REKITSEN-RD®

Remedy for removal of alimentary fibers deficiency with a wide spectrum of adaptive and homeostatic activity. It is the effective remedy for solving the problem of the correction of the organism functions.

The remedy is used as the component of the functional nutrition in a broad spectrum of variants of human's pathology:

- indigestion (nausea, vomiting, heartburn, abdominal distention);
- dysbacteriosis, stools disturbances (diarrhea and retention of stools);
- ulcer, gastritis, enteritis, colitis, dyskinesia of bile ducts;
- chronic cholecystitis, hepatitis, pancreatitis;
- inflammatory diseases of inner organs;
- obesity, diabetes, neurocirculatory asthenia, stress;
- intoxication: alcoholic origin (hangover effect);
- infectious diseases (tuberculosis, influenza, salmonellosis, dysentery and so on);
- during the radiation therapy and oncologic diseases;
- bacterial prostatitis, pyelonephritis;
- atherosclerosis, cardiovascular diseases;
- allergic diseases, dermatitis, psoriasis;
- purulent diseases of the skin, furunculosis;
- fever of unknown origin;
- stomatitis, parodontitis, parodontosis;
- disturbance of menstrual function, endometriosis, metrastibroma, oophoritic cyst, mastopathy;
- unfavorable ecological, industrial and medical factors;
- infectious pathology, dyspeptic effects during pregnancy and the period of lactation, prevention of atopic dermatitis.

Research work in the field of biotechnology led to the creation of the unique remedy – Rekitsen-RD, which has already received great reward of Russian and foreign specialists.

It is well-known that food, which contains the ingredients necessary for the organism, contributes to the health support and decreases the risk of getting ill. It was Hippocrates who wrote that «It is good when food is medicine and medicine is food». This invention contributed to the creation of the conception of «functional nutrition». As the ingredients for functional nutrition, fermented alimentary fibers are used in combination with the product of their fermentation—short chained fatty acid. Such complexes you can find only in the series of Rekitsen-RD.

**Why is the removal of the alimentary fibers deficiency so important nowadays?** The point is that food of modern people contains less than 30% of the alimentary fibers. Lack of the alimentary fibers is the significant risk factor of forming the intoxication, disturbances of functions of the immune system, dysbacteriosis, inflammatory and oncologic pathology of the large intestine,
disturbances of carbohydrate (diabetes of the second type) and lipids (atherosclerosis, obesity) metabolism, and also the disturbances of metabolism of male and female's sex hormone, which can lead to the oncologic pathology of prostatic and lactal gland, and also osteoporosis.

What are the alimentary fibers?

Alimentary fiber consists of the polysaccharides of plant origin, which are resistant to the hydrolysis by ferments of human's gastrointestinal tract.

The alimentary fibers are digested as a result of the symbiotic digestion, which is provided by the normal microflora of the large intestine. And exactly the products of such digestion provide medical effects of the alimentary fibers. That's why in case of dysbacteriosis, when the amount of lactic acid bacilli, bifid bacteria and others are reduced, the alimentary fibers, without any changes, go through the gastrointestinal tract, without giving the full complex of medical effect.

Scientists suppose that the pathogenetic basis of the prophylactic and medical effect of the alimentary fibers are the short-chained fatty acids, which are formed during the process of fermentation of alimentary fibers by the normal microflora of the large intestine, and also their structural components, which have the ability to sorb.

Short-chained fatty acids, which are the waste products of fermentation of the alimentary fibers, in fact provide the removal of the alimentary fibers deficiency. So, it is necessary to reduce the alimentary fibers deficiency, but it is difficult and to have the short-chained fatty acids in food.

That's why it is necessary to find the alternative sources of the alimentary fibers, which are more available to the organism from the biological point of view, and which are able to provide the compensation of deficiency of products of their microbial metabolism.

For elimination of deficiency of alimentary fibers is optimal to use complexes of already fermented alimentary fibers and SCFA. It is the most expedient in people with dysbacteriosis whose process of a fermentation of alimentary fibers is broken. Such complexes are contained only in a line of Rekitsen-RD (Joint-Stock Company «Berry», Kirov). The basis of the mechanism of effect of Rekitsen-RD is made by the elimination of dysbacteriosis and intoxication of organism.

The given remedy possesses probiotic effect as, on the one hand, alimentary fibers are a selective nutrition for bifido- and lactoflora of intestines, and on the other hand – contained in it SCFA which are formed as a result of industrial fermentation of alimentary fibers, are also necessary for provision of energy of useful micro flora of intestines.

