

## REVIEW ARTICLE

# SUGGESTIONS AND PRESCRIPTIONS FOR MAINTAINING GOOD HEALTH IN «REGIMEN SANITATIS SALERNI» BY ARNOLD OF VILLANOVA

DOI: 10.36740/WLek202201122

**Halina M. Zahajska<sup>1</sup>, Marta J. Petryshyn<sup>2</sup>, Oxana V. Liubimova<sup>1</sup>**<sup>1</sup>YURIY FEDKOYCH CHERNIVTSI NATIONAL UNIVERSITY, CHERNIVTSI, UKRAINE<sup>2</sup>VASYL STEFANYK PRECARPATHIAN NATIONAL UNIVERSITY, IVANO-FRANKIVSK, UKRAINE**ABSTRACT**

**The aim:** The aim of the study is collection, systematization and comprehensive analysis of suggestions and prescriptions for maintaining good health set forth by Arnold of Villanova in "Regimen Sanitatis Salerni".

**Materials and methods:** The research is based on the first edition of "The Salernitan Rule of Health" (1479) by Arnold of Villanova that comprises 364 poems (103 chapters). In this investigation we consciously leave some later editions of the "Rule" unattended since they contain insertions that do not belong to the author.

**Conclusions:** Sanitary and hygiene suggestions, therapeutic practices, proper nutrition principles, analysis of influence of animal and plant products on the human body, prescriptions for medicinal plants administration are not merely a pathway to salubrity but also basic standards of sanitary and epidemic well-being. The medieval treatise has provided the underlying framework for modern dietology and healthy lifestyle.

**KEY WORDS:** history of medicine, dietology, dietary pattern, hygiene

Wiad Lek. 2022;75(1 p.1):117-122

**INTRODUCTION**

Health, hygiene and proper nutrition issues have been essential for society over the centuries. Poor living conditions, consumption of low-quality water and food resulted in poisonings, numerous diseases, traumas, early deaths. The beginning of the XXI century is characterized not only by rapid growth of world economy and improvement of the quality of life but also by the spread of pandemic diseases (SARS, Ebola virus, Covid-19) which take millions of lives, slow down research and technology development, require major expenses to overcome them. Taking good care about health, preventing diseases and creating healthy lifestyle habits are among the topical challenges nowadays. Successful meeting these challenges might help people avoid numerous illnesses, improve the quality and span of life, preserve the nations' gene pool. The desire to stay healthy encourages us to adhere to the experience of the previous generations (*Ad fontes*) and adapt their achievements to our realities. "Regimen Sanitatis Salerni" by a celebrated Catalan doctor Arnold of Villanova (1235–1312) is one of such invaluable sources of knowledge.

**THE AIM**

The aim of the research is collection, systematization and comprehensive analysis of suggestions and prescriptions for maintaining good health set forth by Arnold of Villanova in "Regimen Sanitatis Salerni".

**MATERIALS AND METHODS**

The material of the research is the first edition of "The Salernitan Rule of Health" (1479) by Arnold of Villanova that comprises 364 poems (103 chapters). In this investigation we consciously leave some later editions of the "Rule" unattended since they contain insertions that do not belong to the author (by way of comparison, the 1859 edition comprised as many as 3520 poems).

Both general scientific methods (analysis, synthesis and deduction) and specific ones are used to achieve the objective. Descriptive method is applied for factual material interpretation. The method of contextual analysis is used to single out and investigate text fragments, analyze health benefits and curative properties of different products, plants and fruits.

**REVIEW AND DISCUSSION**

Review of the scientific literature testifies to the fact that different aspects of the study of "The Salernitan Rule of Health" have repeatedly dominated scientific researches. The issues of threpsology, the choice of living environment, optimization of physical load and day regimen were thoroughly studied on the material of the medieval treatise by Arnold of Villanova in the monograph by Juan Cruz Cruz [1]. In recent years Maurizio Bifulco and other authors addressed the issue of interrelatedness of hygiene and

