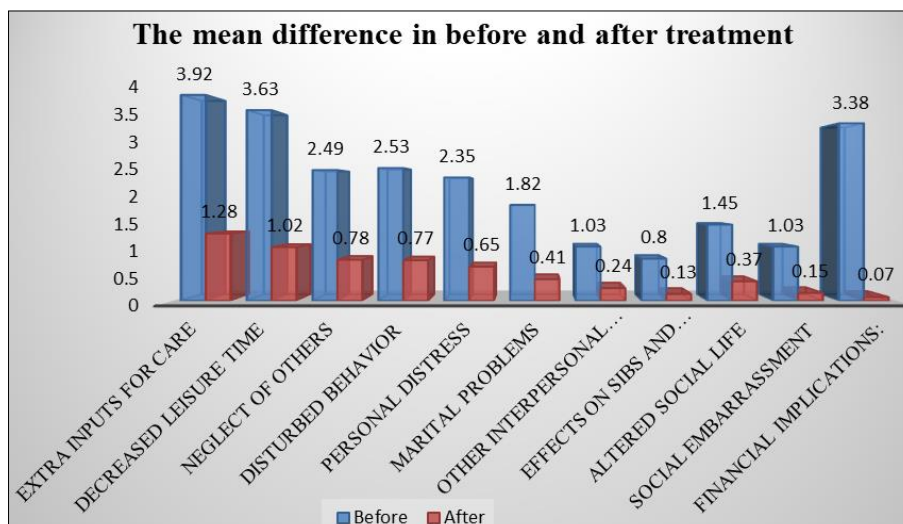


Fig 2: Bar chart shows the mean difference in before and after treatment

For each scale, the mean difference in before and after treatment was highly significant at $P = 0.0001$.

Discussion

Every chronic disease imposes upon patients and his family, specific demands both medical and non-medical [9, 10]. These increasing demands attribute to increasing level of psychological stress of parents [11]. Parents of children with chronic health condition have shown higher levels of psychological distress compared with those of physically healthy children. Parental stress has been identified as major effector of caregivers [10]. Parental quality of life is diminished by the illness burden experienced in daily life and by non-adaptive ways of coping [12, 13]. Parental stress and child's depressive feeling strongly affects psychological well-being.

Stress is the reaction of the organism to the imbalance between burden to which it is exposed to and resources it has to deal with. From this definition of stress as an imbalance between burden and resources follows that not only a shortage but also a substantial surplus of resource that organism is exposed to could result in some form of negative stress. The concept of stress, therefore, includes both stressors and that which lead to stress responses [14].

The stress vulnerability model states that if stress is high enough or prolonged anyone can develop a mental or physical illness. According to this definition, stress-related problems are developed and maintained through interplay among biological psychological and social environmental factors often referred to a bio psychosocial model of stress [15, 16].

Mothers are found to be more depressive and anxious. It has been well documented that mothers experience guilt feeling for transmitting genetic disease to the child. Feeling of guilt is aggravated by father's rejection of child or by father's lack of cooperation in child rearing. Mothers with the family history of hemophilia may have also experienced death from hemophilia in one of their relatives which further heightens their apprehension of their own son's vulnerability. One of the most common consequences of maternal guilt anxiety and depression is the unnecessary restriction of child's physical activities often labelled as maternal overprotection [9].

The financial instability brings major stress. The PWH are mostly living in villages, with economic profile below the poverty line. Whereas hemophilia care and management financially are very high and exorbitant [5]. The availability of factors, as discussed above is patchy and erratic. Although there are some active centers providing treatment to PWH, including surgical treatments, they remain too few, and their functioning is constrained by the cost of anti-hemophilic factors [17-20]. So the factor availability also contributes to the stress of parents of PWH.

Homeopathy substantially reduces the need of clotting factor concentrates in PWH and has helped the PWH improvise the quality of life. So the next inquisitiveness was to know the impact of this improvement in PWH on their parents. So this study was conducted to know the effectiveness of homeopathic medicine in the parental psychological stress of PWH. During the study, the parents of PWH were interviewed using FISC-MR scale. The result of the study was found to be highly significant. This study has shown that homeopathic medicine are effective in coping with psychological stress among parents of PWH. It

has markedly increased the IPR and social relationship.

Conclusion

Parents of PWH suffer from stress associated with children's health condition having an impact on parental interpersonal relationship and relationship with society.

This study has shown that homeopathic medicine are effective in coping with psychological stress among parents of PWH with a qualitative increase in interpersonal relationship and social relationship.

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