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Sociopsychological trial of maternal attitudes towards the process of breastfeeding of premature infants

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The current standards of live birth dictate new requirements for feeding of small premature infants. Native breast milk of the mothers of premature infants features a unique and balanced composition of substances required for feeding premature infants and protecting them from infectious agents. Low awareness of the real value of breast milk results in early introduction of supplementary feeding with adaptive formulae, which are not equivalent to breast milk. The article presents results of a poll of mothers of premature infants staying together at inpatient hospitals for the second stage of developmental care. The form on breastfeeding developed by the authors presents information on the development of maternal attitudes and lactation dominant. Results of the study helped to discern negative and positive factors affecting a mother's attitude to maintenance of lactation and breastfeeding. The obtained data contribute to arrangement of conditions for targeted medical-psychological-pedagogic aid to mothers at inpatient hospitals in order to support motivation for breastfeeding premature infants.

Keywords: *poll, breastfeeding, breast milk, premature infants, lactation dominant, maternal attitudes, negative and positive factors of breast feeding, risk of early withdrawal of breastfeeding, psychological-pedagogic support of lactation.*

Introduction

As Russia converted to the new criteria of live birth, development of recommendations on nutrition and feeding of the children with extremely low and very low birth weight has become a topical problem of healthcare [1]. The nature of feeding largely determines health status of a child not only in early childhood, but also in the subsequent periods of life. Together with medical developmental care procedures, healthy diet of premature infants ensures normal growth and development thereof. Clinical studies have proved that breast milk has balanced composition and is an easily digestible nutrient source for infants [2, 3]. A wide range of biologically active and protective factors of native human milk ensures development of a child's immune potential minimizing adverse environmental effects on the body and helping to prevent most diseases. At the same time, breast milk of the mothers of premature infants is different from mature milk of the mothers of term infants and is perfect for the physiologically immature body of a premature infant [4, 5].

Unfortunately, insufficient awareness of the possibility and need in breastfeeding (BF) of premature infants results in an unreasonably early introduction of supplemental feeding and transfer of children to artificial feeding [6, 7]. This explains focused attention to the process of development of the maternal attitude to preservation and maintenance of prolonged BF in premature infants.

PATIENTS AND METHODS

A study **aimed at** analyzing attitude of mothers of premature infants to breastfeeding in order to establish the conditions necessary to develop lactation dominant therein was performed at the premature infant unit of the Scientific Center of Children's Health (Federal State Budgetary Research Institution).

The study involved the mothers admitted to the 2nd developmental care stage inpatient hospital together with the premature infants thereof.

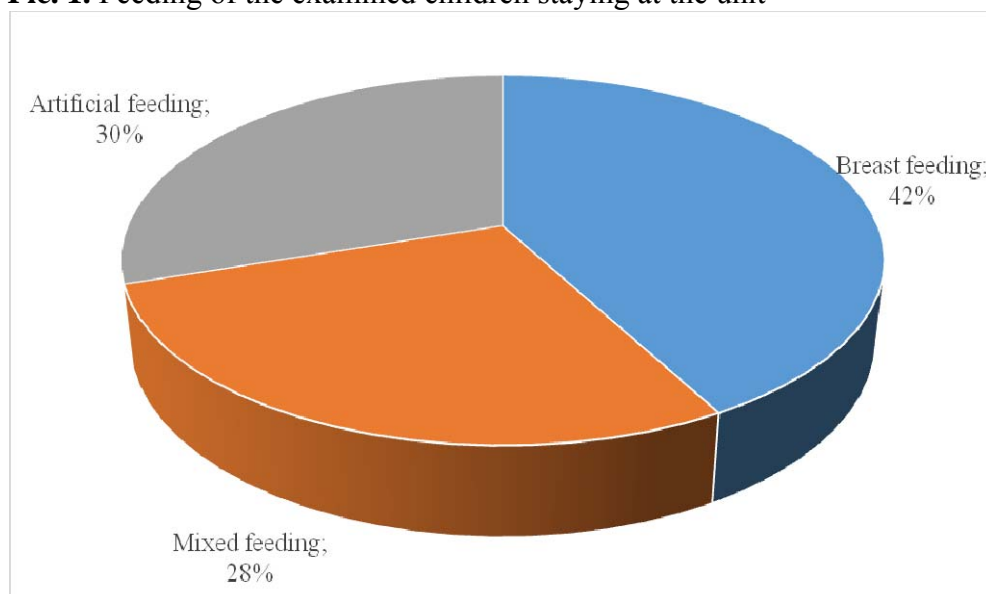
The following study methods were selected:

