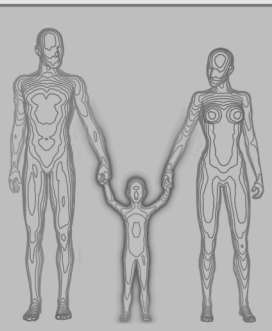
FAMILY MEDICINE



IN 3 BOOKS

Edited by
Professor **O.M. HYRINA,**
Professor **L.M. PASIYESHVILI,**
Professor **L.S. BABINETS**

BOOK 3

SPECIAL PART. MULTIDISCIPLINARY GENERAL MEDICAL PRACTICE

APPROVED
by the Ministry of Education and Science
of Ukraine as a textbook for students of higher
medical educational establishments

PUBLISHED
in accordance with the Order of the Ministry
of Health of Ukraine No. 502 of 22 June 2010
as a national textbook for students of higher
medical educational establishments

RECOMMENDED
by the Academic Council of Bogomolets National
Medical University to be published as a textbook
«Family Medicine» in three books, edited by
Professor O.M. Hyrina, Professor L.M. Pasiyeshvili

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Authors:

L.S. Babinets, P.A. Bezditko, S.A. Bondar, V.I. Velychko, Ya.I. Venher, O.O. Vorontsov, I.A. Harahatyi, N.M. Zhelezniakova, A.A. Zazdravnov, V.H. Karpenko, V.S. Konoplitskyi, V.I. Korostii, V.M. Lisovyi, B.O. Mihenko, A.A. Nalizhytyi, N.M. Pasiyeshvili, T.M. Pasiyeshvili, S.M. Pukhlyk, T.I. Tamm, O.L. Tovazhnianska, T.V. Frolova, O.S. Shevchenko, V.M. Zhdan, M.Yu. Babanina, N.S. Shnayder, H.O. Danylchuk

Reviewers:

L.F. Matiukha — Doctor of Medical Sciences, Professor, Head of the Department of Family Medicine and Outpatient Care of Shupyk National Medical Academy of Postgraduate Education;
O.M. Korzh — Doctor of Medical Sciences, Professor, Head of the Department of General Practice — Family Medicine of Kharkiv Medical Academy of Postgraduate Education

English language editor:

I.V. Rozhenko, Ukrainian Medical Stomatological Academy

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The textbook is committed to provide current information regarding family physician practice, considering the multidisciplinary aspect of general medical practice. The textbook contains practical recommendations for family physicians in the management of patients with nosologies at the stage of primary medical care, focuses on the clinical manifestations, diagnostic criteria, treatment and prevention algorithms within the occupational competence framework of family physician, as well as the guidelines for interaction with healthcare professionals who provide specialized care.

The textbook corresponds to the curriculum on the specialty «General Practice/Family Medicine» and is intended for use by students of higher medical educational establishments, internship doctors, family physicians/GPs and pediatricians.

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Contents

List of abbreviations

AACE — angiotensin-converting enzyme
ACS — acute coronary syndrom
ACTH — adrenocorticotropic hormone
ADH — antidiuretic hormone
AIDS — human acquired immunodeficiency syndrome
ALV — artificial lung ventilation
Am — amikacin
Amx/Clv — amoxicillin / clavulanic acid
ARB — acid resistant bacteria
BA — bronchial asthma
BMI — body mass index
BP — blood pressure
Cfx — ciprofloxacin
Cfz — clofazimine
CHD — coronary heart disease
Clr — clarithromycin
Cm — capreomycin
CMAC — Central Medical Advisory Commission
CNS — central nervous system
COPD — chronic obstructive pulmonary disease
CRF — chronic respiratory failure
Cs — cycloserine
DHR — delayed hypersensitivity reaction
DOT — days of treatment
DST — drug sensitivity test
E — ethambutol
Et — ethionamide
FEV1 — forced expiratory volume per 1 sec
FVC — forced vital capacity
GERD — gastroesophageal reflux disease
Gfx — gatifloxacin
H — isoniazid
HIV — human immunodeficiency virus
HR — heart rate
Km — kanamycin
LDL — low density lipoprotein
Lfx — levofloxacin
LTBI — latent tuberculosis infection
Lzd — linezolid
MBT — Mycobacterium tuberculosis
MDRTB — multidrug-resistant tuberculosis
Mfx — moxifloxacin
MRI — magnetic resonance imaging
MSCT — multislice spiral computed tomography
MVP — mitral valve prolapse
NCD — neurocirculatory dystonia
NDTB — newly diagnosed TB
NSAID — nonsteroidal anti-inflammatory drug
Ofx — ofloxacin
OTB — other case of TB
PAS — paraaminosalicylic acid
PCR — polymerase chain reaction
PE — pulmonary embolism
PR — pulmonary regurgitation
Pt — protionamide
Q — fluoroquinolone group preparations
R — rifampicin
Rfb — rifabutin
RifTB — Rifampin-resistant tuberculosis
RR — respiratory rate
RTA — recombinant tuberculosis allergen
S — streptomycin
SSS — sick sinus syndrome
T3 — triiodothyronine
T4 — thyroxine
TAI — treatment after interruption
TB — tuberculosis
TFTB — treatment failure of tuberculosis
Trz — terizidone
TTH — thyrotropic hormone
TU — tuberculin unit
US — ultrasonography
WPW syndrome — Wolff-Parkinson-White syndrome
XDRTB — extensively drug-resistant tuberculosis
Z — pyrazinamide