It is established marked deintoxication effect of the fermented alimentary fibers pertaining to toxic agents of a microbial and non microbial origin (microbic toxins, adverse ecological and production factors, carcinogens, alcohol). Besides, the components included into the remedy, prevent formation of by-effects of use cytostatics, antibiotics, antitubercular preparations, and also beam therapy. Unlike enterosorbents, Rekitsen-RD can be applied long time (month and more) as deducing of normal flora, digestive enzymes and other useful substances, and also damage of epithelium of intestines are not marked. The fermented alimentary fibers eliminate or reduce intoxication at the expense of strengthening of barrier function of walls of intestines that prevents penetration of components of intestinal contents (toxins and microorganisms) through intestines wall, so that the risk of formation of an inflammatory microbial pathology of internal organs is reduced. Impellent
activity of intestines and the stool are normalized (constipations and diarrheas are eliminated), the dysbacteriosis is eliminated. It is important due to the normal flora is a unique detoxication system which can be called the second live.

The major mechanism of effect of the components included in Rekitser-RD is strengthening of detoxication liver functions (activity of the enzymes destroying harmful substances increases). Rekitser-RD normalizes production in an organism vitamins group B and folic acid, and also strengthens antioxidative potential of body. Presented remedy demonstrates positive impact on the processes of blood formation and eliminates intoxication produced by free radicals. Thus, the complex of the fermented alimentary fibers, vitamins and the mineral substances included in Rekitser-RD strengthens multicomponent system of protection of an organism from toxic factors.

Elimination of deficiency of the fermented alimentary fibers included in Rekitser-RD has positive influence on the digestion processes. Its use eliminates the heartburn phenomena, restores the digestion during the liver diseases (hepatitis, cholecystitis), a stomach and an intestines (gastritis and ulcers of a stomach and a duodenum, enteritis, colitis). The remedy restores microflora of intestines in dysbacteriosis and sharp intestine infections at the expense of increased presentation of bifidum - and lactobacteria and decrease in presentation of conditional-pathogenic and pathogenic microflora.

In infectious process and immune insufficiency the diet enriched with fermented alimentary fibers, restores a humoral link of immune system, reduces concentration of allergic antibodies, reduces the phenomena lymphadenopathy and normalizes a current of inflammatory process. The presented material testifies to its preventive anti-inflammatory, antiallergic and immune action. Rekitser-RD restores glucose level in blood (if it is increased), normalizes level of cholesterol and low-density lipoprotein, and also increases concentration of high-density lipoprotein, reduces an absorption of lipids that prevents development of a diabetes of the second type, adiposity and an atherosclerosis.

Elimination of deficiency of the fermented alimentary fibers prevents formation of cancer of a thick intestine, cancer of mammary glands, cancer of prostatic gland. Rekitser-RD is made of ecologically faultless raw materials by the original technology and doesn't contain extraneous inclusions. A preparation basis consists of the fermented alimentary fibers received by a nonalcoholic fermentation of wheat bran by nonactivated wine yeast and short chained fatty acids (SCFA). The compound contains integrally connected iodine which is steady to heating and not overdosed, vitamins, mineral and other useful substances. (The report № 1389-218/2002 FGUC, GosNIIsintezbelo, the report of Laboratory researches № 885 from 16.04.2010 r. FGMH «FCH&E» Rospotrebnadzor). Each stage of manufacture passes an independent expert appraisal. It is made under control FGM «Kirov CSM» (the decision № 24/51-02 from 09.08.2010 r.) It is highly appreciated by foreign experts as Rekitser-RD is exported to Japan, South Korea and other countries.

**Application of Rekitser-RD and dose:** RECOMMENDED! The general way of admission: adults - 1 table spoon 3 times a day (4 packages for a monthly course), at the age of 9 – 14 years - 1 dessertspoon 3 times a day (3 packages for a monthly course), and children 3 – 8 years 1 teaspoon 3 times a day (2 packages for a monthly course) before meal or during meal. Recommended duration of admission of Rekitser-RD is 1 month, and in case of chronic pathology and deep cleaning of organism of slags is 2–6 months.
To people inclined to constipations and having overweight, Rekitzen-RD is recommended in the following dose: 1–3 days 1 tablespoon 3 times a day, and then a dose stay the same or increased to 2–3 table spoons 3 times a day (selection is carried out individually).

Rekitzen-RD should be stirred in water or in other drink, or added in sour-dairy products or preliminary chewed and washed down with a drink or water, or added in soups, cottage cheese, porridges and etc. during meal. The daily volume of a consumed liquid (soup, tea and etc.) should be not less than 2 – 2,5 liters at adult people or to be sufficient for prevention of feeling of thirst. In case of an alcoholic intoxication or food poisoning the dose of a preparation can fluctuate from 1 to 4 table spoons 3–4 times a day until the condition is normalized.