- sociodemographic interview;
- clinical conversation;
- overt observation;
- anamnestic data analysis;
- rapid neuroticism severity assessment form "Anxiety and Depression" (by K.K. Yakhin, D.M. Mendelevich) [8];
- form "Breastfeeding" drawn up specifically for the purposes of this study. The form is the first developed Russian method of assessing maternal attitude to BF; it is based on the results of the Infant Feeding Practices Study II (IFPS II) performed by American specialists at the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA). The longitudinal American study was aimed at analyzing parturient attitude to an exclusively breast feeding and identification of the factors affecting achievement of the expected breastfeeding span in the future [9]. This form was adapted to the sociocultural circumstances of Russia and supplemented in accordance to the set objectives.

Results

The study involved 84 25-39-years-old mothers admitted to the 2nd developmental care stage inpatient hospital together with the premature infants thereof. Birth weight of the children varied from 730 to 1,500 g. Gestational age of the children varied from 26 to 34 weeks. Postnatal age of the children at examination varied from 21 to 60 days, postconceptional age – from 29 to 40 weeks.

Pic. 1. Feeding of the examined children staying at the unit



Pic. 1 demonstrates percentage ratio of types of feeding utilized in children at the time of examination at the unit.

A subsequently performed analysis of the study results helped to identify the factors that negatively and positively affect maternal attitude to BF and the main lines of a psychologist's activity at the unit regarding prevention of early weaning risks. It ought to be mentioned that in

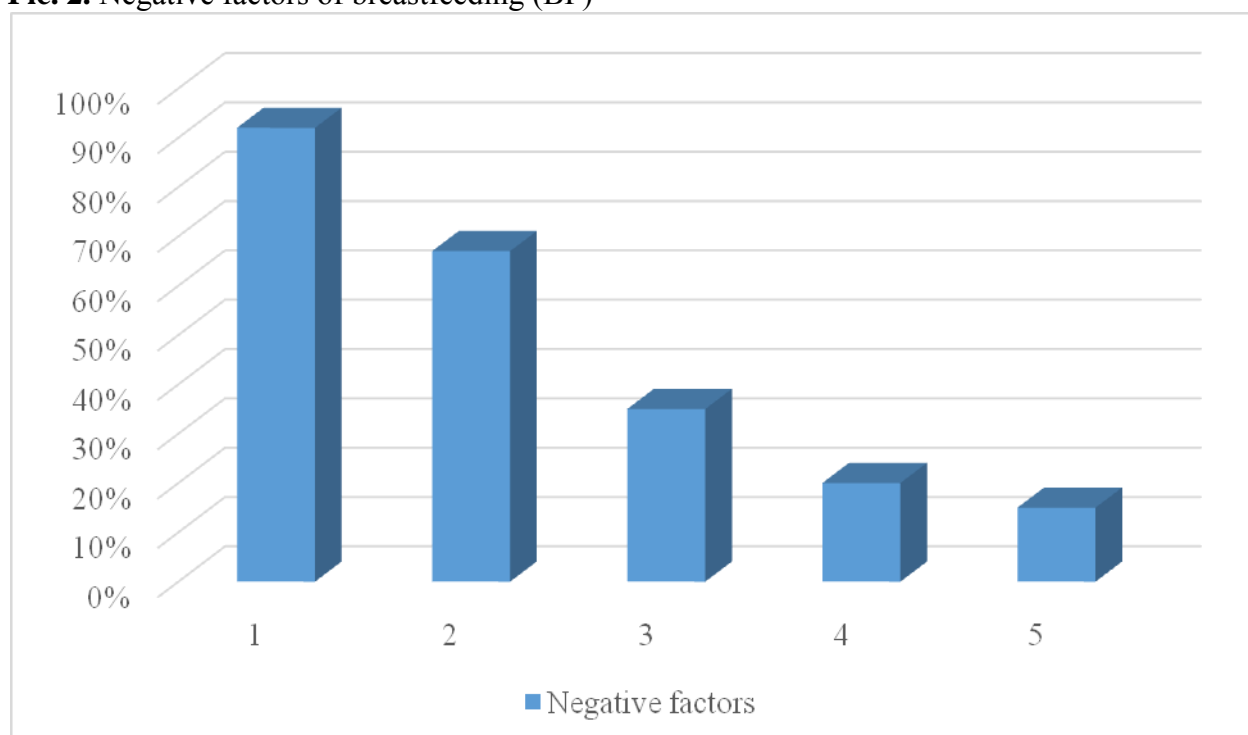
the course of polling mothers were able to select more than one reason of probable early weaning or prolonged BF preservation. After that, specific gravity of each factor affecting one or another maternal attitude was determined taking into account the total number of participants (in %).

