

KNOWLEDGE AND ACCEPTABILITY OF KANGAROO MOTHER CARE AMONG MOTHERS OF LOW BIRTH WEIGHT BABIES

Prakash Chavan^{*}

Mubashir Angolkar^{**}

Waita Faith^{***}

Mrinal Sharma^{***}

ABSTRACT

Background: Low birth weight continues to be a major public health problem globally. Kangaroo mother care (KMC) has been documented to be a safe and effective alternative comprehensive method for the care of Low Birth Weight Infants (LBWI) in developing as well as in developed countries.

Objectives: To assess the knowledge and acceptability of Kangaroo Mother Care among mothers of Preterm/Low Birth Weight babies.

Materials and Methodology: Qualitative research method included in-depth interview and participant observation was conducted within a period of 9 months from 42 mothers of new born Preterm / Low Birth Weight babies at Kangaroo Mother Care ward at KLE's Dr Prabhakar Kore Hospital, Belagavi.

Results: The results are classified as follows:

Knowledge: Majority of the mothers had knowledge about KMC (82.2%). All the mothers strongly agreed that the KMC method assists growth and development and also pre-empts

^{*} District Epidemiologist, Koppal, Karnataka, India.

^{**} BDS, M.Sc, PhD, Associate Professor and Head, Department of Public Health, J.N.Medical College, KLE University, Belagavi, Karnataka, India.

^{***} P.G. student, Department of Public Health, J.N.Medical College, KLE University, Belagavi, Karnataka, India.

sickness in the baby. More than half the mothers felt that amongst all the other methods, KMC is a viable method.

Acceptability: KMC was accepted by most of the families and mothers (95.2%). The KMC mothers spent significantly more time with their babies beyond the routine care taking activities. No adverse events were recorded in this study. All the mothers were satisfied with KMC.

Conclusion: Positive attitudes were observed in the mothers and their families. KMC was found to be a safe, acceptable, and effective method of care for LBWI at both hospital and home.

Key words: Kangaroo Mother Care (KMC), Low birth weight, Knowledge, Acceptability

Introduction

Low birth weight continues to be a major public health problem globally which is associated with a range of both short- and long-term consequences. It is estimated that 15% to 20% of all births worldwide are LBW, representing more than 20 million births a year. The goal is to achieve a 30% reduction of the number of infants born with a weight lower than 2500 g by the year 2025.¹

Preterm birth is the most common direct cause of neonatal mortality whereby 1.1 million babies die every year from complications of preterm birth. Regional estimates of LBW include 28% in south Asia, 13% in sub-Saharan Africa and 9% in Latin America.² High tech neonatal care for low birth weight infants (LBWI) is challenging on the manpower, resources and finances in the developing countries. Kangaroo mother care (KMC) has been documented to be a safe and effective alternative comprehensive method for the care of LBWI in developing as well as in developed countries.³

Kangaroo Mother Care (KMC) is a high-impact, cost-efficient intervention that has proven effective in saving the lives of premature/LBW newborns. KMC is the early, prolonged and continuous skin-to-skin contact between the mother or adult substitute and her baby, both in hospital and after discharge with support for exclusive breastfeeding and close follow-up after early discharge from the hospital. This approach helps regulate the baby's body temperature, facilitates early initiation of and continued breastfeeding, reduces the risks of infection, and enhances brain growth and development.⁴

The Kangaroo Mother Care method is an important model of cost-benefit ratio in which the premature infant survival rate, along with quality of life is improved and abandonment is avoided.⁵ Kangaroo mother care is an acceptable and recommended method of care for low birth weight infants worldwide. Despite the said advantages of KMC, it is still not a widely practiced method of care of LBW infants in India. There is insufficient data in our country regarding the knowledge and acceptability of kangaroo care with the mothers, health staff, early discharge policies and long term outcome.⁶ Creating a supportive environment for mothers, their families and relatives to practice KMC in health facilities and, upon discharge at home can help reduce neonatal mortality. Hence this study was aimed at assessing the knowledge and acceptability of Kangaroo Mother Care among the mothers of Preterm/Low Birth Weight babies.

