



POST NATAL DEPRESSION A CONCEALED MENACE AMONG SOUTH INDIAN WOMEN – A SYSTEMATIC OBSERVATIONAL ANALYSIS

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AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Post-natal depression (PND) is a psychological interruption caused after childbirth. It is considered as a threat to women and the newborn that can even haul to fatality. The prevalence and its impact were surveyed in a rustic setup at Kodiyalam village (Tiruchirappalli district). It is aspired to assay the incidence of postnatal depression in a rustic system and detect the causes along with its deleterious outcomes. A survey method was adopted for the study by using purposive sampling technique. Data were collected by semi- structured interview schedule with 80 females as respondents. The survey reported that 16% of the women were affected by the symptoms of social withdrawal and lack of family intimacy. The poor socio economic status is the main reason for the onset of this discomfort and there is a need for intensive counseling and medications to attest this condition. Though there are numerous antidepressants to combat against this psychological condition the severity of its adverse effects are more than its symptoms. PND is an essential clinical condition that requires advanced research and therapeutic competence to strengthen the health of mother and child. This work suggests the implementation alternative strategy of smart herbal nanocomposites which can fortify the delivery of ayurvedic formulations encased with polymers under nanoscale. This can target therapeutics with a unique distribution that reduces its deleterious adverse effects.

Keywords: Child birth; women; antidepressants; adverse effects, herbal nanocomposite.

1. INTRODUCTION

Globally it is estimated that women are predominated over men and are affected with depression along with severe psychotic disturbances. Women in their vital reproductive years between ages of 25 to 45 are more susceptible to experience depression and are more

vulnerable during pregnancy or after childbirth. Several meta-analysis studies conducted globally [1-3] from major countries revealed the severity of Post-natal depression ,where Arab women showed higher rates such as 22% (United Arab Emirates) and 21% in Lebanon [4-6]. It is estimated that about 0.5% to 61% of women will experience depression after their

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child birth [7,8] and approximately 13% of mothers bearing their first child experience a major depressive episode [9]. This rate translates to hundreds of thousands of women in the United States each year where, PND is one of the leading causes of the murder of children less than one year of age which occurs in about 8 per 100,000 births [10,11].

PND can be detrimental not only to the mother but to her intimate associates of the family. Maternal depression persuades the children's cognitive and social development right from its initial days of life [12]. Conversely the risk factors of this mental ailment include conflict with their husbands and the incidence of postpartum depression among men has been estimated to be between 1% and 25.5% [13]. The exact reason for the onset of this psychiatric illness is not evident but claims to have different reasons such as predisposing genetic factors and enduring environmental factors with stressful events that occurred during the prenatal period can trigger this psychiatric illness (Fig. 1). Studies authenticate those significant alterations in the levels of hormones like estrogen, progesterone, thyroid hormone, testosterone, corticotropin-releasing hormone, and cortisol can contribute to the incidence of PND.

After childbirth a woman experiences a sudden drop in the hormonal level estrogen-progesterone (in particular) and low hormone production by the thyroid gland which causes chemical changes in the brain thereby leading to depression. Researchers have theorized that drastic change in blood pressure and a weak immune system are also some of the

contributing factors which can lead to fatigue and mood swings which are usually seen in this type of depression [14]. Apart from this demographic and socio-economic variables like unemployment, lack of standard living conditions along personal tribulations such as unplanned pregnancy can also act as indices of this deprivation.

PND is a outrageous medical condition that not only affects an individual but also associates with a family that rely on the wellbeing of infants and child development (Fig. 2). The lack of both prenatal and postnatal care leads to an unhealthy infant that may be a premature or low-weight baby. This can fetch a higher risk for increased family stress, lack of bonding with the child, and later child psychopathologies such as emotional issues, conduct disorder and hyperactivity. The health and psychology of the mothers on the other hand are immensely affected and they develop ambiguity about their ability to take care of the new baby that results in anxiety attacks which lead to sleeplessness (insomnia) and fatigue. Hence, they become weak and crop up other emotional factors such as feelings of physical unattractiveness, difficulty in breastfeeding, and lack of family support, especially from her partner.