NEGATIVE FACTORS OF BREASTFEEDING

Below is the detailed analysis of the factors negatively affecting the maternal attitude to BF (pic. 2):

- objective (clinical, physiological) causes of weaning – 92%;
- low maternal awareness of the BF benefits – 67%;
- peculiarities of the mother's personal emotional sphere – 35%;
- peculiarities of the mother's social and family situation – 20%;
- mother's physical discomfort at feeding and expression – 15%.

Pic. 2. Negative factors of breastfeeding (BF)



Note. 1 – objective (clinical, physiological) causes of weaning; 2 – low maternal awareness of the BF benefits; 3 – peculiarities of the mother's personal emotional sphere; 4 – peculiarities of the mother's social and family situation; 5 – mother's physical discomfort at feeding and expression.

Objective causes of weaning

These causes are primarily associated with medical contraindications for mothers or children against breastfeeding. According to this study, an overwhelming majority of mothers considered preservation of BF infeasible in the event of prohibition on medical grounds. Another objective cause of weaning is lack or significant decrease in lactation (hypogalactia) due to the mother's anatomico-physiological peculiarities, such as neurohormonal disorders, underdevelopment of mammary glands, decrease in the motor or secretory function thereof and other causes [3]. Fortunately, the examined women did not encounter these problems; however, they were worried about the risk of possible lack or significant decrease in lactation in the future. Usually, secretion of colostrum and, later, breast milk in mothers start on the 2nd or 3rd postnatal day and undergoes stabilization for some time. This period is crucial for lactation, as the milk ejection reflex is very sensitive to various influences and is easily suppressed [7]. Most examined mothers (65%) observed lactation on the 2nd-3rd day. In 35% of the women this moment shifted to the 4th day or

later. This circumstance caused excess emotional mother's anxiety and, therefore, furthered suppression of late lactation.

In whole, according to this study, only 42% of the examined mothers admitted to the inpatient hospital practiced breastfeeding. Out of the women forced to wean prematurely, only half of the mothers refused to continue lactation on medical grounds. Other women mentioned social and psychoemotional reasons detailed below.

Low maternal awareness of the BF benefits and possibility

The study demonstrated that one of the causes of premature weaning is absence of exhaustive and reliable medical information on breast milk benefits for premature infants. Significant difference in maternal perception of the proper regimen and span of BF (ranging from 3 to 36 months) was discovered. Only 1/3 of the pregnant women underwent appropriate training and received exhaustive information on the issue. Despite an unconditional priority of observation of the doctor's recommendations on feeding among the mothers, ca. 10% of the mothers were ready to purchase milk formulae on advice of relatives or specialized Internet forums. Attractive advertising of milk formulae in mass media also misleads mothers and makes them believe that milk formulae are as beneficial as breast milk.

Peculiarities of the mother's personal emotional sphere

It is well known that high mother's anxiety, mental stress or trauma, pain and other uncomfortable sensations, as well as physical fatigue, may disturb lactation [3, 6, 7]. That is why psychological comfort during the child's stay at the 2nd developmental care inpatient hospital, the woman's confidence and proper rest are so important for stable and sufficient lactation.

In the course of examination we observed that the overwhelming majority of mothers admitted to the inpatient hospital are subject to significant emotional stress. Physical fatigue and long emotional stress cause high state of readiness thereof to wean prematurely. Thus, ca. 1/3 of the mothers regarded the process of lactation maintenance as an excess load and source of stress in the form of worries about the volume of lactated native milk. Other primary worries concerned the child's physical condition, uncertainty and risks for the future. Permanent fatigue, inability to rest and sleep properly, need in performing numerous previously unknown procedures and physical distress of a new mother negatively affect preservation of lactation. According to the mothers, worries about the lack of skin-to-skin physical contact during feeding of a child placed in a specially equipped incubator (humidicrib) also negatively affect preservation of lactation.

