

The role of the preventive department in the complex rehabilitation of women with habitual miscarriage

 E. Vartanian,  E. Pesennikova,  O. Gridnev

Department of Organization and Management in the Field of Drug Circulation IPO. Sechenov First Moscow State Medical University, Moscow, Russia, 119991, Moscow, ul. Trubetskaya, d. 8, p. 2

Article History: Submitted: 13.08.2019

Revised: 20.10.2019

Accepted: 25.11.2019

ABSTRACT

To study the organizational and functional model of the Department of Prevention of habitual miscarriage, created on the basis of the Consultative and Diagnostic Center to assess its effectiveness and organization. We analyzed the organizational and functional model of the department for prevention of habitual miscarriage developed by us and created on the basis of the Consultative and Diagnostic Center of the maternity hospital. The developed model of the department for the prevention of miscarriage of pregnancy includes a diagnostic service (diagnostic rooms), treatment and prophylactic cabins, and sanitary-educational work. The introduction of this developed model into clinical practice will facilitate the timely identification of the risk group for miscarriage and provide the necessary conditions for prolonging pregnancy.

Key words: habitual miscarriage, physio therapy, rehabilitation of women

Correspondance:

Vartanian E.A

Department of Organization and Management in the Field of Drug Circulation IPO. Sechenov First Moscow State Medical University, Moscow, Russia, 119991, Moscow, ul. Trubetskaya, d. 8, p. 2
Email: elenvartanian@gmail.com

DOI: 10.5530/srp.2019.2.16

© Advanced Scientific Research. All rights reserved

INTRODUCTION

Miscarriage (NB) - spontaneous, without interference from a woman or other persons, termination of pregnancy at various times from conception to 28 weeks inclusive, starting from the first day of the last menstruation. Habitual miscarriage (PNB) is called spontaneous abortion of a contract two or more times [1,2].

Spontaneous miscarriage is a serious loss for all pregnant women. This affects 1% of all women. The frequency of spontaneous miscarriages can be much greater than what is clinically recognized. Spontaneous miscarriage occurs in 12-15% of all pregnancies. Thirty percent of pregnancies are lost between implantation and the sixth week. Maternal age and previous miscarriages increase the risk of subsequent miscarriages. Treating repeated miscarriages is an unresolved problem; up to 50% of cases of repeated losses will not have a clearly defined etiology [3,4].

The American Society for Reproductive Medicine Practical Committee defines periodic pregnancy loss as two or more failed clinical pregnancies. The risk of repeated spontaneous miscarriage is significantly higher for patients with previous losses. The risk of miscarriage after two consecutive losses is 17-25%, and the risk of miscarriage of the fourth pregnancy after three consecutive losses is from 25% to 46%. Losses reported by patients on their own may be inaccurate. In one study, only 71% of self-reported clinical cases of pregnancy could be confirmed in hospital records. It is important to define pregnancy as a clinical pregnancy confirmed by ultrasound or histopathological examination (level of evidence IV) [5,6].

By most authors, PNB refers to a polyetiological complication, the occurrence of which is often due to impaired reproductive system function. The main factors that occupy a leading position in the development of this pathology are: genetic, anatomical, endocrinological, infectious, and immunological [7].

According to the literature, genetic factors include chromosomal and gene mutations. Among the chromosomes, the most important are trisomy, monosomy, triploidy and tetraploidy; reciprocal translocation (exchange

of chromosome segments), inversions (intrachromosomal structural rearrangements).

Women with recurrence of pregnancy loss have a chance of developing uterine abnormalities from 3.2% to 6.9% of cases and a chance of arched uterus from 1.0% to 16.9%.

Termination of pregnancy with anatomical abnormalities of the uterus can be associated with unsuccessful implantation of the fetal egg (on the intrauterine septum, near the submucous node of the fibroid), insufficient vascularization and reception of the endometrium, close spatial relationships, as well as concomitant ischemic cervical insufficiency [5,6].

Particular importance is currently being paid to changes in the hormonal background in this pathology, in particular, violation of the luteal phase of the menstrual cycle, accompanied by hypersecretion of the luteinizing hormone and hyopsecretion of follicle-stimulating hormones in the first phase of the menstrual cycle, resulting in inferior development of the follicle, premature re-induction of meiosis, and oocyte.

