

Measurement of Cellular Immune Function of Breast Milk and Health Education of Pregnant and Lying in Women

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Abstract: Breast milk is different from any nutritional substitutes. Breast milk has biological specificity. The most irreplaceable nutrient for newborns is breast milk. In order to determine the immunoprotective effect of breast milk on newborns, 30 primiparas were selected to obtain a little milk before feeding in three different periods, which were divided into colostrum, transitional milk and mature milk. The contents of CD₃, CD₄, CD₈, SIgA, IgG and IgM positive cells in nuclear cells were observed by inverted fluorescence microscope. The contents of IL-8, IFN - γ , and potassium, sodium, chlorine, calcium, magnesium and phosphorus in different time periods were compared between six groups. The results showed that the content of IFN - γ cells in colostrum was 1.61 and that of IL-8 cells was 0.83. However, the contents of IFN - γ cells and IL-8 cells in colostrum decreased to 0.31 and 0.36 at the time of transition milk. Therefore, breastfeeding from the third to the fifth day after delivery can give more immune cells to the newborn, which is conducive to the establishment of their own immune system. Therefore, in the teaching of health-related knowledge to pregnant women, we should advocate more maternal breastfeeding newborns, for the health of the newborn.

Keywords: Breast Feeding, Cellular Immunity, Inverted Fluorescence Microscope, Health Education

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In recent years, with the change of living standards and environment, people's pressure is also increasing, and the reduction of family companionship makes the probability of pregnant women changing into depression is increasing year by year. Therefore, even if the health education for pregnant women, psychological counseling is particularly important.

In this paper, through the study of health education for pregnant women, it can be seen that early health education for pregnant women can not only enhance their understanding of knowledge, but also improve their physical and mental health during childbirth. In addition, health education for nurses will greatly improve their quality in all aspects, increase self-confidence and improve nursing quality.

In order to summarize the health education of critical placenta previa patients during pregnancy and perioperative period, Dall carried out systematic

and comprehensive health education on 8 cases of critical placenta previa patients in a hospital from January 2014 to November 2015, and provided psychological counseling and symptomatic treatment for pregnant women with prenatal hemorrhage, and then coordinated guidance, diet and exercise for postpartum hemorrhage Guidance. The sample selection of Dall experiment is too small, and the error is large enough to show that this is a universal situation¹. In order to evaluate the application effect of SMS service in pregnant women's health education, Joseph randomly divided 460 pregnant women into two groups, 230 cases in each group. Among them, the control group received classroom maternal education in pregnancy school, and the other group was the experimental group. Pregnant women in the experimental group received 2-3 times of pregnancy nursing knowledge SMS education every week, and were followed up to

42 days after delivery and postpartum. Joseph's method is very practical, through the comparison of the two groups, we can get the most real data ². In order to explore the positive effect of health education for pregnant women in public health centers, and to find out the related factors that affect pregnant women's confidence in childbirth and breastfeeding, so as to expand the community-based health education for pregnant women, especially the vulnerable groups. Sperlich used multiple questionnaires to investigate 174 pregnant women (n = 49) who had participated in health education and those who did not (n = 125) who did not, and 244 mothers who lived in a city in a province. Although the questionnaire can be in line with the reality, sperlich's experiment did not take into account the different physical quality of each maternal, so the reliability of the experimental results needs to be considered ³. In order to determine the cellular immune function of breast milk and explore the immune protection effect of breast feeding, Zeng determined the number of T lymphocytes in milk at different stages by APAAP method and sandwich ELISA method, and activated monocytes secreted IFN - γ and IL-8 levels. Among these indexes, the number of CD + 3/CD + 8 and CD + 4/CD + 8 cells, IFN - γ and IL-8 in colostrum were higher than those in transition milk and mature milk. Breast milk, especially colostrum, can provide a large number of active immune cells and cytokines. Breast feeding can improve the anti-infection ability of newborns. Although the above-mentioned breast milk is very important for newborns, we should carry out health education for pregnant women and puerperas in the nursing process, so as to prevent diseases and better nurture children ⁴.

In this paper, the contents of CD₃, CD₄, CD₈, sIgA, IgG and IgM positive cells in breast milk were detected and observed by inverted fluorescence microscope. In addition, F test and t test were used to compare the differences of six elements and the levels and changes of IL-8 and IFN - γ , so as to determine the immune function of breast milk cells and the nutritional elements that mothers should supplement.