spread of contagious diseases, as well as the issue of hygiene instructions that contributed to major breakthrough in medicine [2], discussed the subject of prevention and treatment of headaches on the material of medieval treatises of Medical School of Salerno [3], investigated peculiarities of oral hygiene and treatment of caries, gingivitis, paradontosis and halitosis in the Middle Ages [4]. The scientists claim that medicinal herbs and natural ingredients, suggested by medieval doctors for oral care, appear relevant today [4, 89]. R. da Costa and M. C. da Silva in their article made an attempt to interpret in the context of history of medicine the ideas of medieval doctors concerning hygiene and the choice of diet and to disprove misconceptions about medieval cuisine and medicine [5]. Specific character of neurological disorders on the material of “Regimen sanitatis Salerni” was studied by A. L. Guerrero Peral and V. de Frutos González [6]. N. Uvarova [7] made an attempt to generalize the experience and principles of sanitary as well as measures aimed at increasing life expectancy at older ages, to summarize dietology, preventive medicine and pharmaceuticals recommendations elucidated in “The Salernitan Rule of Health”. The recipes and secrets of longevity, discussed in the treatise, were the subject of O. Kisteniova’s scientific interest [8]. Ye. Berger’s research was focused on the issues of authorship attribution of “Regimen sanitatis Salernitanum” and the time of its writing [9]. With all earlier investigations in mind, we consider that dietology, sanitary and hygiene issues aimed at major expansion of children and adults’ awareness of health maintenance and disease prevention on the material of “Regimen Sanitatis Salerni” by Arnold of Villanova require further study. The experience of numerous generations, accumulated in this medieval didactic poem, has gradually led us to conscious awareness of the importance of preventive measures for human health protection.

Let’s examine the prescriptions and suggestions for maintaining good health in “The Salernitan Rule of Health”.

Arnold of Villanova advised the King of England to stay calm, be moderate in food and drink, practice good intestines hygiene, move after meals, avoid anger, and not overindulge in long afternoon naps. High spirits, rest and moderation in food were regarded as guarantees of good health: *Si tibi deficiant medici, medici tibi fiant / Haec tria: mens laeta, requies, moderata diaeta* [9-10]. Taking into account the presented above considerations, we may claim that there are three key factors which ensure health maintenance and prevention of numerous diseases: dietology, day regimen and hygiene.

Human health largely depends on proper nutrition. Nutritional value of food, its amount and quality influence physical development of people, their predisposition to diseases, their work efficiency, longevity, and mental state. In the Middle Ages the theory of dietology was falling into decay. It is only in the “Rules” of Salernitan medical school, that we come across some recommendations on sitotherapy and proper nutrition. According to medieval doctors, eating habits should depend on the season: one shouldn’t overeat in spring and summer; one should avoid eating too

much fruit in autumn; one may eat whatever they want in winter: *Temporibus veris modicum prandere juberis; / Sed calor aestatis dapibus nocet immoderatis / Autumno fructus caveas, ne sint tibi luctus / De mensa sume, quantum vis, tempore brumae* [10]. Food products and improper nutrition were believed to be the cause of all diseases: *Fortior est meta medicinae certa diaeta* [10]. Only a doctor could recommend a balanced diet that helped to improve the patient’s health and treat various illnesses: *Quale, quid et quando, quoties, ubi dando, / Ista notare cibo debet medicus dictando* [10]. The “Rules” also recommended eating abstemious dinner: moderate dinner ensures good night’s sleep, while immoderate one is harmful for the stomach: *Ut sis nocte levis, sit tibi coena brevis* [10]. At the early stages of development of mankind, little attention was paid to the taste of food. The main task was to distinguish between edible and inedible products. Nevertheless, medieval doctors knew that sweet and fatty foods were important sources of energy for the human body, that salty, bitter and spicy dishes could keep the body warm, while sour and astringent ones might cause hypothermia: *Alget acetosus, sic stipans, ponticus atque. / Unctus et insipidus dulcis dant temperamentum* [10].

Dietary regimen is vital for good health. People often consume too much food. According to Arnold of Villanova, only hunger is the voice of nature which signals that our body needs food: *Tu nunquam comedas, stomachum nisi noveris esse* [10].

Food products were of great importance as well. The influence of animal and plant products and drinks on human health is described in detail in “The Salernitan Rule of Health”.

Since the earliest times bread has been considered an indispensable part of human diet, as it provides the body with fiber, carbohydrates, B and PP vitamins, minerals (calcium, iron and phosphorus salts), which are essential for human health. In the Middle Ages bread was one of the main food products. For this reason, Arnold of Villanova gave recommendations concerning bread quality. The author believed, that bread (*panis*) should be neither too hot nor too stale, but fairly salted, well kneaded, baked with high quality flour. Such bread invigorated, while low quality bread had the opposite effect. Crust was not recommended for consumption, because it had choleric effect: *Non comedas crustam, choleram quia gignit adustam. / Panis salsatus, fermentatus, bene coctus, / Purus sit sanus, quia non ita sit tibi vanus* [10].

