



**BỆNH VIỆN PHỤ SẢN TRUNG ƯƠNG**

National Hospital of Obstetrics and Gynecology

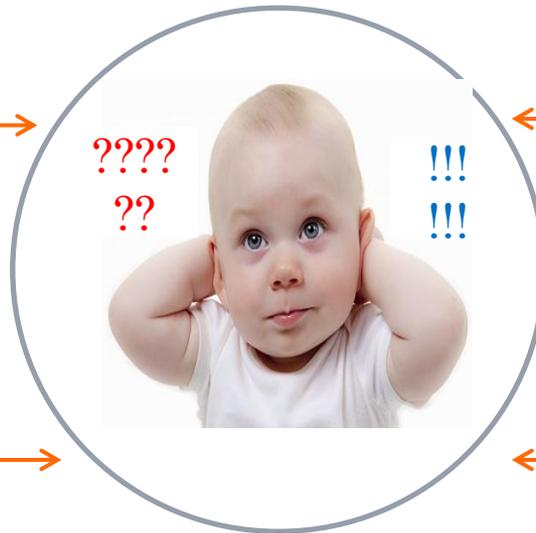
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# **THE BENEFITS OF MASSAGE THERAPY FOR PREMATURE INFANT: A LITERATURE REVIEW**



## INTRODUCTION

THE INFORMATION IS ENTERED INTO THE BRAIN THROUGH THE SENSES





## THE FIRST RECEIVE OF THE NEWBORN IS TOUCHING, TACTILE

- Touch is the first communication of the newborn to another person.
- Touching the baby soon after birth will help them grow well
- Premature babies are more disadvantageous and more limited in development

## INTRODUCTION





## CARE AND TREATMENT OF PRETERM BABIES: LONG-TERM COST



- Taking care of premature babies is very difficult due to
  - Functional organs incomplete
  - Conflict between nutritional needs to achieve appropriate growth rates and tolerance of the gastrointestinal tract → Slow weight gain
  - Immature immunity → Infants are susceptible to infection
  - Brain development has many difficulties → language disorders, inability to learn, behavioral disorders, lack of effort, poor adaptability
- The more low gestational age the more high sequelae :
  - Cerebral palsy: 5 – 15% (< 1500g); 7 – 19% (< 1000g).
  - Mental retardation :5 – 17% (< 1500g); 8 – 25% (< 1000g).



## CARE AND TREATMENT OF PRETERM BABIES: LONG-TERM COST



- Improvements in postnatal care and neurodevelopmental strategies protection may increase neurodevelopment similar in the uterus.
- Physiotherapists have shown that massage therapies are the only therapy that helps children recover from intellectual disability due to premature birth. These therapies require patience, love and time - but they are effective.