Skin mask. Rekitzen-RD pound to powder for example in a coffee-grinder, mix a teaspoonful of the medicine with a tablespoonful of fresh kefir and leave for 15 minutes. Apply the mask to the affected areas of skin washed with soap and dried up before. The mask will be more effective in combination with internal use of Rekitzen-RD.

Rekitzen-RD is allowed to use in baking of bread and making confectionery and milk products by the Federal Service on Protection of Consumers' rights.

Rekitzen-RD was tested successfully in:
- the State Scientific Research Institute of biosynthesis of albumen (Moscow)
- the Central Scientific Research Institution of Dentistry (Moscow)
- the 358-th Regional Military Clinical Hospital (Samara)
- the Maslov Clinic of Childhood Diseases, Military Medical Academy (Saint Petersburg) (children after 3 years of age)
- the Scientific Research Institute of Children Ecopathology (Perm) (children after 5 years of age)
- the Mandyka Central Military Clinical Hospital (Moscow)
- the Regional Psychiatric Hospital N 5 (Moscow)
- the Kirov State Medical Academy
- the Omsk State Medical Academy
- the Sechenov Moscow Medical Academy
- Scientific Research Institute of Hematology and Blood Transfusion (Kirov)
- the Regional Oncology Clinic (Kirov)
- the Regional Tuberculosis Clinic (Kirov)
- the Children Pulmonology Centre (Novosibirsk) (children after 5 years of age)
- the Kazan State Medical Academy (the chair of endocrinology)
- the Children Infectious Diseases Clinic of the Kirov State Medical Academy (children after 3 years of age)
- the Urology Clinic of the Perm State Medical Academy (chronic infectious prostatitis)
- the Pichugin Regional Clinic the chair of Pediatrics of the Perm State Medical Academy (children after 1 year of age)

Rekitzen-RD was highly estimated in the Central Clinical Hospital of the medical centre of the Administration of the President of the Russian Federation, in medical institutions of the Ministry of Education, in the Kirov Military Medical Academy, in the Institute of Nutrition, Russian Academy of Medical Sciences, in the Microbiology Scientific Research Institute of the Ministry of
Education, the Perm State Medical Academy, the department of obstetrics and gynecology faculty of advanced doctors studies, the Hamaleja epidemiology and microbiology Scientific Research Institute (Moscow) and other leading centres of the country. Rekitsen-RD is recommended for restoration of microflora, prevention and treatment of disbakteriosis by the Russian Medical Academy of postgraduate education.

Besides on the basis of Rekitsen-RD we have produced complexes enriched by fruit oligosaccharides and vegetable extracts of herbs which intensify the healing properties of Rekitsen-RD preserving its preventive effect. They can be used in addition to the medical therapy.

Rekitsen-RD with fruit oligosaccharides. This form of Rekitsen-RD is produced in tablets. It contains oligofructose from the chicory root and has all the favorable effects to eliminate the alimentary fibers deficiency. This means has prebiotic action as it nourishes bifid and lactic flora of the intestine and contributes to the assimilation of calcium preventing osteoporosis. It strengthens the protective functions of the intestine preventing pyelonephritis. It is used as an indispensable component of functional nutrition in treatment of pyelonephritis in children (the Perm State Medical Academy children after 1 year of age – 1 tablet 3 times a day during meals, children from 4 to 6 years old – 2 tablets 3 times a day during meals, children from 7 to 16 years old – 3 tablets 3 times a day during meals). It contains a wide spectrum of fermented alimentary fibers. It is used as preventive measure and as an indispensable component of functional nutrition in addition to medical treatment.

Rekitsen-RD with extract of haw (in tablets). Adding the extract of haw to Rekitsen-RD produces a favourable effect on the cardiovascular system as haw has antiarhythmical action and is capable of vessels dilation (including the brain and coronary vessels), it reduces the risk of thrombosis and has anti-oxidant action. It contributes to pressure reduction and improvement of blood rheological indexes. Can be used as preventive means and as an indispensable component of functional nutrition in addition to medical treatment of cardiovascular pathology.