Vegetables were an irreplaceable food product as they had curative and dietetic effect, and prevented infectious diseases. The nutritive value of cabbage, onion, peas, turnip and leek is also emphasized in the treatise. Salernitan school doctors realized the importance of consumption of vegetables, as they stimulated appetite and helped digestion. Consumption of vegetables contributed to better assimilation of fats, proteins and carbohydrates.

Cabbage (*brassica*) which contains various vitamins and minerals (vitamin K, B vitamins (B1, B2, B6), calcium, potassium, nicotinic acid) was considered a unique product. The author

considered that cabbage soup had a cathartic effect, while fresh cabbage could cause constipation: *Jus caulis solvit, ejus substantia stringit: / Utraque quando datur, venter laxare paratur* [10].

Arnold of Villanova also paid great attention to onion (*cepa*), which is rich in phytoncides and thus has antibacterial and antiseptic effects, fights viruses, helps digestion and gives blush to the face. In addition, this product contains biologically active vitamins and minerals, that help to prevent hair loss, stimulate its growth, make it thick and shiny. According to the author, hair could be restored by rubbing mashed onions into bald spaces on the head: *Contritit cepis loca denudate capillis* [10]. Catalanian doctor also noticed the immediate haemostatic effect and general positive qualities of leek (*porrum*). Consumption of leek on a daily basis contributed to increase of female fertility: *Reddit foecundas mansum persaepe puellas. / Isto stillantem poteris retinere cruorem* [10].

Back in the Middle Ages, peas (*pisa*) were a part of human diet. According to the author of the treatise, the value of this product is ambiguous. In particular, he claimed that peas in husk were unhealthy as they caused meteorism, while peeled peas were healthful enough: *Pellibus ablates est bona pisa satis: / Est inflativa cum pellibus atque nociva* [10].

From the earliest times turnip (*rapa*) has been considered a means of cleansing the body of toxins. The Greeks, the Egyptians and the Persians fed turnip to their slaves, the Romans considered it to be the food for people of lower classes. In the Middle Ages, though, turnip was a delicacy. Turnip helped digestion and aerogenesis, had a urinate effect, but was harmful for teeth. Undercooked turnip could cause cramps: *Rapa juvat stomachum, novit producere ventum, / Provocat urinam, faciet quoque dente ruinam: / Si male cocta datur, hinc tortio tunc generatur* [10].

On the pages of the treatise, there are many recommendations for treating poisonings. Garlic (*allia*), theriac (*theriaca*), nut (*nux*), radish (*raphanus*) were believed to be antidotes [10].

“The Salernitan Rule of Health” dwells extensively on the benefits of consumption of fruits, as they slow down aging, ensure proper functioning of gastrointestinal tract, work as adsorbents and increase endorphine production.

For example, it was advised to take a sip of wine after eating pears (*pyrum*). Boiled pears were preferable, as they were easy to digest and worked as an antidote. Raw pears, according to the doctor, were bad for stomach.

Arnold of Villanova also mentioned apples (*malum*). Rich in fiber, apples thin the contents of intestines and improve intestinal peristalsis: *Si coquis, antidotum pyra sunt, sed cruda venenum. / Cruda gravant stomachum, relevant pyra cocta gravatum. / Post pyra da potum: post poma vade cacatum* [10].

Cherry flesh (*cerasum*) was also considered healthful, because it cleansed intestines and stimulated hemogenesis, while cherry pit had anti-lithogenic effect: *Expurgant stomachum, nucleus lapidem tibi tollit, / Et de carne sua sanquis eritque bonus* [10].

Plum (*prunum*) was considered to have laxative qualities and cooling effect: *Infrigidant, laxant, multum prosunt tibi pruna* [10].

Peaches (*persica*) were recommended for consumption with new wine, while grapes – with nuts. Moreover, dried grapes could be used to cure cough and were good for kidneys, but bad for spleen: *Persica cum musto vobis datur ordine justo. / Sumere, sic est mos nucibus sociando racemos. / Passula non spleni, tussi valet, est bona reni* [10].