Selection of a coping behavior strategy at hospitalization primarily depends on the subjective situation perception [10]. Thus, according to this study, ca. 1/3 of mothers tend to underestimate severity of the child's condition; on the one hand, this promotes lower emotional stress and faster adaptation; on the other hand, it is a risk factor of noncompliance and careless observation of doctor's recommendations by the woman. Overestimation of the child's condition severity and high anxiety level observed in 11% of the women has a generally disorganizing impact both on the mother's activity on nursing and feeding and on the level of lactation. Mood swings, alternation of high, often chaotic activity and complete apathy, inability to concentrate and effectively organize activity on nursing and feeding may be observed in some women.

Peculiarities of the mother's social and family situation

Ca. half of the women admitted to the inpatient hospital assessed economic status of the family thereof as "bad"/"average" and mention importance of returning to work to maintain the family's financial stability. At the same time, only ca. 20% of the mothers state the need in leaving the child alone for several hours after returning to work as the primary cause of weaning. 10% of the mothers also suffer from the lack of support of the family, especially of the child's father. Interestingly, some mothers intended to wean due to the need for smoking (~ 10%) and contraceptive intake (~ 18%), primarily due to an insufficiently developed maternal attitude and lactation dominant. The motivation-need sphere of this group of mothers is dominated primarily

by the desire to satisfy one's needs, which often results from general personal immaturity of a woman. They also demonstrate an attitude to shift most responsibilities on nursing and upbringing on the closest social circle, i.e. on the husband, the mother or a babysitter.

Mother's physical discomfort at feeding and expression

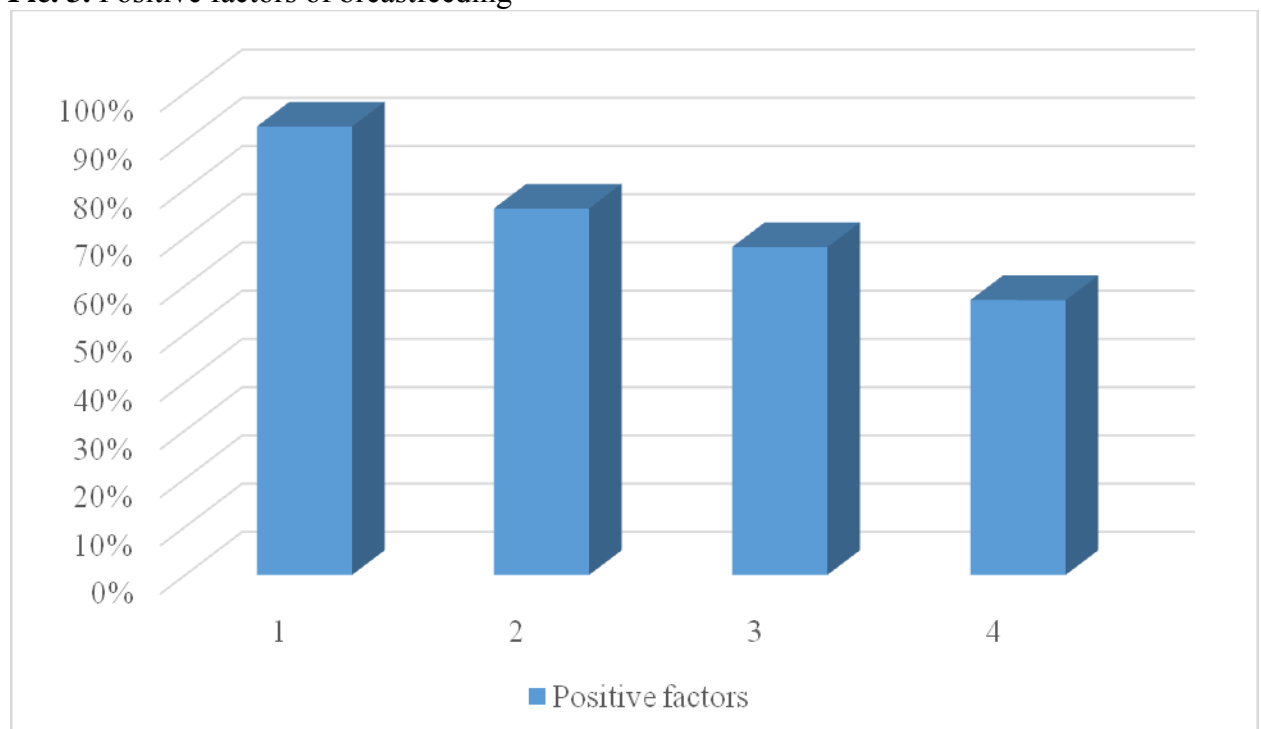
According to the examination, ca. 1/3 of the feeding mothers suffered from sensations of discomfort and pain in the process of breastfeeding, nipple fissures and bleeding. Women often mentioned children's difficulty sucking or latching. This may be interpreted as low awareness and lack of appropriate training on how to latch the child onto the breast, as well as of knowledge on modern additional and effective methods of preserving BF (bottles, nipple covers, specialized breast pumps etc.) [11].