IMMUNE FUNCTION OF BREAST MILK AND EDUCATION OF PREGNANT AND

LYING IN WOMEN

Cellular Immune Function of Breast Milk

Definition

Cellular immunity can not only effectively repel tumor antigens and allografts, but also defend against parasitic microorganisms hidden in cells ⁵. The narrow sense of cellular immunity is that when T cells stimulate the antigen, the antigen will be transformed into sensitized T cells after differentiation and increment. If the same antigen enters the body next time, T cells and its cytokines will produce strong lethality. Among them, T cells include cytotoxicity and inflammatory response, and their main characteristics are monocyte infiltration and cell specificity. In addition, there is a broad sense of cellular immunity, which is based on the narrow sense of cellular immunity, coupled with NK cells mediated cytotoxicity and the earliest phagocytosis.

Immune components of breast milk:

1) Secretory IgA: for newborns, the most important antibody component is secretory IgA, but its serum does not contain this component, and the immunoglobulin antibody in breast milk has a large number of secretory IgA. Therefore, when the newborn gets breast-feeding, it can form rich antibodies in the nasopharynx and stomach, prevent the adhesion and penetration of viruses and bacteria, and block it in the newborn body.

2) Lactoferrin: milk also contains a large number of lactoferrin secreted and expressed by mammary epithelial cells, which becomes a strong opponent when bacteria combine with element iron, posing a threat to the survival of bacteria. Therefore, lactoferrin can protect the stomach and respiratory tract of newborns from bacterial infection. When lactoferrin is combined with elemental iron for immune regulation, it can also promote hematopoietic function.

3) Macrophages and neutrophils: breast milk contain 108 maternal cells, more than 80% of maternal cells are macrophages. After breastfeeding the newborn, the bacteria entering the newborn body will be phagocytized and digested by macrophages in breast milk, and the bacteria in the cells can also be eliminated. When a newborn has acute inflammation, neutrophils, as the main reflecting cells, can play the same role as

macrophages.

4) Lymphocytes: lymphocytes can not only mobilize and activate other types of immune cells to fight virus infection and resist cell entry, but also allow macrophages to follow its orders. Therefore, lymphocytes are an important type of immune cells in the body.

The immune process of breast milk

Humoral immunity is divided into three steps: induction, reaction and effect. Cellular immunity is no exception. There are two main immune modes. One of them is the sensitized T cells with direct killing effect. The target cells usually carry the corresponding antigens. If the sensitized T cells contact with the target cells and bind specifically, it will cause a stimulating effect. This effect will change the permeability of the target cell membrane, and further change the internal osmotic pressure, so the target cells will become swollen and dissolved, and finally die. However, the sensitized T cells were not injured in this battle. After killing this target cell, he can continue to kill other target cells. Killing T cells refers to sensitized T cells with this killing ability. The other is to cooperate with lymphocytes to kill target cells. Skin reaction factor can increase the permeability of blood vessels. In this way, phagocytes in blood vessels can swim out of blood vessels. With the cooperation of various lymphokines, the immune effect will increase faster, and it will be easier to eliminate antigen foreign bodies.

Maternal Health Education

Delivery is a common physiological process for pregnant women, but pregnant women in China are more dependent than those in other countries⁶. This is caused by our traditional habits and social environment. Therefore, in the short period of time before and after the birth of pregnant women, medical workers should give more appropriate and high-quality health education.

The stage of health education for pregnant and lying-in women

1) Today's film and television works and the Internet often appear maternal depression and fetal problems, which makes pregnant women inevitably worry⁷. Therefore, to tell them that pregnancy and

childbirth is a common process for women, there is no need to worry too much, but pregnant women need to pay attention to it. Must do is to do regular production inspection. In the early stage of pregnancy, the fetus has not yet formed, and is extremely sensitive to adverse stimuli. In particular, less X-ray fluoroscopy should be done. Attention should be paid to the prevention of virus in daily life. He should spend several hours every week watching audio-visual films and not smoking and drinking.