Materials and methods

We used a qualitative study design to assess the acceptability and knowledge of Kangaroo Mother Care among the mothers of new born Preterm/Low Birth Weight babies admitted in KMC ward at KLE's Dr. Prabhakar Kore Hospital, Belagavi over a period of 9 months. Convenient sampling was used in selection of tertiary care and 42 mothers of new born preterm/LBW babies admitted at KMC ward who gave informed consent were included. Mothers who were unwell and unable to come to the nursery and mothers who did not give informed consent were excluded in this study. The study was approved by JNMC Institutional Ethics committee on Human subjects Research and ethical clearance was obtained from institutional Ethics Committee (IEC) of J.N.M.C, KLE University .

Study Procedure:

In the KMC ward during Kangaroo care, the mother wore a front open shirt provided by the hospital. They were made to sleep in an inclined position on a bed. The baby was positioned inside her dress in skin to skin contact between her breasts. The baby was naked except for a cap and nappy. The shirt covered the baby's trunk and extremities but not the head. The KMC was given for a minimum of 2 hrs at a stretch and continued for as long as it was comfortable to the baby and mother. When the mother was unable to provide KMC due to her daily routines, the mother's attendant administered KMC. The mothers were encouraged to keep the baby in KMC as long as possible during the day and at night with a minimum period of 1-2 hours at a time.

An **In-depth interview** was conducted with mothers who were practicing the KMC to assess the knowledge and acceptability using unstructured questionnaires. Interviews were recorded using a digital voice recorder and the transcripts of that interview were written on the same day.

Participant observation was conducted twice in interval of 10 days using structured frames. Infrastructure, daily updates on the medical charts, foot traffic in the ward and the mothers, nurses and doctors activities were observed. During Participant observation it was observed that the method of KMC was explained in detail by the doctors and staff nurses. Nurses assisted the mothers in positioning and attachment. The mothers were encouraged to continue KMC at home after discharge from the hospital.

A **follow up** was done of all the babies after a month from the interview date. The knowledge, acceptability and duration of KMC at home were enquired upon and at the same time the weight of the baby was noted. Data was analyzed by an experienced statistician in Qualitative research using LOTUS Software.

Results

In the present study a total of 42 mothers were interviewed. Knowledge and acceptability of KMC was assessed.

Knowledge:

Most mothers 32 (78%) were aware that the KMC method benefited growth and development of the baby. Some 5 (12.2%) seemed to have different thoughts on the same, such as- keeping the baby warm, sleeping with the baby, etc. They believed that this was the right method for growth and development of the baby.

Some thoughts of the mothers who were interviewed:

“By giving heat, there will be increase of baby’s weight and health will be in good condition.”

“I will keep the child because nurse asked me to keep it on the chest”.

“Doctor said that if a child is kept on the chest, the weight increases”.

When they were assessed for the Knowledge about a position of the child most the mothers 39(97.5%) knew the correct position.

“Hands should be one on right side and another left side on the chest, legs should be on the stomach, there should be skin to skin contact between child and mother and face should be on one side”.

“The face either it should be this side or that side, because it should not get breathing problem, the hands should be on the chest & the legs should be on stomach and chest of baby should touch my chest”.

When asked how long KMC should be administered, 9 mothers i.e. (56.3%) said that it should continue until the baby reached the optimal weight of 2.5 kg. One mother said 3 kg and the remainder 6 (37.5%) felt that until weight increased and changes in baby’s activities were noticed KMC should be administered. They were unaware as to when KC should be stopped.

“When it starts playing normally, when it sucks enough milk and when cries in good amount now its physical activities are good, when compared to incubator”.

“Weight of baby should increase. It should drink milk in enough quantity, it should start playing then I will stop”.

More than half of the mothers 37(90.2%) said that they were made aware about KMC in KLE hospital and the nurses guided them regarding the procedures and benefits. The nurses motivated them and asked them to provide KMC for the entire 24 hrs. Some mothers 4(9.8%) said they got information from other avenues: a nurse in the village and from her own mother.

As per our observation it was seen that even during their daily routine activities, the mothers did not stop practicing KMC- if they required a break, they handed the babies over to their relatives.

“The baby should be taken care properly. The baby should not be given to anybody, taking the child on the chest and have to sleep. There should be clean, hands should be washed before touching the baby, one after one has to take on the chest and sleep, the child should not be put on the floor, until it becomes 2.5 kg. They say that if you do it for maximum time it will be better and if you do it in the day and night time, it will be better. The child should be worn good clothes and if you want to go to bathroom, give your child to your mother, and ask them to make it sleep in that way. You have to take the child one by one whole 24 hours and sleep, they have said that all 24 hours work will be wasteful, if you keep the child on the floor. The nurse were always saying, every time if you do not do like this, how does the child grow and they have said that take the child on the chest by this its weight will increases”.