Rekitsen-RD with a licorice (Glycyrrhiza) extract (in tablets). The major component of a licorice extract is glycyrrhizic acid which possesses an immunostimulating, antiviral (Herpes simplex virus 1 and 2 (HSV-1 and HSV-2), Varicella zoster, a cytomegalovirus, different types of human papilloma virus, including oncogenous), antiinflammatory (including expectorant effect), antipruritic (it is caused by emission inhibition of kinins in an inflammation area) and regenerating action. The salutary effect of the licorice extract is established also at the correction of the lowered arterial pressure. Therefore Rekitsen-RD with a licorice extract is used for preventive purpose and as an irreplaceable component of a functional nutrition in cases of allergic pathology (an allergic conjunctivitis, rhinitis, easy forms of a bronchial asthma, allergic dermatosis, atopic dermatitis), in viral infections, diseases of lungs and depression of arterial pressure. Research was carried out at the Novosibirsk State Medical Academy (2 tablets 2 times a day to children from 5 years). Contraindications – diseases of kidneys, an idiopathic hypertensia, edemas, pregnancy, breastfeeding.

Rekitsen-RD with Calendulae extract (in tablets). Calendulae extract adds or strengthens antiinflammatory, antimicrobial action of Rekitsen-RD, optimizes a bile secretion. Calendulae possesses an antimicrobial (antiviral – viruses of the flu, herp, antibacterial) and a wound-healing effect. It is used for preventive purposes (also see use of Rekitsen-RD) and as an irreplaceable
component of functional nutrition in addition to drug therapy in microbiotic and inflammatory pathology of the viscera and skin.

**Rekitsen-RD with a holy thistle (Silybum) extract (in tablets).** Short-chain fat acids contained in Rekitsen-RD strengthen the expression of the genes participating in synthesis P-450 of dependent oxygenases, and also the enzymes involved in processes of protection of cells from free-radical damage. Systems R-450 of dependent oxygenases are most widely presented in the liver.

The holy thistle extract also has a hepatoprotective action. It is due to a present complex of flavonolignans, and the most important of them are silibinin, silydianin. As the liver is the main «detoxicating organ», in hepatocytes there are active processes of peroxil oxidation of lipids and free-radical oxidation. Excessive accumulation of peroxil oxidation of lipid products is one of leading pathogenetic mechanisms of the liver cells (hepatocytes) lesions. It leads to the damage of a lipidic layer of cellular membranes and cellular destruction.

The complex of flavonolignans and short-chain fat acids, contained in Rekitsen-RD with a holy thistle extract, influences a metabolism and other cellular processes at the expense of suppression 5-lipookigenase ways (in particular leukotriene B4), strengthens the synthesis P-450 of dependent oxygenases, enzymes binding free reactive oxygen radicals. Rekitsen-RD accelerates regenerative processes at the expense of fiber synthesis stimulation (structural and functional) and phospholipids in the affected hepatocytes.

Application of the given remedy is expedient as an irreplaceable component of a functional food in addition to drug therapy in an acute and chronic hepatitis, cirrhosis, cholangitis, cholecystitis, and also in toxic lesions of the liver caused by poisoning with various chemical compounds, including alcohol, in case of drug intoxication, and influence of adverse ecological factors, in diabetes, chronic gastroenteric diseases and varicose phlebectasia. Contraindications — individual intolerance of components, pregnancy, breast-feeding.

We represent you the theses of one of the most significant scientific reports, executed by the St.-Petersburg scientists and Rekitsen-RD and devoted to the use as an irreplaceable component of functional nutrition in diseases of the alimentary tract. This research was done at the chair of propaedeutics of internal diseases with the courses of gastroenterology and endoscopy of the St.-Petersburg State Medical Academy, at the chair of gastroenterology of Military Medical Academy and its clinical bases (Naval clinical hospital, the unit of gastroenterology of hospital of Sacred Great martyr Elizabeth, medical unit №7), central and inter-district gastroenterological centers.

Rekitsen-RD was administered the patients with following diseases

**Gastrointestinal tract:**
- syndrome of an angry intestine — 139 patients;
- chronic colitis — 67 patients; chronic enteritis — 37 patients;
- chronic cholecystitis — 85 patients;
- biliary dyskinesia — 52 patients;
- chronic pancreatitis — 68 patients;
- alcoholic fatty hepatitis 2–4 stages — 55 patients;
- chronic hepatitis of an alcoholic and toxic genesis — 43 patients;
peptic ulcer – 77 patients, including associated with the invasion of the mucous coat of stomach by Helicobacter pilori against complex triplex - and quadritherapy – 45 patients. The course of treatment lasted not less than 4 weeks, the dosage – on 1 tablespoon 3 times a day before meals. In the patients receiving Rekitzen-RD, this research determined the following indicators in dynamics:

- biochemical (AST, ALT, bilirubin, ALP, amylase, glucose, potassium);
- cholesterol and blood serum lipoproteins;
- parameters of lipid peroxide oxidations;
- relaxational properties of erythrocytes;
- biochemical structure of bile;
- stools for dysbacteriosis;
- immune status.