2) Pregnancy nutrition knowledge education, to ensure adequate nutrition, diet balance. In late pregnancy, according to the B-ultrasound examination, if the fetus has excessive tendency, pregnant women should pay attention to diet control, in order to avoid macrosomia and reduce the probability of dystocia.

3) Pregnant women in 28 weeks to do self-monitoring, every morning, noon and evening need pregnant women to spend an hour counting fetal movement. If the number of fetal movements is less than 30, then the fetus may have hypoxia.

4) Pregnancy in late pregnancy prone to pregnancy induced hypertension syndrome, if pregnant women appear: dizziness, dizziness, edema, etc., need to go to the hospital immediately.

5) After giving birth, it is also necessary to teach lying in women the right way of feeding.

Health education during childbirth

First of all, we should understand the psychological changes of childbirth, and make use of the opportunity of education, we need to warmly receive and form a good nursing relationship⁸. After the birth of the newborn, any behavior of the newborn is related to the heart of the family, especially the attention of the mother. Education must be carried out step by step, and appropriate methods should be adopted. The forms of health education can be different from each other, but their common point is that it is easy to understand and be accepted, interesting and targeted. To increase the practical content of health education in line with the requirements of childbirth, health education must be combined with the physiological phenomenon and normal needs of pregnant women, and formulate the health education content in line with the actual situation. Education must take different

forms, depending on the situation of pregnant women, and set time for collective education and demonstration. To print and distribute the relevant written materials to the lying-in women, to publicize health knowledge at fixed points in the corridor window, and to give special instructions on matters needing attention when leaving hospital.

1) The propaganda and education personnel of the hospital should warmly welcome every pregnant woman: carefully introduce the surrounding environment, hospital rules and regulations, and the doctors and nurses responsible for them, so as to reduce the maternal strangeness.

2) The first stage of labor training guides high protein, high calorie and digestible semi liquid food. Uterine contractions gradually increased with the progress of delivery. Teach them to take deep breaths during contractions and relax their muscles to relieve the pain. Urinate every two to three hours to prevent filling the bladder and preventing the fetal head from moving downward. Avoid holding your breath too early. Take a rest to save energy and prepare for the second stage of labor.

3) In the second stage of childbirth, the mother will hold her breath and sweat profusely. Therefore, we must care about and encourage the maternal condition, wipe sweat and massage for those with muscle spasm and pain, formulate liquid food and give help. When appropriate, the maternal can be told that the production process is progressing smoothly, and the child will be born soon. In this way, the maternal can feel the joy of being a mother and establish confidence in childbirth.

4) In the third stage of childbirth, the mother is more concerned about whether the baby is deformed or healthy. At this moment, the mother should be told that the child is healthy. Some mothers are also interested in the gender of the baby, so it is necessary to know the expected gender of the mother in advance. If it is the desired gender, you can immediately say it. On the contrary, it should be said that the baby is healthy and lovely, boys and girls are the same, euphemistically tell the gender of the baby to avoid its disappointment, resulting in postpartum hemorrhage. Help timely contact, early sucking, prompt to keep warm, postpartum nutrition supervision, after childbirth, press the bottom of the uterus for 20 minutes to observe the bleeding and

monitor the urination.

Puerperal education and discharge guidance

Postpartum monitoring and guiding diet, eating lighter food on the first day after birth, guiding and encouraging breastfeeding. Guide baby to change diaper details, take care of the baby's buttocks. Let the mother and her family go to the nursery to see the baby bathe and touch and teach them how to do it. During puerperium, pay attention to hygiene, postpartum rest area should often open windows for ventilation. 42 days after delivery, the mother was informed to take the baby to the clinic for review.

One of the important parts of nursing work is health education, which is the responsibility of all nurses. Health education must be carried out to improve the knowledge level of mothers and their newborns. In this way, health education can become a powerful tool for treatment factors and medical services, strengthen the relationship between nurses and patients, and reduce the probability of medical disputes.

Health education can improve maternal knowledge level and the quality of perinatal health care. Therefore, health education should be carried out in the whole nursing activities to promote the maternal to master the knowledge of health education. In the specific operation, the head nurse needs to check regularly, communicate with the lying-in women and listen to the opinions.