These excessive psychological disturbances can lead to suicidal thoughts [15]. The children in turn are likely to develop behavioral problems including insomnia, temper tantrums, aggression, and hyperactivity. There is an extensive delay in the growth and development of those children who have depressed mothers. These children lack cognitive

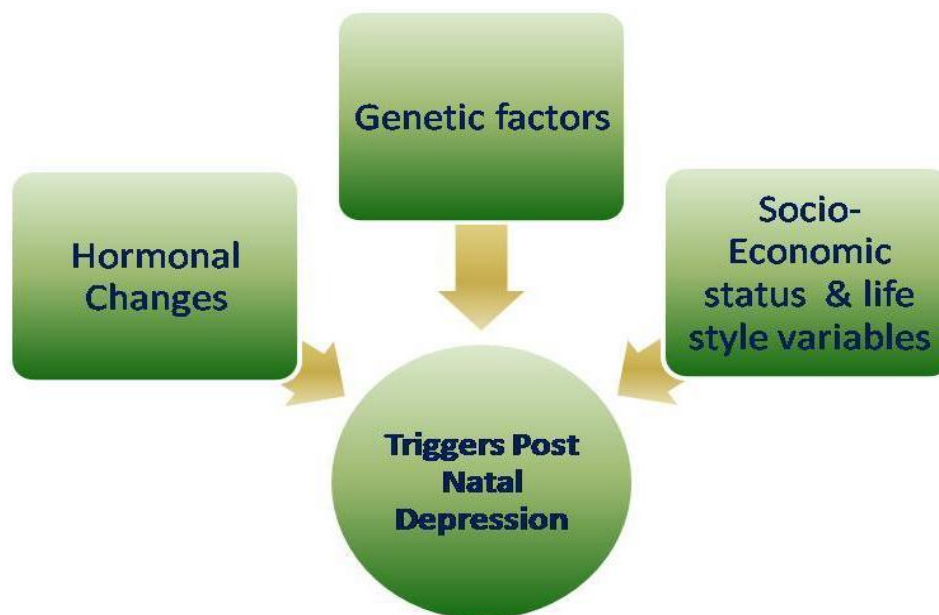


Fig.1. Sources considered for the inception of PND

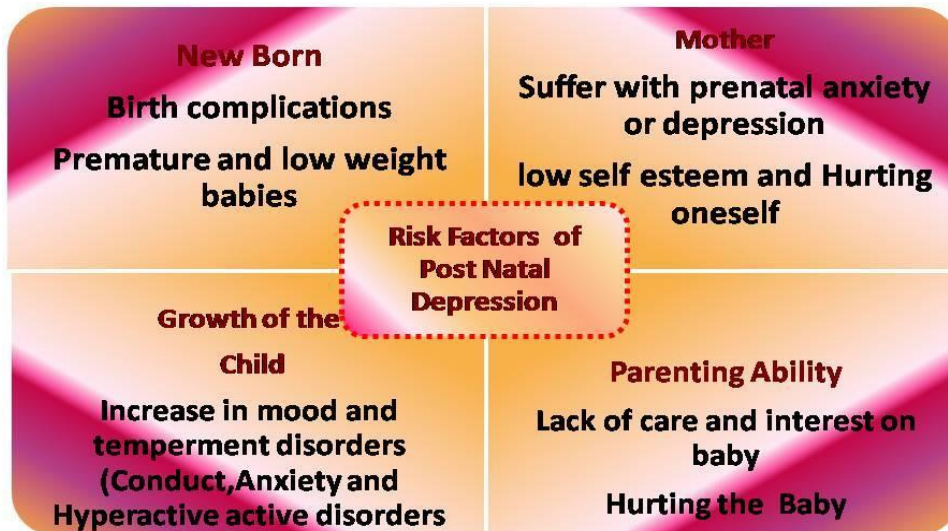


Fig. 2. Possible effects of PND

knowledge and suffer from learning difficulties with symptoms of early depression. Eventually, they are socially deprived and become more anxious with lower self-esteem [16]. Hence there is a significant need to investigate the impact of PND and this assays the incidence in a rural system.