Bacterial vaginosis is a risk factor for preterm birth and a strong risk factor for late miscarriages. Vaginal smears should be considered as screening tests during pregnancy for women with a high risk of a history of late miscarriages [8,9,10].

Currently, it has been established that 80% of all cases of repeated pregnancy losses, previously unexplained, are associated with immunological disorders (autoimmune and alloimmune) [5,11].

The relevance of this problem is determined by the fact that it has not only medical, but also social significance.

In this regard, great importance should be given to measures aimed at improving the body of a pregnant woman in order to prevent miscarriage. Recognition of the multifactorial background for PNB has important implications for the management of patients in clinical practice [12,13].

The main event, in our opinion, is the development of an organizational-functional model of medical and social prevention for pregnant women with a PNB diagnosis in the conditions of the prevention department.

Objective: study of the organizational and functional model of the Department of PNB Prevention, created on the basis of the Consultative and Diagnostic Center to assess its effectiveness and organization.

Materials and Methods: The organizational-functional model of the Department of PNB Prevention, developed by

us and created on the basis of the Consultative and Diagnostic Center of the maternity hospital, is analyzed.

RESULTS

A schematic representation of the organizational and functional model of the Department of PNB Prevention (based on the Consultative and Diagnostic Center) is presented in Figure 1.