Inverted Fluorescence Microscope

Definition

Inverted fluorescence microscope refers to a special microscope that reverses the position of objective lens, condenser and light source, and then combines ordinary microscope and fluorescent accessory organically⁹. This kind of microscope can excite and irradiate the light from the objective lens down to the surface of the specimen, and then reflect it to the sample through the objective lens. The fluorescence generated by the sample and the light reflected by the cover glass enter the objective lens at the same time. The excitation light and fluorescence are separated and imaged independently by the two-color beam separator.

Classification of inverted microscope

There are many different classifications of inverted microscope. From the classification of eyepiece, there are monocular inverted microscope, binocular inverted microscope and triocular inverted microscope¹⁰. In addition to binocular microscope structure for binocular observation, the other one is used to connect with digital camera or computer, thus forming digital camera inverted microscope and computer inverted microscope. Computer inverted microscope can be divided into biological inversion microscope and metallographic inverted microscope, its own structure is different, the role is also different, different inverted microscope in various fields of application is also different. Inverted biomicroscope is mainly used in biological field. It can not only observe bacteria and living tissues, but also has great advantages in biological culture, slicing, liquid precipitation and other transparent or translucent objects, powders, fine particles and other objects. Compared with ordinary biomicroscopy, the inverted fluorescence microscope has a very efficient observation function to observe the living substances attached to the bottom of the culture dish and suspension medium. In addition, inverted biomicroscopy plays an important role in food quality inspection, drinking water quality identification and crystal structure analysis. Different from biological microscope, the metallographic inverted microscope whose objective lens is located under the workbench does not need to consider the flatness of the non-observation surface. Moreover, because the structure of the microscope is inverted, the space above the workbench is very open, so the height and size of the object need not be considered too much. Therefore, metallographic inverted microscope is widely used in industrial enterprises of metal materials or solid block objects. However, the metallographic inverted microscope table is easy to accumulate dust, so special maintenance is needed to ensure the normal work.

The function of inverted microscope

From the point of view of structure analysis and microscope operation, inverted microscope and ordinary microscope are very similar in some aspects, but there are also differences. Inverted microscope

reverses the objective lens and lighting system, so there are differences between objective lens and objective lens in observing the culture of living cells. Under certain conditions, the principle of an inverted microscope is similar to that of a magnifying glass, that is, the small objects nearby can be magnified to present an image that can be clearly seen in human visual acuity. Of course, the magnification of an inverted microscope is higher than that of a magnifying glass¹¹. In addition to this feature, inverted microscope is developing towards the combination of photoelectric conversion technology and computer imaging technology, and it is more and more convenient to use in real life. From the use of inverted fluorescence microscope, it can be divided into biological inverted display, polarized light inversion, metallographic inversion, fluorescence inverted microscope and so on. It is widely used in biological, medical and other fields, and has very practical scientific research value.

Inverted fluorescence microscope is particularly applicable to the study of living cells and tissues, fluid and sediment, and is also the most ideal research instrument in biology, cytology, oncology, genetics, immunology and other theories, which can be used in scientific research, universities, medical treatment, epidemic prevention and agriculture and animal husbandry¹². It has a very high detection ability (the amplification function of the object), the stimulation to the cell is very small in use (can be stained in vivo), and has the use of multiple staining. In the observation of the structure of the object, mainly through the role of fluorescein, the presence or absence of fluorescein in the observation, and the comparison of the hue to distinguish the substance antibody fluorescence, as well as the qualitative and quantitative analysis of the substance by the amount of fluorescence. Fluorescence microscope is widely used in various fields. In the observation and research of plant cells, the morphology and internal structure of cells can be observed more clearly by staining. The fluorescence microscope can not only directly observe the stomatal apparatus of plant leaves, but also observe the changes of stomata clearly. This is a new application of inverted fluorescence microscope.

EXPERIMENT PROCESS AND METHOD**Experimental Steps****Subjects**

In this study, 30 primiparas were selected from the maternal and child health care center of our city, who were aged between 20 and 32 years old, and those who had given birth to healthy full-term infants normally and those who had given birth for more than three days. 2 ml breast milk was obtained from 3 to 5 days after delivery, 7 days to 13 days and 14 to 16 days after delivery, which were divided into colostrum, transitional milk and mature milk to measure the immune substances in breast milk. In addition, 7 ml of milk should be obtained from day 3 to day 5, and the extra milk should be used to measure the six elements in milk.