POSITIVE FACTORS OF BREASTFEEDING

Analysis of the study results helped to identify the factors positively affecting the process of lactation dominant development (pic. 3):

- positive emotions in the process of breastfeeding – 93%;
- need in maternal self-fulfillment – 76%;
- medical personnel support – 68%;
- family support and practical experience of feeding – 57%.

Pic. 3. Positive factors of breastfeeding



Note. 1 – positive emotions in the process of breastfeeding; 2 – need in maternal self-fulfillment; 3 – medical personnel support; 4 – family support and practical experience of feeding.

Mother's positive emotions in the process of breastfeeding

It is well known that breastfeeding promotes appearance and preservation of a profound emotional mother-baby attachment [3, 12]. However, the issue of latching a premature infant onto the breast is resolved on the individual basis taking into consideration numerous parameters of the child's general condition. This period is significantly suspended for small premature infants due to the weakness of sucking and swallowing reflexes and the need in staying in special humidicribs for survival, condition stabilization and health promotion [4, 5]. In such a situation conditions for regular milk expression, feeding with breast milk and, of course, child visits for visual communication ought to be established for lactating mothers. Possibility of organizing

mother-child skin-to-skin contact will not only promote a positive maternal attitude, but also become a strong additional supporting factor indicating the child's need in the mother and enabling self-fulfillment as a mother. Thus, according to the mothers, positive emotions aroused by direct physical skin-to-skin contact is an additional stimulus and motivator for maintenance of lactation.

Need in maternal self-fulfillment

The reproductive function dominant developing in the process of pregnancy and postnatally consists in reorganization of the whole mother's activity in favor of the child's needs. It involves both physiological and motivational-need and axiological mechanisms ensuring orientation on fulfilling nursing and feeding objectives [12]. That means the lactation dominant is the natural consequence and reflection of the need in fulfilling maternal functions. The examined women having a mature maternal position stated an attitude to lactation preservation, empathically reacted to the child's needs and made an effort to normalize the emotional condition thereof.

Medical personnel support

Mother's trust in doctor's recommendations is very important for the child's health preservation and development both at an inpatient hospital and after discharge. According to the women, timely practical help in latching the child onto the breast, recommendations on the selection of proper and comfortable posture during feeding and advice on maintenance of the lactation rate adequate to the child's needs positively affect preservation of BF.

Mother's trustful contact with the doctor and a possibility to obtain timely and reliable information in the amount necessary and sufficient to understand changes in the child's health condition are very important for the mother's adequate understanding of the situation and observation of recommendations on nursing and feeding [10].

Properly organized interaction of a woman with medical personnel is the basis of her compliance, boosts her confidence and positively affects quality of her nursing responsibilities. All these circumstances favorably impact psychological and physiological condition of an infant. This may improve effectiveness of rehabilitative measures and reduce the diad's stay at an inpatient hospital [10].

Support of the closest social circle (relatives, friends) and positive practical experience of breastfeeding

According to the lactating mothers, responsive and calm attitude of the nearest and dearest thereof, a possibility to ask for help and share responsibilities for important decisions had a significant positive impact. Positive practical experience of breast feeding elder children aroused confidence and calm in fulfilling maternal functions. Despite the fact that the women received explanatory help on preservation of BF primarily from the medical personnel, more than a half of the mothers mentioned importance of psychological support of relatives and friends.