2. MATERIALS AND METHODS

2.1 Descriptive Research Design to Assay the Severity of Post-Natal Depression

A study was formulated to investigate the impact of PND amount rural areas and aims to

- Assay the incidence of postnatal depression in a rural system
- Detect the causes and deleterious outcomes of PND
- Devise an antidote through alternative therapies

2.2 Research Design and Selection of Study Area

The present study was carried out in Kodiyalam, a Village in Andanallur Taluk (Tiruchirappalli District of Tamil Nadu State, India). It is located 16 KM towards the west of District headquarters, Tiruchirappalli, and 2 KM from Andanallur. It comprises of an active group of women who go for work for daily wages and involve themselves in rigid exertion such as building construction , roadways etc.,. There is a mandatory need for them to work because of low socio-economic status and mainly due to the alcoholic addiction of men. Another major problem is caste discrimination, where women are not given

proper social equity. The contemptible circumstance is most of the women are unaware about the importance of maternal health and post -partum care particularly postnatal depression which may affect their entire existence. Hence there is an extensive need to develop awareness and devise a remedy as depicted in Fig. 3.

2.3 Sample Design

The study was organized with the assistance of the extension activities promoting cell under the department of social work which has adopted the village. Many programs targeting Health awareness, entrepreneur development, cleanliness and, safety have been organized with the approval of Bharathidasan university Tiruchirappalli. The sample consisted of married females (80 Nos.) belonging to Kodiyalam village and hence no sampling method, in particular, was used.

2.4 Tools of Data Collection

The main tool used for data collection was a semi-structured interview schedule. It was constructed after reviewing the past researches on women conducted in India with women suffering from maternal depression. The following self-administered interview schedules and scales were included in the tie- up to collect information for the study. Tamil translated versions of the interview schedule were used to collect data.

Interview Schedule: A socio-demographic information form was constructed for this study. Data collection was done by using Adjustment Problem [17].