Chapter 1

OBSTETRICS

1.1. ANATOMY AND PHYSIOLOGY OF FEMALE BODY

1.1.1. Anatomy of female reproductive system

External genitalia: pubic symphysis (mons pubis), greater and smaller (shy) lips (labia majora pudendi and labia minora pudendi), clitoris (clitoris), hymen (hymen), greater vestibular (Bartholin) glands (glandulae vestibulares majores, glandulae Bartholini), vulvar vestibule (vestibulum vaginae), urethra (urethra feminina), perineum (perineum).

Internal genitalia: vagina (vagina s. colpos), uterus (uterus), uterine adnexa (adnexis uteri), uterine tubes or fallopian tubes (tubae uterinae), ovaries (ovaria).

The main vessels providing the blood supply to external genitalia include internal pudendal artery (a. pudenda interna) extending from a. illiaca interna, external pudendal artery (a. pudenda externa) — a branch of a. illiaca externa, which sometimes extends from femoral artery, obturator artery (a. obturatoria) extending from a. illiaca interna. Veins of the same name pass parallel to the arteries.

The blood supply to internal genitalia is provided by uterine artery (a. uterina) — a branch of a. illiaca interna, partially by ovarial artery (a. ovarica), extending from abdominal part of the aorta and a. renalis. Uterine artery ramifies to vagina — vaginal artery (a. vaginalis), and at the fundus of uterus it is divided into r. fundi (to the fundus), r. tubarius (to the fallopian tube) and r. ovaricus (to the ovaries).

The blood supply to ovaries and fallopian tubes is mainly provided by ovarian artery (a. ovarica). Veins passing parallel to the arteries of the same name create multiple plexuses anastomosing with each other.

Sympathetic and parasympathetic nervous systems provide innervation.

The lymphatic system of female genitalia consists of large network of lymphatic vessels and nodes.

1.1.2. Main female sex hormones

Genital glands are responsible for producing sex hormones: estrogen and progesterone.

Estrogens are produced by the connective tissue of follicular tunica and progesterone — by corpora lutea. Estrogens can be divided into high active (estradiol, ovarian or follicular hormone) and low active (estriol/theelol). All listed hormones are steroids, since they have steroid ring in their base and differ only in their sidechains. During preg-

nancy, estrogenic hormones provide uterine growth, morphological and functional restructuring of neuromuscular system. Placenta performs estrogen function starting from 13—14 weeks of pregnancy. Estrogens increase both blood circulation in the uterus and level of oxygen partial pressure. They stimulate myometrium breathing function and facilitate redox processes in it, preparing neuromuscular system of uterus to active contractions. Insufficient estrogen production commonly leads to primary poor uterine contraction strength.

Hormones of the corpus luteum (progesterone and luteinizing hormone) and substances with the same effect are called ***gestagenes***. Progesterone is also one of the steroid hormones produced by granulosa cells developing after ovulation. During pregnancy, placenta produces progesterone, but it also can be secreted by adrenal cortex.

The pituitary gland, its frontal lobe mainly, produces hormones, which are very important in the pregnancy period. Currently, there are three known gonadotrophic hormones: follicle-stimulating (prolan A), luteinizing (prolan B) and luteotrophic (lactogenic) hormones. Moreover, during pregnancy the ovum produces the agent with gonadotrophic effect — human chorionic gonadotropin. The posterior pituitary lobe produces alpha hypophamine (oxytocin) and beta hypophamine (antidiuretic hormone).