One grandmother was providing KMC as mother was unwell. When we interviewed her, she appreciated the staff's effort in trying to save the baby.

"They have saved my baby's life, earlier it was unable to survive and we had lost all the hopes but after educating me I have followed like that and now our baby is very well. In our time we didn't know about it, we learnt a lot about it after coming over here, I will be grateful to them".

Majority of the mothers 29 (96.7%) trusted the word of the doctors and nurses with regard to KMC. They were told that the weight of the baby would increase with this method. They had no doubts or misconceptions regarding the aforesaid baby care.

"No, they have told us for good purpose only then, why should we misunderstand and if we only misunderstand this then how the child will grow."

Only one mother said that her family was not comfortable practicing KMC. Apparently her mother-in-law took over when she fell ill. When the older lady placed the baby on her chest she felt hot and felt alarmed that the baby would catch a fever. The mother was asked to stop the process.

"Yes, in my family all elders asked me not to give heat. The child does not grow they asked me to put the child on the bed. When my mother in law practiced this that time she felt very hot and told me that by this the child's temperature will increase more and child will suffer from fever so you don't give this."

Most mothers 39 (92.9%) were keen and eager to share their experiences on KMC especially with other mothers who were caring for LBW babies.

"Yes, we had gone to KLE, when we had given heat to the child, the child's weight increased, we were kept in KMC ward and we were discharged only after the sufficient weight gain of a child seen".

More than half the mothers 29(76.3%) felt that sickness caused by infections were reduced. Some mothers felt that as the child was kept on their chest there was a lesser chance of the child falling sick as there were no external stimuli in the form of another human being holding the baby. Two mothers were confident that their child's was less prone to illness due to KMC. The remaining mothers said that after birth the children suffered from hypothermia and that it took some time to adjust to the external environment. With KMC they were able to maintain the child's body temperature thus helping them adjust.

“Yes, we feel. If we give heat, nobody will hold the child. So, if we give heat, the baby will be with us and it does not get sick”.

“Yes, as we are keeping the baby on chest and giving warm to the baby it helps it to get adjusted with the outside temperature and its capacity to tolerate the fluctuations of external environment also increases”.

Few mothers 10 (27%) said that they felt that baby’s growth and overall development was superior to baby who had not undergone KMC. Three mothers felt that they didn’t feel any difference between both the babies.

“The child will face problem, it will not drink milk, the child will get weakness and there will be no increase in the weight of a child. That baby will be small for age and it will be weak, my baby will grow normally and it will be strong”.

When we asked what method the mothers preferred to increase the weight of the bay, most of them 14(70%) believed keeping the baby on their chest was a much better method than placing the baby in an incubator. They feared the unnatural warmth and light inside the incubator may have side effects. The mothers wished to be with their child as they would be able to take better care of them. Some mothers also felt that if the baby was in an incubator than breast-feeding the baby would be very tiresome as they would have to move around a lot. They were uncomfortable about sitting on a chair in NICU in order to nurse the baby.

“Keeping it on the chest will be better because the box will be very hot and eyes problem will be occur”.

“I felt good when baby is on my chest because if baby is kept in incubator every time I have to go there for feeding and if baby cries also we will not came to know it, so I feel better when baby is with me only.... and we get fear that the baby may fall down while sitting on the chair feeding baby in NICU”.

Acceptability:

When first time experience was assessed, maximum mothers 32(78%) felt very hot whilst practicing KMC for the first time but gradually they felt comfortable with it. They were ready to embrace the process as they felt that the baby’s temperature would increase as it adjusted to the external environment.

“I felt warm by the skin to skin contact”

“I felt very nice and warm”

Nine mothers (22%) were apprehensive when they felt hot but as they eased into the process they were comfortable with the heat generated. At the beginning they did not believe the doctors when they were asked to practice this method as they were ill informed and had misconceptions.

“First time I got little bit surprised, after that nothing and in the beginning I was scaring later on nothing and baby felt hot and I also felt hot”.

Some mothers 17 (40.5%) felt pain in the extremities and waist. They also experienced stomach pains as the baby was constantly on their chest. Despite this they were willing to practice KMC for the welfare of the baby and an early discharge from the hospital. This shows acceptability amongst the mothers' and family members.