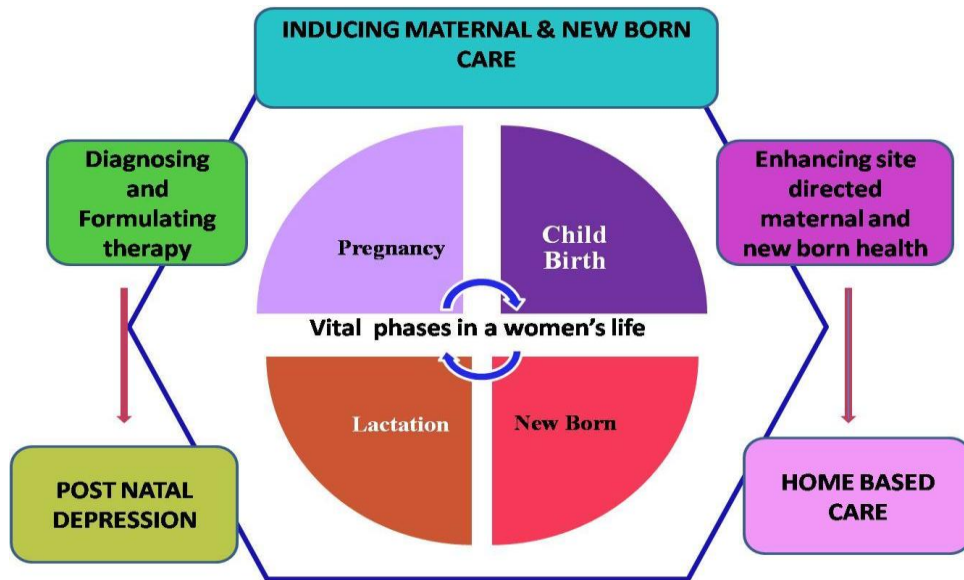


Fig. 3. Possible remedial stratagems combating PND

3. RESULTS

3.1 Status of Women in Kodiyalam

Kodiyalam is a panchayat and consists of two villages under it, Pulival am and Akilapattai (Fig. 4). Socio-economic status is generally low with high racial discrimination. Women, especially there are highly affected with a very low social status. A majority (34.1%) of the respondents come under the age group of 18-28 years, where (92.8%) families have the male as the head of the family. The literacy rate was satisfying where 87.3% of the respondents are illiterate and the remaining 12.7% are literate (highest education is completion of 6th standard). Though education was considered a significant parameter 72.8. % of the respondents got married below 22

years due to their socio-economic status and it is a custom that girls soon after their puberty during their adolescents should get married.

68.5 % of the respondents have 2 children and below and the remaining 31.5% of the respondents had more than three children (Maximum 5 Nos.). The majority 74.4.% of the respondents got married below 18 years, the rationale behind this is that the community married their adolescent girls as soon as their reached puberty. Caste discrimination is very high and men are extremely addicted to Alcoholism and drugs. Hence women strive for their existence especially, from an economic crisis. To meet this, they go for work and are involved in agricultural practices and building construction where there is an enormous amount of physical stress (Fig. 5).