Placenta provides complex functions maintaining normal prenatal development of fetus: gas exchange, trophic, endocrine, excretory and protective functions. Also, it has antigenic and immune properties. All main functions of placenta primarily depend on uteroplacental and fetoplacental circulation.

From the first day of embrio development, two cell layers appear, namely, the outer layer forms trophoblast which directly contacts with endometrium, the internal one forms embryoblast. By the end of the second week of embryogenesis, the rapid development of villi in trophoblast can be observed; elements of connective tissue grow into the villi, which further can serve as the basis for the blood vessels development.

The formation of placental barrier ends up to 12^{th} week of prenatal development. Placenta produces a number of hormones, in particular, chorion gonadotropic hormone, placental lactogenic hormone, placental growth hormone, progesterone and estrogen. Some of them are produced by placental tissue itself, while the others are recombined from precursors coming from mother or fetus.

1.1.3. Diagnosis of early pregnancy

Diagnosis of early pregnancy is based on anamnesis, data of clinical and additional methods of examination, such as ultrasound and special markers (biological reactions are not currently used). Anamnesis includes the date of last menstruation, regularity of menstruation, enlargement of breasts and secretion of colostrum (probable signs of pregnancy). Change of taste, smelling, morning nausea and vomiting, food disgust (possible signs of pregnancy) should also be considered.

In later pregnancy, some typical signs can appear on the face skin, abdominal raphe, around nipples, namely, pigment spots (chloasma uterinum) and stretch marks (so-called striae gravidarum).

While performing vaginal examination, physician should pay attention to such probable signs of pregnancy as the vaginal mucosa condition, cyanosis of cervix mucosa, uterus enlargement, increase in its contractility.

The most important probable signs of pregnancy are:

- sign of Gegar — softening of the uterus in the cervix area;
- sign of Genter — ridge-like thickening in the midline of the anterior surface of the uterus, which doesn't extend to its bottom and posterior wall;
- sign of Piskachek — asymmetry of the uterus;
- sign of Snegiriov — uterine contraction during examination;
- sign of Gorvitz—Gegar — easy repositioning of the uterus to hyperreflexia;
- sign of Gubarev—Gauss — insignificant shift of the uterine cervix caused by its softening.

The final determination of pregnancy and gestational age are carried out with special markers based on reactions with chorionic gonadotropin (examination of morning urine of pregnant woman) as well as with ultrasound using vaginal sensors (high resolution of ultrasound sensors allows diagnosing the early pregnancy).

Examination of pregnant. While registering in the maternity welfare center or general practitioner for the examination, the following documents are used:

- 111/o-form includes the history of life, information about previous pregnancies, menstrual function, data of physical and vaginal examination, the size of pelvis and laboratory data in dynamics. After examination, they determine the risk group, tactics for further examination measures. Ultrasound examination should be performed according to the Order of Ministry of Health of Ukraine No. 503 (dated December 18, 2002) at the periods 9—11 weeks (with obligatory measurement of fetal cervical skin fold), 16—21 and 32—36 weeks considering the following indications: intrauterine growth restrictions (IUGR), placental insufficiency, pathological changes in fetal cardiotocogram, severe obstetric pathology to determine fetal biophysical profile. Thus, 111/o-form contains all the information about pregnancy, childbirth and postnatal period.
- 113/o-form consists of 3 sections and reflects the work of maternity welfare center, family practitioner and obstetrics department as well as department for newborn and children's clinic (Scheme 1.1).

According to the Order of the Ministry of Health of Ukraine No. 455 (dated November 13, 2001), the maternity leave is issued for 126 days (70 calendar days before the childbirth and 56 after) starting from the 30th week of pregnancy. In case of preterm or multiple birth delivery, complications during the delivery or after it, 14 extra calendar days are added.

Women belonging to I—IV categories of Chernobyl Nuclear Power Plant victims are issued the maternity leave from 27th week of pregnancy for 180 days (90 days before and 90 days after the childbirth).

Physician should measure the external dimensions of woman's pelvis according to which they assess the size of the small pelvis to provide the successful labor.

Four measurements should to be carried out:

1. Distantia spinarum — the distance between anterior superior illiac spine (spina iliaca anterior) is up to 25—26 cm.