“Yes now all part are getting pain like waist pain, hands pain, legs pain, waist pain and head ache, stomach pain and swelling has occurred in the breast and I am facing lot of problem by this”.

“Yes, I am getting a little bit waist pain and hand & legs are all getting pain but I will not stop this and baby is more important to us, for the baby I am ready to do anything and I want to go home soon....so...(With smile)”.

One mother expressed her displeasure by blaming all the doctors and nurses.

“Yes, I am feeling vomiting sensation; I am not well since, I have been doing it. I get leg pain, waist pain legs making numb, stomach paining, swelling in the breast, throat pain. I am not able to do, I am not getting food. Here the baby will be taken care; nobody will take care of us”.

Family support 40(95.2%) was very high with regard to KMC. The mother was not allowed to keep the baby down. The family did not have any objections as the doctors had advised them to practice this method.

“They ask to do, all supports to me. If I put the child on the bed, they ask me to take it on the chest so that it will be in good condition and they don't say no because by doing it, there will be increase in the weight of a baby and by it the baby will be ok”.

Two families rejected KMC. A mother-in-law was uncomfortable with the method while she practiced it on her daughter-in-law's behalf. One sister-in-law gave the example of her own child who was also a LBW baby. She had not practiced KMC but her child was now growing up

normally therefore she asked the mother to stop. The mother was not convinced and decided to follow the doctor's advice.

“Different members were having different opinion, my co-sister told that even her baby was LBW baby at birth, but even though she not practiced KMC. She told that her baby is normal now, but my mother in law and husband told me to obey doctors' instructions and I also felt to continue KMC as told by doctor”.

The general opinion amongst the mothers 21(95.5%) was that KMC is beneficial to the baby as it gained much needed weight. Some mothers expressed total faith in the doctor's advice and the KMC method. They felt a negative attitude towards the process would only spread ill feeling and affect the child's growth and development.

“The weight increases so we feel better if we feel worse how its weight should increase and I feel happy when the child sleeps upward”.

“I feel it's a good method; I got extra knowledge of baby care. The wall posters of hospital helped me to gain good knowledge of KMC”.

As their child is their main priority, almost all mothers answered in the positive when asked about practicing KMC at home. Despite chores they were ready to take time out. Some had domestic help while others had helpful family members around who took charge of the daily household work.

Majority of the mothers were staying in their maternal house and therefore had a lot of time to spend on the process.

“No, we don't do any household work. We shall have 5 months rest so, we don't get any problem”.

“No we don't because for taking for a child we have 2 servants and for doing work 3 servants are there”.

“Not like that, if I have household work, I will ask to do another member and I will give heat”.

When interviewed, 3 mothers said that they would be unable to devote as much time to KMC at home due to household chores, while 2 mothers said that they wouldn't practice it at all for the same aforementioned reason.

“Yes, there will be work at home and I will not get time to do it there, so I will not do it in my house”.

Discussion

The present qualitative study was conducted over a period of 9 months in KANGAROO MOTHER CARE (KMC) ward at K.L.E.s Dr. Prabhakar Kore Hospital, Belgaum. Evidence backs the effectiveness and safety of KMC in stable, preterm infants. In LBW infants weighing less than 2.5 kg, who are unable to regulate their temperature KMC is safe and as effective as incubators. Though we have not compared our data with conventional care, our experience has shown that there was greater weight gain and Kangaroo mother care is feasible and acceptable to most of the mothers in the present study.

Knowledge:

In the present study knowledge was assessed regarding the meaning of KMC. Most of the mothers 32 (78%) said it is a method which will help the baby gain weight and help in growth and development. Majority of the mothers [39(97.5%)n=40] knew the correct position in which to hold the baby during KMC. This is because of the interest and information given about the process by the staff. 50% of the mothers were aware that KMC should be administered until the baby gains the optimum weight of 2.5kg, while the remaining 50% felt that it should be continued until positive changes are seen in the baby. In our study 90.2% of mothers got information from the hospital only. It shows that the hospital is one of the best sources of knowledge. There are no studies to show the impact of source of information in the present study.