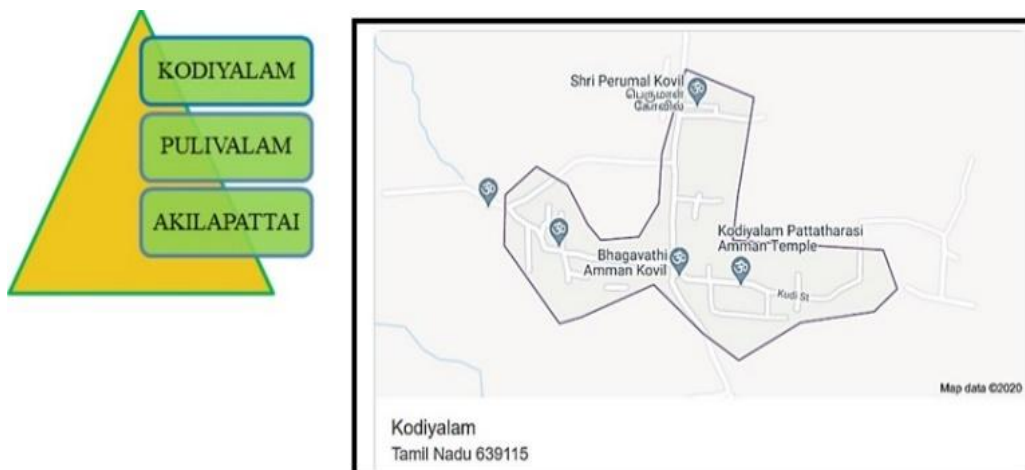


Fig. 4. Geographic location of the study area

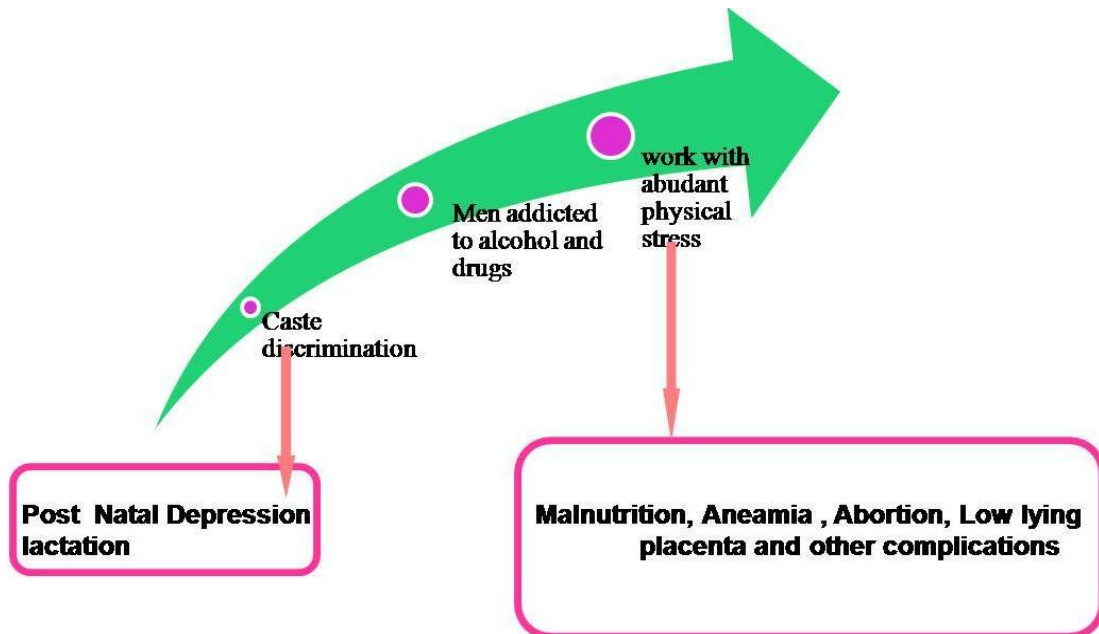


Fig. 5. Socio Economic status of maternal women at Kodyalam

Considering women in their reproductive stage are highly affected here, along with their new born. The above mentioned reasons lead to an improper maternal and inborn care which leads to clinical distress. (Fig. 6) reveals the prevalence of psychological disturbances among women residing in Kodyalam related to PND.

Amongst the parameters assayed a higher alarm was found in low self-esteem categories (35%), which were pursued by social withdrawal (16%), lack of

family acquaintance (16%) and sleeplessness (15%). A minimal incidence of feelings of guilt prevailed among the respondents and this indicates that their children are grown-up securely. The family existence of these women supports them to take care of their children. For instance, their mothers and siblings aid them to cater the needs of children. The utmost dismal in this study is that almost all the respondents are unaware that they are enduring the symptoms of PND. Though the incidence of fatality rate is nil certain suggestions are required to be implemented.

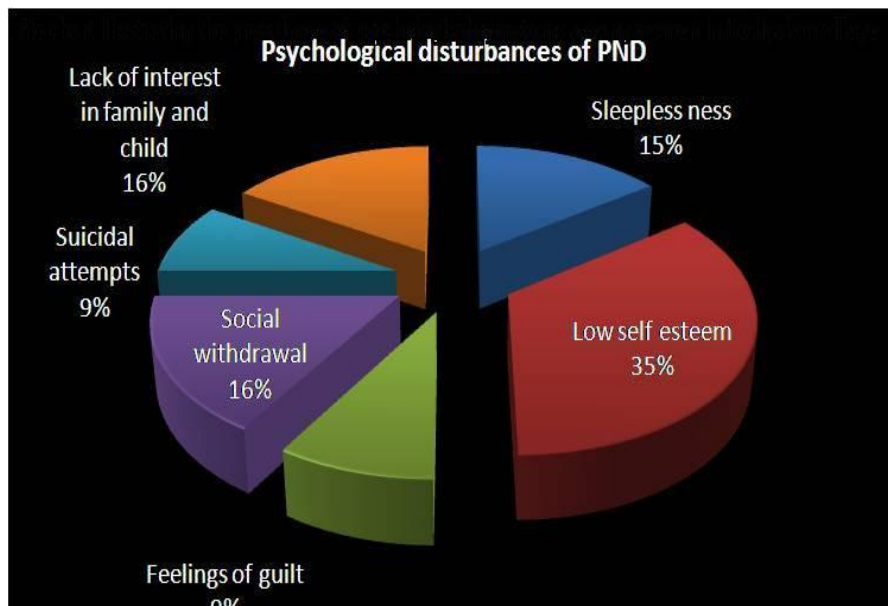


Fig. 6. Prevalence of psychological symptoms among women in Kodyalam village

3.2 Suggestions to be Implemented Towards an Improvement

Kodiyalam is an unprivileged rural set up that needs to be an accomplishment in a refined way. There is a massive requirement in generating awareness on the significance of maternal and newborn care since most of the women are ignorant about the post effects. Various training activities are required which can be met by inviting guest speakers and field experts to educate women.