Experimental steps

30 cases of 2ml were removed from breast milk and stored in the environment of -40 degrees Celsius. When measuring the immune substance, they took out the frozen lotion and changed it into liquid in the sterile environment and diluted with Hanks solution. The diluted liquid was centrifuged at 4000r / min for 20 minutes. The supernatant was washed with Hanks solution for three times, and then it was separated into mononuclear cells with lymphocyte separation solution. The concentration of cells was adjusted to 2×10^9 / L- 3×10^9 / L with complete culture medium. A part of isolated mononuclear cells were precipitated, and the precipitated smears were fixed with pure acetone. The nuclear cells were observed by inverted fluorescence microscope. The positive cells of CD₃, CD₄, CD₈, sIgA, IgG and IgM were detected by APAAP bridging enzyme labeling method and immunoturbidimetric method. At 48 and 72 hours after mitogen stimulation, mononuclear cell suspension was cultured at 37 °C with 5% carbon dioxide. The supernatant was collected and the levels of IL-8 and IFN - γ were detected by double antibody sandwich ELISA. In addition, the 7ml emulsion obtained from third days to fifth days was centrifuged for 3 times and analyzed by chloroform (CHCl₃). The molecular weight of trichloromethane was 119.38. The contents of K⁺ and Na⁺ in six kinds of elements were detected by ion selective electrode, and Cl⁻, Ca²⁺, Mg²⁺, P³⁺

were measured by biochemical automatic analyzer. The normal values of six elements from the United Nations Children's rescue fund (ncief) were compared with those of 30 human milk samples obtained in this study.

Experimental Methods

In this paper, F-test and t-test are used to process the data. Among them, F-test can determine the significant difference and random error between the experimental data. The method is to compare the variance and precision of the two groups of experimental data. If there is no significant difference in the precision of the data between the two groups, then the random error is within the acceptable and controlled error range. The calculation process of F-test is as follows.

$$S_1^2 = \frac{1}{n-1} \sum (X - \bar{X})^2 \quad (1)$$

$$S_2^2 = \frac{1}{n-1} \sum (X - \bar{X})^2 \quad (2)$$

$$F = S_1^2 / S_2^2 \quad (3)$$

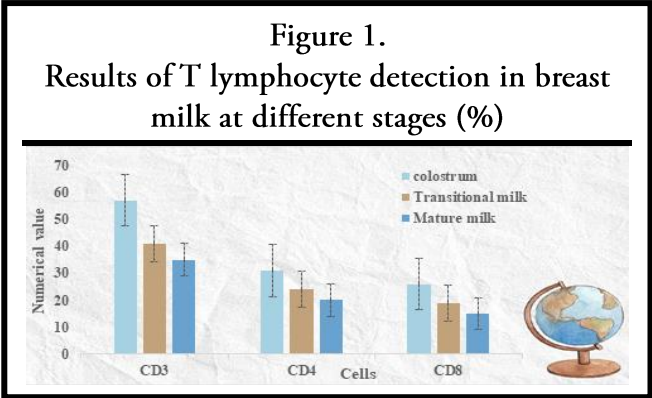
On the other hand, t-test is mainly to determine the systematic error of experimental data. The method of t test is to observe whether the difference of the average is large after the calculation of the average value. If the difference is large, then the data cannot be controlled, so the experimental data is not reliable. On the contrary, if the difference between the two means is small, then the systematic error is acceptable. The calculation process of t-test is as follows.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1-1)S_1^2 + (n_2-1)S_2^2}{n_1+n_2-2} \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} \quad (4)$$

THE CONTENT OF SIX ELEMENTS AND IMMUNE SUBSTANCES NEEDED BY HUMAN BODY IN BREAST MILK

Immune Function in Breast Milk Cells

Neonatal period is a critical period for the body's various systems to adapt to the external environment. At this time, due to the limited production of a variety of endogenous anti-infective substances, it is easy to be attacked by various pathogens and suffer from infectious diseases. Breast feeding can transfer a large number of immune active cells and secreted cytokines to infants. The results of T lymphocyte detection in breast milk at different stages are shown in Figure 1.



According to Figure 1, the CD₃ value is 57, the CD₄ value is 31, and the CD₈ value is 27. The immune values of T lymphocytes in transitional milk were 41, 24 and 19, and those of mature milk were 35, 20 and 15, respectively. It shows a decreasing trend.