In this study majority of the mothers had knowledge about KMC (82.2%). Most of the mothers practiced KMC for 18 hrs a day in the hospital and for 15 days in the house, i.e. until the baby gained the pre-requisite weight of 2.5 kg. This shows that higher the knowledge of mothers greater the practice of Kangaroo Mother Care. However, a similar study was conducted by V Kalpana in Bangalore which revealed that knowledge about KMC was just 45.6%.⁷

In the present study most of the mothers were aware that infections leading to sickness, reduced due to KMC as the baby would be on their chest the entire time. Majority of the mothers knew that the child would suffer from hypothermia after child birth, and that it would take time for it to adjust to the external environment. KMC was important as it would negate the effect by generating heat for the baby and maintaining body temperature. . A similar study was conducted by Byaruhanga, showed that most mothers knew about its use to reduce the risk of hypothermia,

some were ignorant, where others believed skin-to-skin contact was just a ruse to distract them from post-delivery pain.⁸

Mother-infant attachment was the best experience among all the participants interviewed in this study. From their descriptions, these interactions involved gazing at each other, smiling, touching and responding to the baby's cry and breastfeeding. The findings with regards to maternal-infant attachment during 24-hour KMC are consistent with the findings of other similar studies, by Klaus and Kennel, Klaus, , and Tessier et al., where KMC was found to promote the attachment process between the mother and her newborn baby.^{7,9,8}

Most of the mothers didn't have any trust issues with KMC. This was mainly due to the faith they had on the hospital staff and the process. The mothers felt that KMC would benefit their child even in the future as they believed that the child would live longer and have a healthy life with fewer infections. More than 50% felt KMC was the best method to keep the child warm rather than placing them in an incubator, which they felt was harmful. This finding was not compared with other studies due to lack of literature in this area.

Acceptability:

In the present study most of the mothers were comfortable in practicing KMC, though some did feel discomfort while at it. The reasons were pain in the extremities, back and waist and body ache. A similar study was conducted in Mumbai by Sandeep et al revealed that 86% mothers were happy with KMC and only 14% of mothers said that they would prefer conventional method, and the reason for discomfort was the pain and the stress of labour.^{10,11}

In the present study it was seen that KMC was accepted by most of the families and mother's (95.2%). After accepting KMC majority of the mother were more at ease. A similar study was conducted in NICU Chandigarh, India by Veena Rani et al showed that; KMC was accepted by 96% mothers and 84% by the family members. In our study mood elevation, better confidence and a feeling of positive contribution towards the care of their LBW were reported by 97.6% mothers but it was 96% in the comparative study.¹²

It has been also found in our study that mothers didn't have any feeling of discomfort while holding the baby in the KMC position. Staff nurses of KMC ward fully supported & encouraged the mothers and endorsed this as a part of routine neonatal care. Even the family members like husband, grandmother, and sister in law supported the concept of KMC in the

hospital as well as at home. This finding is in agreement with the findings of the study by Mukhesh Gupta et al, and K Ramanathan et al.^{13,14}

In our study babies spend more time in quiet sleep and less time crying. No adverse events were recorded in this study. Mothers providing Kangaroo Care gained confidence in the care of their LBW babies. The Kangaroo Care method in all countries where the studies were done, were deemed socially acceptable. Another study conducted by Adriano et al. had similar findings.¹⁵

Almost all participants in the present study have answered that they were satisfied with KMC. The reasons were varied; the baby would always be with them, infections were reduced and the weight increased, etc. A similar study conducted by Conde et al showed that KMC reduced the likelihood of maternal dissatisfaction. There was no evidence of a difference in maternal or family satisfaction.¹⁶

Similar study conducted by Abriola reveals that meeting other mothers with similar problems was perceived as one way of receiving support and satisfaction during this period of preterm birth in KMC ward. A result of this connection, one mother in that study developed a strong commitment to care, realising that she was not alone and that there were other similar babies in the KMC ward gaining weight and being discharged. Observing their babies' progress was a time of relief and joy, especially for those mothers who at the beginning felt that KMC was a waste of time.¹⁷

Conclusion

The present study found to be safe and feasible not only in the neonatal intensive care setting but also at home. Main benefit of KMC was weight gain and reduction in incidence of hypothermia. The present study indicated that 25% of the mothers didn't know upto what weight KMC had to be administered. Mothers didn't have misconceptions about KMC due to the faith they had in doctors and in KMC method which in turn made them share their experiences with other mothers. More than half of the mothers gained knowledge on sickness reduction through KMC. Kangaroo mother care should be given as soon as possible after birth, and should be continued until the baby gains normal weight.