The component of the extension activity requires:

- Generation of awareness on maternal and new born care
- Training of neo-natal care
- Supplying maternal and new born accessories (home-based care kit)
- Arranging medical camps and regular check ups
- Monitoring hygienic environment devoid of mosquitoes.
- Individual counseling to avoid post-natal depression

A home-based care and monitoring can be extended to lactating women with a very low economic status. The home-based care kit consists of Prenatal such as folic acid supplement, Iron, calcium with vaccination schedule for the new born. Additionally, they are erudite with hygienic practices and monitored against mosquitoes. The respondents of Kodiyalam village are at risk of exposure to post-natal depression and this is due to their low socio economic status and family issues. Hence there is an extensive need for counseling and emotional support to keep both the mother and the newborn active.

4. DISCUSSION

Women are the imperative cause of existence and their health worldwide is a significant display to recognize universal welfare. The health care of women and children is an indispensable constituent in our country, as people depend on family subsistence. Presently, women are stumbled upon various health issues in particular maternal health which was considered to be easy during ancient times but at risk today. Though the medical field has advanced and doing miracles, the threat postpartum obscurity and neonatal deaths intrude the normal existence. Specifically, women in rural area are still unaware about the threat involved in lack of maternal and new born care. On the other hand, Women face challenges when it comes to socio-economic power, status, position, and dependence, which can contribute to

depression. In particular postpartum depression (PND) is an indispensable component of women health care, which affects the new born immensely by influencing Lactation and lack of attention leading some health issues which even haul to post natal deaths [18].

Post-natal depression can be damaging for the growth and healthy development of young children, who depend heavily on their parents for nurture and care [19]. When undetected and untreated places millions of children in India at risk each day. Treating post-natal depression and addressing its negative effects which can even lead the mother to kill her child should be monitored early to ensure child's development and safety. Though several antidepressants are available it is at risk to consume them during maternity. This would lead to several adverse effects that would interrupt the child's health. Safe and effective depression treatments are available, but the delivery of these services, especially to low- income families, requires new and innovative approaches. Thus, it is essential to investigate this issue specifically among mothers residing rural areas with low socio-economic status.

Though pharmacotherapy of modern medicine is well developed with chemical units it faces several challenges among which, adverse effects and lethal dosage levels have been highlighted. Antidepressants are standard medication subscribed to combat postpartum depression, even during breastfeeding [20-22]. Nevertheless, women after their first child delivery are reluctant to take medications while nursing because they are concerned about the potential adverse effects on their infant. Further, antidepressants are not universally effective and often produce unacceptable side effects. Many women prefer to discontinue the course of antidepressant dosage rather endure such side effects that even worsen the symptoms of PND.

Therefore, approaches to alternative treatment are considered as a merit for postpartum depression. Proficient alternative treatments (Fig. 7) such as acupuncture, homeopathy, herbs, dietary supplements, massage and relaxation techniques, have been increased relatively increasingly against this mental ailment [23-25]. Alternative medicine is the use of a nonconventional approach instead of conventional medicine. On the other hand, there is a distinct category of medications which is termed complementary medicine. It is a nonconventional approach used along with conventional medicine. These agents sanctify less adverse effect profile and comparable in efficacy to their synthetic counterparts [26,27].