# **BENEFITS OF MASSAGE WITH BABY**

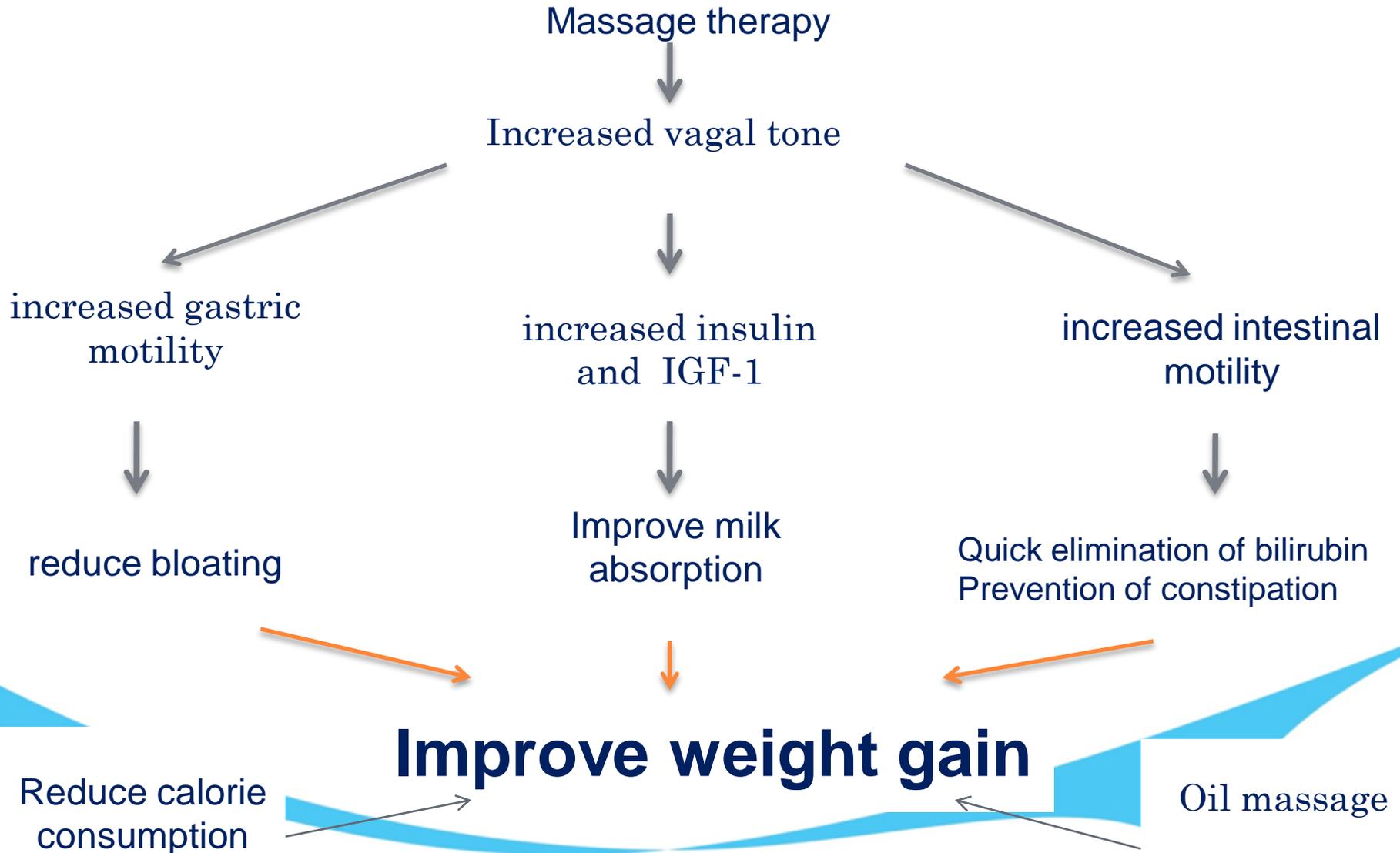


## **THE DEFINITION OF MASSAGE**

- Massage is a process of transferring mechanical energy to the soft tissues of the body through the skin to achieve certain physiological or psychological effects and is a mechanical or manual procedure that affects the nervous system, the musculature and the circulatory system of the baby [3,4].
- Massage therapy affects many organs in the body.



## **THE EFFECT OF MASSAGE ON THE DIGESTIVE SYSTEM**





## IMMUNOLOGICAL EFFECTS

- Decreases the concentration of cortisol (stress hormone) when stimulating the skin pressure receptors
- Stimulates the immune system, circulates lymph throughout the body to remove harmful toxins.
- The absolute number of NK cells, white blood cells, B and T cells increased when baby were treated for masage
- Mendes et al. reported on significantly lower incidence of late-onset sepsis in massage group ( $p = 0.005$ ) . The incidence of late-onset sepsis was 38.3% (18/47 infants) in controls compared to 10.9% (5/46 infants) in massage group



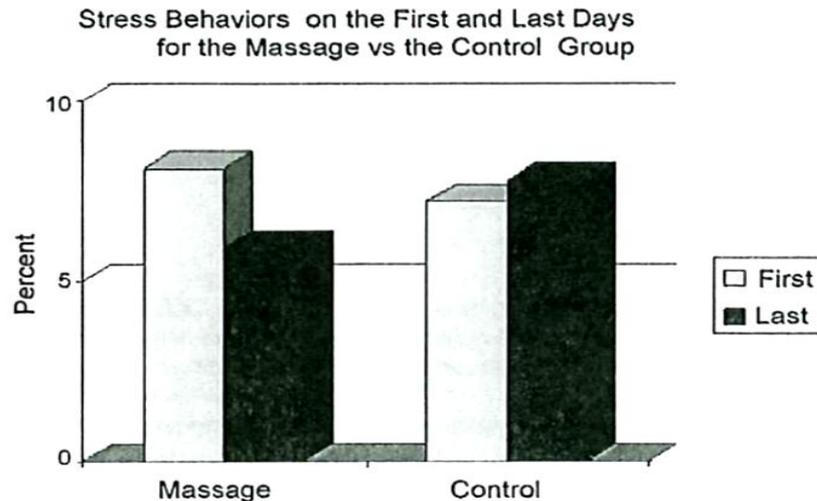
## BONE METABOLISM

- Preterm infants have increased morbidity from osteopenia
- Two studies have evaluated the effects of massage therapy with physical activity on bone metabolism in preterm infants
- Aly et al. reported an increase in serum type I collagen C-terminal propeptide (PICP, marker of bone formation) in the massage group ( $p < 0.01$ ) compared to baseline, while PICP decreased in controls group ( $p < 0.01$ ). This change differed significantly between the groups ( $p = 0.0001$ ), suggesting increased bone formation in massage group. Furthermore, serum parathyroid hormone (PTH) level increased in the massage group while it decreased in the control group ( $p < 0.001$ ).