Thus, analysis of negative and positive attitudes of women towards BF of premature infants helped to identify risk factors of early weaning: objective causes of delactation, low awareness of the benefits and available means of BF maintenance; peculiarities of the mother's emotional condition (anxiety, stress, depressive tendency) and insufficiently developed maternal position; low level of the mother's social and family support; physical discomfort at breastfeeding and milk expression. At the same time, positive emotions aroused by breastfeeding due to the direct skin-to-skin contact, high motivation for fulfillment of the maternal mission by means of feeding the child with the most wholesome product (breast milk) and sufficient amount of maternal and social support help to minimize impact of the aforementioned negative factors. Analysis of the real level of positive and negative factors and their ratio in each case helps to identify the means of assistance with lactation support. Thus, in the event of objective contraindications against BF for mothers, they may be informed of the possibility to obtain donor breast milk for the children thereof. Health communication regarding mothers' competence in the issues of rational infant

nutrition is recommended in the event of low awareness of the BF benefits and the proper regimen. Appropriate psychological support is to be rendered to women in the event of decrease in lactation due to high emotional stress and anxiety, inadequate situation perception and reaction. In the absence of social and family support, psychological care ought to be aimed at identifying the intrapersonal and intrafamilial resources fit to support the woman's ability to maintain BF. If a mother suffers from significant physical discomfort (painfulness, nipple fissures and bleeding) impeding feeding or milk expression, her attending doctor ought to prescribe appropriate treatment and train her to use the available methods of BF support.

Not only cooperation, but also clear distribution of functional responsibilities of the medical and non-medical personnel are especially important for the focused quality assistance with BF preservation and lactation maintenance. Thus, apart from nursing, medical specialists (doctors and nurses) help women to organize a sufficient amount of lactation, conduct health communication with the mother regarding rational infant feeding and maintain constructive interaction at the inpatient hospital.

One of the BF specialists' functions apart from provision of information on the benefits of breastfeeding for infants is practical assistance with latching onto the breast and recommendations on the choice of a comfortable posture for feeding or, if necessary, teaching use of additional devices.

The psychologist's objective at the inpatient hospital is assistance with normalization with the mother's emotional condition and search for additional resources for effective fulfillment of maternal functions and motivation for long-term BF.

The study demonstrated that cohort polling of mothers, as well as individual conversations and psychologist's observations, presents additional information on the woman's psychological status and gives the medical personnel an ability to organize communication with the mother taking into account the current emotional condition and the attitude thereof to health issues and the child's treatment process, including the issues of lactation, BF and upbringing. If conflict situations arise, a psychologist may serve as an intermediary in building constructive interaction of the medical personnel with mothers. Another form of psychological work at an inpatient hospital is group sessions with women aimed at teaching methods of emotional self-regulation in order to alleviate excess tension and, therefore, support lactation. It ought to be mentioned that work with the mother's family regarding building constructive intrafamilial interaction and organization of conditions for the proper diet, rest and sleep thereof is an important line of psychological work.

CONCLUSION

It ought to be mentioned that timely cohort polling of mothers at maternity welfare centers, obstetric hospitals and the 2nd developmental care stage units will help to identify risk factors of early weaning, arrange conditions of targeted psychological assistance and, therefore, develop lactation dominant.

Systemic approach and interdisciplinary interaction of medical and non-medical specialists in development and implementation of recommendations on all levels of social life, including socioeconomic and medical-psychological-pedagogic levels, are required to increase spread of BF.

At the same time, a set of measures aimed at improving awareness of the BF issues, teaching practical skills of maintaining lactation and feeding, rendering psychological care and arrange comfortable conditions for mothers and the children thereof at inpatient hospitals ought to be implemented to increase spread of BF among mothers of premature infants.

On the level of healthcare system, it is reasonable to create an integrated system of introduction, maintenance and support of BF at all stages – pregnancy, labor and the child's first year of life. Awareness and educational raising of medical and non-medical personnel regarding the BF issues is also important.

CONFLICT OF INTEREST

The authors have indicated they have no financial relationships relevant to this article to disclose.

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