The ratio of CD₄ and CD₈ cells is shown in Table 1.

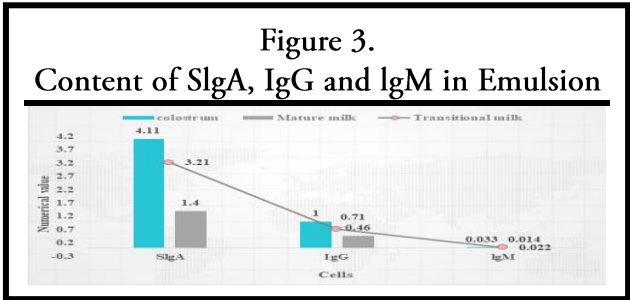
Table 1. Ratio of CD ₄ to CD ₈ cells		
Group	N	CD ₄ /CD ₈
colostrum	30	1.19
Transitional milk	30	1.26
Mature milk	30	1.29

As can be seen from Table 1, the number of emulsion experiments in different periods is 30 cases. The ratio of the two types of cells was 1.19 at colostrum, 1.26 from the seventh day to the 13th day after delivery, and 1.29 from the mature milk. In other words, the difference between the two types of cells in colostrum is more significant, and the difference between the two types of cells is reduced after a week of maternal production.

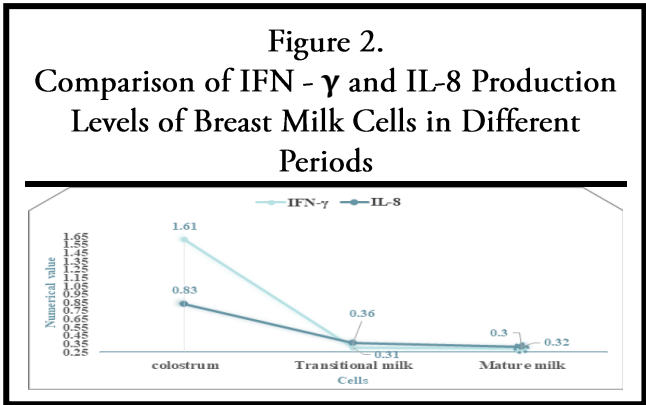
Content and Production Level of Immune Substances

Breast milk, especially colostrum, contains a large number of T lymphocytes, which can produce IFN - γ and

IL-8 after stimulation. After the immune cells in breast milk enter the intestinal tract of newborn,



they can be activated by endotoxin in the intestinal tract to release cytokines, play an immune regulatory role such as anti-infection, and produce immune protection for the newborn. The comparison of IFN - γ and IL-8 production levels of breast milk cells at different stages is shown in Figure 2.



As can be seen from Figure 2, the content of IFN - γ cells and IL-8 cells in colostrum is 1.61 and 0.83 respectively. The content of the two kinds of cells decreased to 0.31 and 0.36 at the transition milk, and the mature milk and transition milk were almost the same, about 0.3 and 0.32. Therefore, the number of T lymphocytes in colostrum and the levels of IFN - γ and IL-8 in colostrum were higher than those in transitional milk and mature milk, which confirmed that breast milk, especially colostrum, contained a large number of immunocompetent cells and secreted cytokines.

It is generally believed that mammary gland acinar epithelial cells can bind two molecules of library a in maternal serum to form slgA through disulfide bond and exist in milk. SIgA enters into the gastrointestinal tract of infants after sucking milk, and is not damaged by gastric acid and digestive enzymes. Instead, it adheres to the mucosa of gastrointestinal tract, and directly enters the blood of newborn infants through mucosal absorption,

and is secreted by epithelial cells, SlgA is distributed in other mucous membranes, such as respiratory tract mucosa and urinary tract mucosa, so as to prevent respiratory tract and urinary tract infection; slgA adhering to gastrointestinal mucosa can play a direct antibody role to prevent the invasion of bacteria and viruses. The contents of SlgA, IgG and IgM in the emulsions are shown in Figure 3.