## BEHAVIOR, SLEEP AND NEURODEVELOPMENT

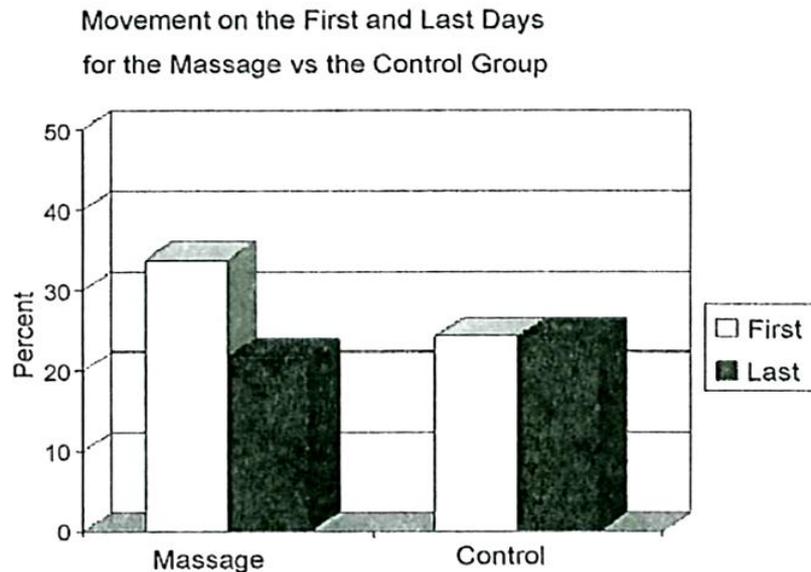
- Most studies have reported the direct effect of massage therapy on the long-term neurodevelopmental outcome of preterm infants.
- Baby who have received massage shown to have low stress-related behaviors (crying, sleeping, not resting ...).





## **BEHAVIOR, SLEEP AND NEURODEVELOPMENT**

- Massage stabilizes the behavior of premature infants [23]





## BEHAVIOR, SLEEP AND NEURODEVELOPMENT

- The baby's heart rate is more stable in the massage group
- Massage therapy affects the maturation of the brain electrical activity similar to that seen in full-term babies. Massage for premature babies helps to protect the nerves, which can help the neurodevelopment similar to in the uterus
- Massage group had a slightly higher PDI score ( $p = 0.072$ ) and a higher MDI score ( $p = 0.035$ ) than the control group [22].



## **BEHAVIOR, SLEEP AND NEURODEVELOPMENT**

- Massage have proven improves quality and sleep time
  - These baby who received massage also produce melatonin (natural sleep hormone) at night
  - Massaging helps the neonatal brain to grow and mature faster by promoting the growth of the myelin sheath thereby enhancing the propagation speed of neurons and improving brain-body communication.
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## LENGTH OF HOSPITAL STAY

- A study by Gonzalez et al.[28] evaluating the effects of massage in preterm infants reported a shorter hospital stay in infants of massage group ( $15.36 \pm 5.41$  days) compared to controls ( $19.33 \pm 7.92$  days ( $p = 0.03$ ))
- A study by Mendez et al.[9] on VLBW infants reported that those who received massage had a 1.85 times higher (95% confidence interval (CI): 1.09 to 3.13;  $p = 0.023$ ) probability of earlier hospital discharge than control group



# **THE BENEFITS OF MASSAGE THERAPY TO MOTHER**



## **MASSAGE PROMOTES THE ATTACHMENT OF MOTHER- BABY SENTIMENT**

- Massage can help mothers bond mother-baby sentiment
- The mother becomes more sensitive to the signals of the their baby
- Massage can
  - Release the "hormone binding" Oxytocin
  - Make the mother and baby relax
  - Increase your mother's confidence
  - Help your mother understand the signs of baby





## **CONCLUSION**

- Massage affects the digestive system, helping children enhance absorption and gain better weight.
- Massage has the effect of enhancing immunity
- Massage has the effect of enhancing bone metabolism
- Massage enhances brain development, stabilizes the child's behavior and sleep.
- Massage will shorten the length of hospital stay
- Massage helps to stabilize the mother of preterm infant
- Massage can be used as a very effective, safe and relatively inexpensive non-medical intervention for preterm infants.



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**THANK FOR YOUR ATTENTION!**