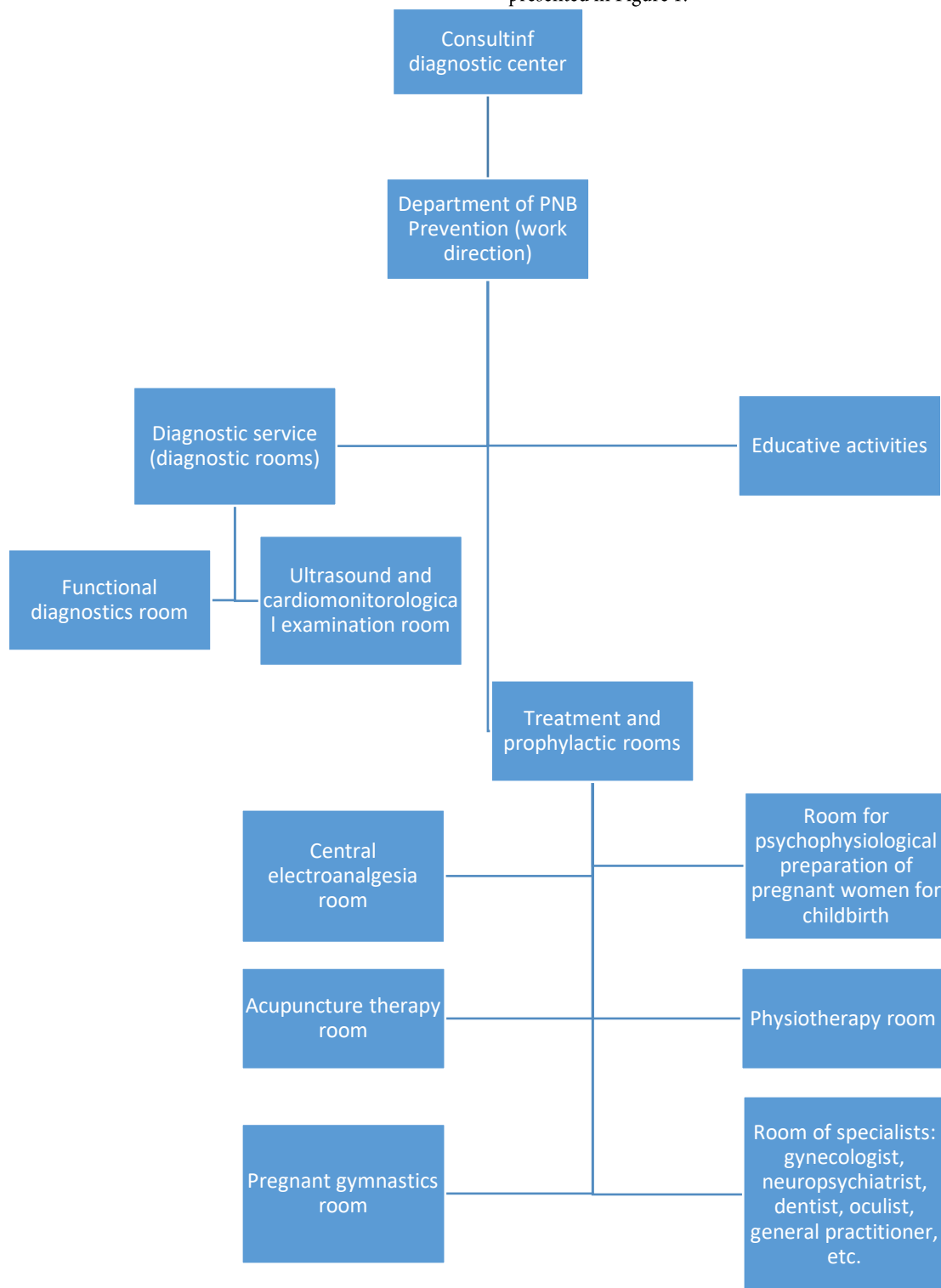


Figure 1. Schematic representation of the organizational and functional model of the Department of PNB Prevention.

The presented schematic representation of the organizational and functional model of the Department for PNB Prevention indicates that this structure is able to provide the necessary amount of consultative and therapeutic care for patients.

The functional diagnostics room is intended for examination of the cardiovascular system (through the use of an electrocardiograph) and the functional state of the autonomic nervous system (Vegetotest apparatus). The ultrasound and cardiomonitoring study room is designed for dynamic monitoring of the fetus, the course of pregnancy, and clarification of the gestational age.

In addition, with the aim of individualizing the approach to each pregnant woman, echocardiography and dopplerometry methods are used (assessment of violations of the uteroplacental and fetal-placental circulation).

Cardiotocography is used to monitor the cardiac activity of the fetus in parallel with the simultaneous recording of uterine contractility.

The organizational and functional structure of treatment and prophylactic rooms includes (according to Figure 1) rooms for the implementation of activities designated by specialists and specialist rooms.

The cabinet of central electroanalgesia is designed to stabilize the central mechanisms by providing the effect of electrotranquilization. This helps to improve the emotional state of pregnant women, normalize hemodynamics, and decrease uterine tone. The devices used in this office are named "LENAR". It is recommended that the session be held in a room isolated from noise during the same morning hours (10-12 hours).

The need for the psychophysiological preparation of pregnant women for childbirth is due to the instability of the mental state of the person with frequent registration of anxiety-phobic neurotic syndrome.

In addition, in a number of works, there is a correlation between the state of the autonomic nervous system and the psycho-emotional status of pregnant women [14,15,16].

The following methods are supposed to be used: rapid diagnosis of the psycho-emotional state of women (with an assessment of well-being, activity, mood); proven methods of E.A. Sakharov, qualified cards, experimental psychological tests and color selection methods for quantifying the severity of emotional stress.

In case of detection of neuropsychiatric disorders in pregnant women with PNB, the method of complex family rational psychotherapy is performed as a pathogenetic therapy for the correction of borderline neuropsychiatric disorders of pregnancy.

Particular importance is currently being given to acupuncture therapy in the treatment and prevention of the threat of abortion. In this regard, the acupuncture therapy cabinet is an integral component of the treatment and prophylactic rooms of the department for prevention of PNB [17].

Physical treatment methods (physiotherapy cabinet) contribute to the restriction or even complete exclusion of medication; their impact is local.

The ongoing activities in this office are aimed at solving the following problems:

- increase the body's resistance;
- optimization of the adaptation processes of a pregnant woman to the conditions of increased requirements for the main systems of the organization in the process of pregnancy progression;
- providing conditions for normal intrauterine development of the fetus;
- prevention of postpartum complications and mastitis;
- treatment of diseases that are not the result of pregnancy but developed during it.

With the threat of abortion, physiotherapeutic treatment, in most cases, is prescribed with the aim of influencing the central and peripheral nerve formations that are involved in the regulation of uterine contractility [18].

The most common methods used with the threat of abortion include:

1. The technique of endonasal galvanization. It is used for short pregnancy, neurosis. Endonasally enter the anode, the cathode on the back of the neck. The current strength is 0.5 - 2.0 mA, the duration of the procedures is 10 - 12 minutes. A course of 12 to 15 daily exposures.

2. The technique of short pulse electroanalgesia was performed with a pronounced neurotic component in a pregnant state (fear of loss of pregnancy).