From the data in Figure 3, we can see that the content of slgA in 3-5 days after delivery is 4.11, 3.21 in transition milk and 1.4 in mature milk. The IgG content in the emulsion was 1 in the colostrum, 0.71 in the transitional milk, and 0.046 in the mature milk. Cell IgM was 0.033, 0.022 and 0.014 in three stages of emulsion, respectively.

The Comparison between the Six Kinds of Elements in Emulsion and the Normal Value of UNCIEF

The mean values of six elements in colostrum were compared with the normal values provided by the United Nations Children's rescue fund (UNCIEF), and the latter was used as the overall mean for t-test. The results showed that the values of the six elements in colostrum were significantly different ($P < 0.01$). The comparison of potassium, sodium and chlorine is shown in Table 2.

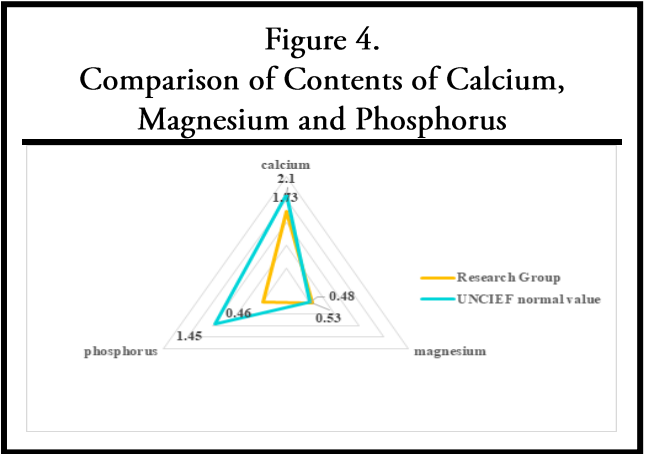
Table 2. Comparison of Potassium, Sodium and Chlorine Elements			
	Potassium	Sodium	Chlorine
Research Group	12.26	6.92	9.22
UNCIEF normal value	2.33	3.21	2.91

It can be seen from Table 2 that the potassium, sodium and chlorine contents of the 30 emulsions in this experiment are all higher than the normal values provided by the United Nations Children's rescue fund (UNCIEF). Among them, the content of potassium is 9.93 higher than the normal value, the content of sodium is higher than the normal value of 3.71, the content of chlorine is higher than the normal value of 6.31, the content of potassium is far more than the normal value.

The content comparison of calcium, magnesium and phosphorus is shown in Figure 4.

As shown in Figure 4, the content of calcium in the experimental group is 1.73, but the normal value is 2.1. The content of magnesium in this experiment is 0.53,

the normal value is 0.48, the content of phosphorus is 0.46, and the normal value is 1.45. So, magnesium



is above normal, but calcium and phosphorus are not enough.

CONCLUSION

The immunity of the newborn can be improved to keep away from the trouble of the disease. Before the fetus is born, the channel of receiving immunity is placenta. After birth, before the newborn forms its own immune system, the immune function of breast milk cells can enhance its antibody, so breast feeding has a far-reaching impact on the health of newborns. This paper measured and compared the immune substances in breast milk cells, and analyzed the current maternal education.

In this paper, 30 primiparas were selected and their milk was collected at 3-5 days, 7-13 days and 14-16 days after delivery. They were divided into colostrum, transitional milk and mature milk to measure the immune substances in breast milk and six kinds of elements in milk. The contents of CD₃, CD₄, CD₈, SlgA, IgG and IgM positive cells in nuclear cells were observed by inverted fluorescence microscope, and the levels of IL-8 and IFN - γ were detected by ELISA. In addition, the contents of potassium, sodium, chlorine, calcium, magnesium and phosphorus in human milk were compared with the normal values provided by UNCIEF. We found that SlgA is the most abundant in colostrum, but the longer the time after delivery, the level of complement and antibody will gradually decrease, and the ratio of CD₄ to CD₈ cells in colostrum is the lowest. The content of SlgA, IgG and IgM in mature milk is significantly lower than that in colostrum.

Therefore, the maternal should be taught to

breastfeed the newborn as soon as possible. The immune effect of breast feeding in the first week after delivery is better. At this time, the newborn can get more immune factors, prevent infection, and promote maternal milk secretion. In addition, in this experiment, the calcium and phosphorus elements in breast milk are still insufficient. We can teach pregnant women to supplement the two elements in order to promote the healthy growth of infants.

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