It was determined that while using Rekitzen-RD separately or as an addition to the main medical complex there was a much faster regress of intestinal indigestion’s manifestations: decrease or disappearance of abdominal distention and rumbling was marked, the normal consistence and frequency of a stools was restored. Among other positive effects, distinguished on a background of Rekitzen-RD therapy, there should be marked out such effects as the decrease or disappearance of asthenico-vegetative syndrome, increase of appetite, disappearance of nausea and unpleasant smell in a mouth, decrease of intensity of hepatomegaly and pain syndrome in the right subcostal area. There was also marked a favorable influence of Rekitzen-RD on the contractile function of a gall-bladder, therefore its size and motor-evacuation function returned to normal. As the positive phenomenon is necessary to regard the decrease of the cholesterol contents in bile of the patients administering Rekitzen-RD, that shows the decrease of a risk of cholelithiasis development. In patients with combinations of gastroenterologic diseases and allergy both initial and drug-induced (dermal itching, relapsing urticaria, Quincke's edema), the administering of Rekitzen-RD was accompanied with the fast disappearance of allergic signs. Parameters of a peripheral blood in the patients receiving Rekitzen-RD, showed rising of a hemoglobin level, achieved at the expense of regress of a sideropenic syndrome due to the improvement of an iron absorption in a small bowel. The decrease of acute phase parameters was also revealed (regress of a leucocytosis, stab neutrophilic shift of granulocytes, ESR), evidencing about the decrease of inflammatory process activity. The studies of blood biochemical parameters have revealed a partial or complete regress of cytolytic and cholestatic syndromes (decrease of activity or normalization of levels AST, ALT, bilirubin, ALP). Receiving of Rekitzen-RD in chronic pancreatitis patients was accompanied with a decrease of phenomenon intensity of escape of enzymes in form of a decrease of an amylase level in blood serum. Receiving of Rekitzen-RD was accompanied by a decrease of a blood glucose level, probably due to the restoration of insulin responsibility of receptor unit cells. According to ECG a combination of a decrease of potassium level in blood serum with an improvement of processes of repolarization indicates the efficiency of Rekitzen-RD as a remedy which decreases hypokalemia. The dynamic analysis of immunological parameters has made it possible to reveal a tendency to restoration of a normal helper-suppressor ratio in T-lymphocytes, and also an increase of secretory immunoglobulin A content in stomach and in lavages from small intestine. As the essential positive achievement it is necessary to regard the decrease of the cholesterol contents in blood serum on the background Rekitzen-RD therapy, by means of atherogenic fractions (LDL, VLDL) and triglycerides, combining with an increase of antiatherogenic fraction HDL level. A decrease of \text{H}_2\text{O}_2\text{-induced activity of blood serum's chemiluminescence} was also marked. During
the analysis of stools for dysbacteriosis it was determined that in patients who had been receiving
Rekitsen-RD, on a background of treatment there was a decrease of quantity of fungi Candida
and a representation of opportunistic pathogenic flora (klebsiella, proteus, citrobacter, hemolyzing,
lactose negative, glucose positive E. coli and its other kinds with abnormal properties). But the
representation of bifidum- and lactobacteria had been considerably increasing. The results of
gauging of mechanical properties of erythrocytes in patients receiving Rekitsen-RD additionally
revealed a decrease of erythrocytes with rather high rigidity of plasmolemma (poikilocytes, initial
forms, discoehoroidal forms), whereas the amount of easily deformable cells on the contrary tended
to augmentation. The result should be treated as certainly positive, as the large percentage of
erthrocytes with rigid plasmolemmas in blood worsens processes of a tissue metabolism.

Thus, Rekitsen-RD is a universal remedy with a multiple range of clinical efficiency. It also has
antipathogenic, antitoxicogenic properties and an ability to restore a protective natural barrier
of mucous membrane of intestine. Marked immunomodulating, antioxidant, hypoglycemic and
hypolipidemic effects also characterize Rekitsen-RD.

These positive properties of Rekitsen-RD allow to expand a spectrum of its indications in clinic
of internal diseases. Besides gastroenterology, Rekitsen-RD may be recommended as an addition
to the main medical complex in cardiovascular diseases, especially combined with atherogenic
dislipoproteinemia, allergic genesis diseases, and also as a an enteroprotective remedy in all
patients receiving antibacterial therapy. Rekitsen-RD has no contraindications and side-effects. Its
overdosage is impossible.

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