3. The methodology of SMT-phoresis of magnesium sulfate (3 - 5%). An anode of 9x13 cm above the pubis is placed on the lower abdomen, and a cathode of 9x13 cm is placed on the back. Duration of exposure 20 minutes 1 - 2 times a day, 10 - 15 days. Magnesium reduces the sensitivity of the myometrium and increases the content of peptides that inhibit the synthesis of oxytocin.

Contraindication is early pregnancy up to 8 weeks, the presence of uterine fibroids during pregnancy, kidney-gallstone disease, chronic thrombophlebitis.

In the office designed for gymnastics, the following tasks should be performed in relation to pregnant patients [14,18]:

1. The general healing effect of gymnastic exercises on the body.
2. Improvement of the cardiovascular system, lungs, intestines.
3. Providing the body of the mother and fetus with oxygen.
4. Strengthening muscle groups involved in vigorous labor (muscles of the abdominal wall, pelvic floor, perineum).

Therapeutic exercises should be performed in accordance with the recommendations of medical specialists under the supervision of an instructor in exercise therapy.

The presented model of the Department of PNB Prevention is able to provide the necessary conditions for the full recovery and health promotion of those who have risk factors for the development of miscarriage.

In addition, staying in the department for prevention of PNB and receiving the necessary amount of diagnostic and treatment assistance in full can prevent the development of miscarriage, as well as help reduce the cost of treating complications of pregnancy and childbirth, which indicates the economic efficiency of the stay of women at risk in this department.

CONCLUSIONS

1. The managers of multidisciplinary hospitals with integrated maternity hospitals need to apply the widespread introduction into practice of a new system of rehabilitation for pregnant women with the usual history of miscarriage in the prevention departments, and the Consultation and Diagnostic Clinic of the maternity hospital, due to the high medical, social and economic efficiency;

2. The activities of the department for the prevention of habitual miscarriage in urban healthcare should function using modern medical technologies for the timely identification of risk groups for maternal and perinatal pathologies.