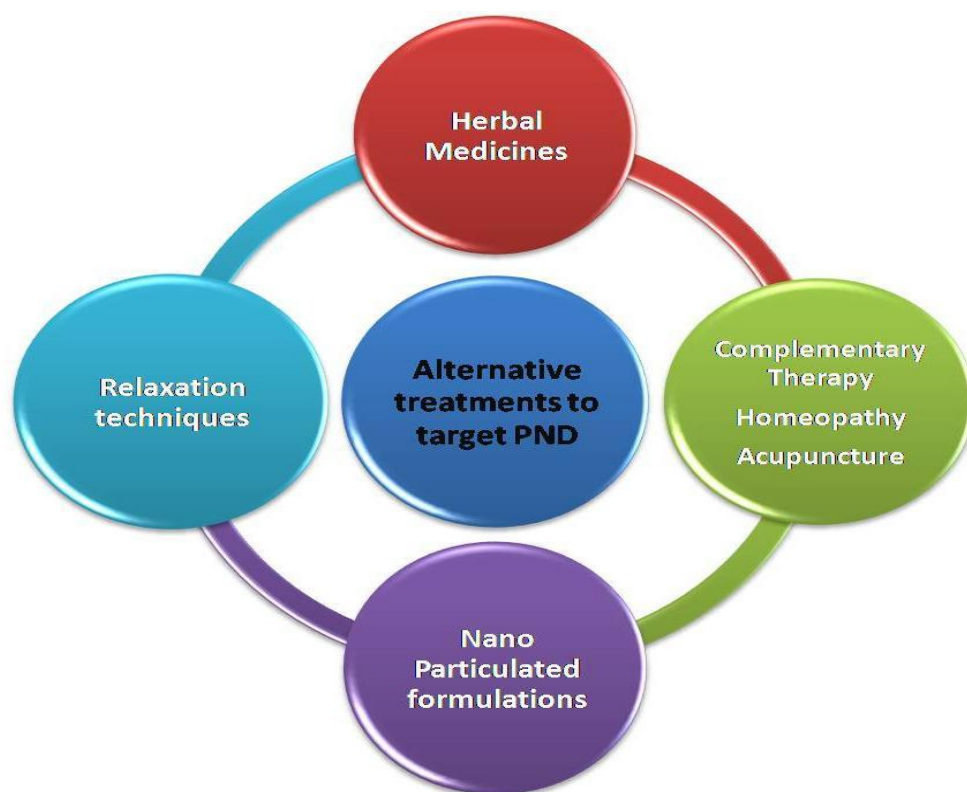


Fig. 7. Probable alternative measures to treat PND

Ayurvedic herbs and medicinal plants have an immense fervor in various human ailments. Deplorably the active constituents of the plants require certain amendments that would lead to an unblemished effect. The vital phytoconstituents constituents such as flavonoids, tannins, and terpenoids, are highly soluble in water, but have low absorption, due to which they are unable to cross the lipid membranes of the cells. An additional snag about phytocompounds limits its usage due to high molecular size, poor absorption that results in loss of bioavailability and efficacy [28]. Nanotechnology provides a solution to these deficits and hence has been widely proposed to synchronize with herbal medicine.

Various research works have substantiated smart herbal formulations as nano drugs extensively and these type or nanoparticulated systems might be suitable to across the BBB and deliver antioxidants to combat the Oxidation stress in brain [29,30]. To compete with the rate of severity in postnatal depression, there has to be an extensive rise in the therapeutic index. Multiple and synchronized therapy of combining the active ingredients of herbal extract would be an ideal stoppage solution. Polymeric nanocomposites augment the efficacy of these herbal formulations

thereby causing fewer side effects that can render an ideal curative approach.

5. CONCLUSION

Post natal depression is a veiled burden that distorts the physical and mental health of women and her associates. Consequently, it has a firm impact on the health and the psychology of the new born and children. The contemporary life style and environmental factors create stress and influence the mental stability of fathers. Hence the psychopathology of PND persuades the existence of an entire family. Estimates of the prevalence of PND within the first years of postpartum period are approximately 10%. The survey made in the Kodyalam village enumerates that the low economic circumstances along with the lack of social support sterns the rate of PND. Though the awareness of PND has been improved this problem remains sensitive and requires development in the diagnosis and therapeutic index. Alternative therapy and herbal medicine can contest the severity of this ailment by overcoming side effects. Further modest technology in nanoscience using polymers can reduce the adverse effects by delivering the drug across the BBB and sustains a stable mental health that erect up a happy family.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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