Recommendation

KMC is a feasible and accepted method. It can be implemented in the community especially in the weaker sections of society. More IEC activities on KMC should be done and all the health providers should be trained on KMC, so that they can educate the mothers of LBW baby.

References

- [1] Resolution WHA65.6. Comprehensive implementation plan on maternal, infant and young child nutrition. In: Sixty-fifth World Health Assembly Geneva. Resolutions and decisions, annexes. Geneva: World Health Organization; 2012:12–13 Available from http://www.who.int/nutrition/topics/WHA65.6_resolution_en.pdf?ua=1, accessed 17 May 2015
- [2] The Partnership for Maternal, Newborn & Child Health, Save the Children, WHO. Born too soon: The global action report on preterm birth. Geneva: World Health Organization; 2012. Available from http://whqlibdoc.who.int/publications/2012/9789241503433_eng.pdf, accessed 13 May 2015.
- [3] Gupta M, Jora R, Bhatia R. Kangaroo mother care in LBW infants – a Western Rajasthan experience. *Indian J Paediatr* 2007; 74:747-749.
- [4] Lawn JE, Mwansa-Kambafwile J, Horta BL, Barros FC, Cousens S. ‘Kangaroo mother care’ to prevent neonatal deaths due to preterm birth complications. *International Journal of Epidemiology*. 2010; 39: 144–54.
- [5] Kangaroo method IDEASS Innovation for development and south-south cooperation. Available on URL: http://www.ideassonline.org/pdf/br_11_37.pdf. accessed on 10th May 2015.
- [6] Rao S, Udani R and Nanavati R. Kangaroo Mother Care for Low Birth Weight Infants. *Indian Pediatrics* 2008; 45(1): 17-23.
- [7] Kalpana V. A study to assess the knowledge and practice of mothers regulating Kangaroo care in a selected hospitals Bangalore with a view to develop health education module on kangaroo care. Dissertation submitted to RGUHS, Bangalore, Karnataka.
- [8] Byaruhanga RN, Bergström A, Tibemanya J, Nakitto C, Okong P. Perceptions among post-delivery mothers of skin-to-skin contact and newborn baby care in a periurban hospital in Uganda. *Midwifery*, 24(2);183-189.

- [9] Tessier R, Cristo M, Velez S, Giron SW, Calume ZF, Jaun G, Charpak Y, Charpak N. Kangaroo mother care and the bonding hypothesis. *Pediatrics* 1998; 102(2): 17-23.
- [10] Kadam S, Binoy S, Kanbur W, Mondkar J.A and Fernandez A. Feasibility of Kangaroo Mother Care in Mumbai. *Indian J Pediatr* 2005; 72(1): 35-38.
- [11] Klaus MH, Kennel JH. Maternal- infant bonding: The impact of easily separation of loss or family development. St Louis: The CV mosby Company 1976(67) :473-476. Available on URL: <http://www.amazon.com/Impact-Early-Separation-Family-Development/dp/0801626307>
- [12] Parmar V.R, Kumar A, Kaur R, Parmar S, Kaur D, Basu S, Jain S, Narula S. Experience With Kangaroo Mother Care in a Neonatal Intensive Care Unit(NICU) In Chandigarh India. *Indian J Pediatr* 2009; 76(1): 25-28.
- [13] Ramanathan.K, Paul V.K, Deorari A.K, Taneja U, George.G. Kangaroo Mother Care in Very Low Birth Weight Infants. *Indian J Pediatr* 2001; 68(11): 1019-1023.
- [14] Gupta M, Jora R, Bhatia R. Kangaroo mother care (KMC) in LBW Infants- a Western Rajasthan experience. *Ind J of Pediatr*. 2007; 74(8): 747-749.
- [15] Cattaneo A, Blackwell K. What is the evidence for kangaroo mother care of the very low birth weight baby? International Child Health Review Collaboration. Available on URL: www.ichrc.org
- [16] Hake-Brooks SJ, Anderson GC. Kangaroo mother care and breastfeeding of mother-preterm infants Dyads 0-18 Months: A randomized controlled trial. *Neonatal Netw*. 2008; 27(6): 151-159.
- [17] Abriola D.V. Mothers' perceptions of postpartum support group. *Matern Child Nurs J*.1990; 19(2):113-134. Available on URL:<http://www.ncbi.nlm.nih.gov/pubmed/2136570>