REFERENCES

1. Sirotkina MA, Kiseleva EB, Gubarkova EV, Buyanova NL, Elagin VV, et al. Multimodal optical coherence tomography in the assessment of cancer treatment efficacy. *Bulletin of Russian State Medical University* [Internet]. Pirogov Russian National Research Medical University; 2016;(4):19–26. Available from: <http://dx.doi.org/10.24075/brsmu.2016-04-03>
2. Petrov V, Kochish I, Fisinin V, Ushakov A, Vertiprakhov V, et al. The role of nitric oxide in the exocrine pancreatic function in chicken. *Rossiiskaia selskokhoziaistvennaia nauka* [Internet]. The Russian Academy of Sciences; 2018 Oct;(5):57–60. Available from: <http://dx.doi.org/10.31857/s250026270000672-4>
3. Belous AS, Biryukova YK, Zatolokina MA, Lavrinenko KI, Loyko EA, et al. Trophic changes in the skeletal muscles of rats after therapy with sildenafil and cerebrolysin in the lower limb ischemia model. *Bulletin of Russian State Medical University* [Internet]. Pirogov Russian National Research Medical University; 2016;(4):62–6. Available from: <http://dx.doi.org/10.24075/brsmu.2016-04-10>
4. Podzolkova NM, Shamugia NL, Koloda YA, Skvortsova MY. FOR PRACTICING OBSTETRICIANS AND GYNECOLOGISTS. FOR PRACTICING OBSTETRICIANS AND GYNECOLOGISTS [Internet]. OOO “GEOTAR-Media” Publishing Group; 2019;1–144. Available from: <http://dx.doi.org/10.33029/9704-5231-8-bes-2019-1-144>
5. Andersen A-MN. Maternal age and fetal loss: population based register linkage study. *BMJ* [Internet]. *BMJ*; 2000 Jun 24;320(7251):1708–12. Available from: <http://dx.doi.org/10.1136/bmj.320.7251.1708>
6. Christiansen OB, Nybo Andersen A-M, Bosch E, Daya S, Delves PJ, Hviid TV, et al. Evidence-based investigations and treatments of recurrent pregnancy loss. *Fertility and Sterility* [Internet]. Elsevier BV; 2005 Apr;83(4):821–39. Available from: <http://dx.doi.org/10.1016/j.fertnstert.2004.12.018>
7. Van den Berg MMJ, van Maarle MC, van Wely M, Goddijn M. Genetics of early miscarriage. *Biochimica et Biophysica Acta (BBA) - Molecular Basis of Disease* [Internet]. Elsevier BV; 2012 Dec;1822(12):1951–9. Available from: <http://dx.doi.org/10.1016/j.bbadis.2012.07.001>
8. Sugiura-Ogasawara M, Ozaki Y, Katano K, Suzumori N, Mizutani E. Uterine Anomaly and Recurrent Pregnancy Loss. *Seminars in Reproductive Medicine* [Internet]. Georg Thieme Verlag KG; 2011 Nov;29(06):514–21. Available from: <http://dx.doi.org/10.1055/s-0031-1293205>
9. Leitich H, Kiss H. Asymptomatic bacterial vaginosis and intermediate flora as risk factors for adverse pregnancy outcome. *Best Practice & Research Clinical Obstetrics & Gynecology* [Internet]. Elsevier BV; 2007 Jun;21(3):375–90. Available from: <http://dx.doi.org/10.1016/j.bpobgyn.2006.12.005>
10. Wilkowska-Trojnieł M, Zdrodowska-Stefanow B, Ostaszewska-Puchalska I, Redzko S, Przepieść J, Zdrodowski M. The influence of Chlamydia trachomatis infection on spontaneous abortions. *Advances in Medical Sciences* [Internet]. Elsevier BV; 2009 Jan 1;54(1). Available from: <http://dx.doi.org/10.2478/v10039-009-0008-5>
11. Sorokina AV, Radzinsky VE. 210 THE NEW APPROACH TO EARLY DIAGNOSIS OF ADENOMYOSIS. *Reproductive BioMedicine Online* [Internet]. Elsevier BV; 2010 Oct;20:S96–S97. Available from: [http://dx.doi.org/10.1016/s1472-6483\(10\)62628-4](http://dx.doi.org/10.1016/s1472-6483(10)62628-4)
12. Rice MF. Medical Indigency and Inner City Hospital Care: *Journal of Health & Social Policy* [Internet]. Informa UK Limited; 1990 Feb 28;1(2):1–29. Available from: http://dx.doi.org/10.1300/j045v01n02_01
13. Shpagin M, Gordeev O, Dnishev T, Nikitin D, Suslov A, et al. MINIMALLY INVASIVE METHODS OF TREATMENT IN THE SYSTEM OF INTEGRATIVE MEDICINE FOR VERTEBROGENIC PAIN. *Hirurgiâ pozvonočnika* [Internet]. Association of Spine Surgeons; 2017 Sep 15;14(3):62–6. Available from: <http://dx.doi.org/10.14531/ss2017.3.62-66>
14. Tril' VE, Burlutskaya AV. Metabolic Cardiomyopathy in Paediatric Practice. *Kuban Scientific Medical Bulletin* [Internet]. Kuban State Medical University; 2019 Sep 15;26(4):107–22. Available from: <http://dx.doi.org/10.25207/1608-6228-2019-26-4-107-122>
15. Perkhov VI, Yankevich DS. State guarantees of free medical care: What has changed in 20 years? *Medical academic journal* [Internet]. ECO-Vector LLC; 2018 Dec 15;18(4):27–33. Available from: <http://dx.doi.org/10.17816/maj18427-33>
16. Pluzhnikova TA, Mikhulina EA, Davydova NI, Shogiradze LD. Experience with intravenous immunoglobulin treatment in pregnant women with miscarriage and chronic endometritis. *Journal of obstetrics and women's diseases* [Internet]. ECO-Vector LLC; 2018 Dec 15;67(5):21–31. Available from: <http://dx.doi.org/10.17816/jowd67521-31>
17. Islam in the modern world [Internet]. Moscow Islamic Institute; 2015 Dec 17;11(4). Available from: <http://dx.doi.org/10.20536/2074-1529-2015-11-4>
18. HASKELL JG. DIAGNOSIS AND TREATMENT OF THREATENING AND HABITUAL ABORTION. *Clinical Obstetrics and Gynecology* [Internet]. Ovid Technologies (Wolters Kluwer Health); 1959 Mar;2(1):64–73. Available from: <http://dx.doi.org/10.1097/00003081-195903000-00007>