Fig (*ficus*) epithems could help to treat Derbyshire neck and boils, while a mixture of figs and poppy seeds made broken bones heal faster: *Scrofa, tumor, glandes, ficus cataplasmate cedunt. / Junge papaver ei, confracta foris tenet ossa* [10].

Soft cornel (*escula*) was believed to be urinate: *Multiplicant mictum, ventrem dant escula strictum* [10].

Spices and seasonings add taste and aroma to the dishes and are a valuable component of a healthy diet. Special attention in the “Rule” was paid to curative properties of black pepper (*piper nigrum*). From the doctor’s point of view, it cleansed the body of mucus, helped digestion and assimilation of nutrients: *Phlegmata purgabit digestivamque juvabit* [10]. White pepper (*leucopiper*) cured stomach diseases, cough and pain syndrome. Moreover, it served as a preventive measure in cases of hyperthermia and hypothermia: *Leucopiper stomacho prodest, tussisque dolori / Utile, praeveniet motum febrisque rigorem* [10]. A mixture of pepper, salvia, salt, wine, garlic and parsley was considered healthful as well.

As long as one can remember, salt has been used for preservation of food, since a great amount of this spice prevents bacterial growth. Arnold of Villanova recommended that there should always be some salt (*sal*) in a salt-cellar on the table, as it both made the dishes tasty and worked as an antidote. On the other hand, the doctor warned that overuse of salt was harmful for eyesight and sperm quality. Moreover, it could cause itchiness: *Sal virus refugat et non sapidumque saporat, / Nam sapit esca male, quale datur absque sale. / Urunt persalsa visum, spermaque minorant, / Et generant scabiem, prurimum, sive rigorem* [10].

The renowned doctor believed that medicinal plants with the optimal balance of vitamins, acids, micro- and macro-nutrients were also essential for preservation of health. Hollyhock (*malva*) with its mitigatory effect was spotted ages ago. Moreover, its root alleviated labor and period pains: *Malvae radices rasae dedere feces: / Vulvae moverunt, et fluxum saepe dederunt* [10].

Mint (*mentha*) was considered an anthelmintic agent: *Mentitur menthe, si sit depellere lenta / Ventris lumbricos stomachi vermesque nocivos* [10]. One of the mint varieties, called pennyroyal (*pulegium*), was considered to have a strong cholekinetic effect if taken with wine. It was also used for treating gout: *Cum vino choleram nigram potato repellit: / Adpositam viridem dicunt sedare podagram* [10].

Salvia (*salvia*) was commonly used as a restorative, neuroprotective and antipyretic medication. It also reduced tremor symptoms.

A mixture of tansy, lavender (*lavandula*), nasturtium blossom (*nasturtium*), castoreum (*castoreum*), cowslip (*primula veris*) and salvia was of help in treatment of paralysis: *Salvia confortat nervos, manuumque tremorem / Tollit,*

*et ejus ope febris acuta fugit. / Salvia, castoreum, lavandula, primula veris, / Nasturt athanasa haec sanant paralytica membra. / Salvia salvatrix, naturae conciliatrix* [10].

Dill seeds (*foeniculum*) were used to fight meteorism: *Semen foeniculi fugat et spiracula culi* [10].

Sweet anise (*anisum*) improved eyesight and stimulated bowel movement: *Emendat visum, stomachum confortat anisum* [10].

Over the centuries rue (*ruta*) was one of the most popular medicinal herbs. Rue restored eyesight and, due to its sedative effect, reduced desire in men, but increased it in women. Doctors of those times also noticed nootropic and anti-pediculosis effect of rue: *Auxilio rutae vir quippe videbis acute. / Ruta viris coitum minuit, mulieribus auget. / Ruta facit castum, dat lumen, et ingerit astum* [10].

Mustard (*sinapi*) was considered to be an antidote and a nootropic. As a part of a diet, it caused dacryorrhoea: *Est modicum granum, siccum calidumque sinapi, / Dat lacrymas, purgatque caput, tollitque venenum* [10].

Violet (*viola*) soothed headache and relieved the symptoms of alcohol intoxication. Besides that, it was used as a treatment for epilepsy: *Crapula discutitur, capitis dolor atque gravedo, / Purpuream violam dicunt curare caducos* [10].

Nettle (*urtica*) was used as a cure for insomnia, nausea, cough, meteorism and arthralgia: *Aegris dat somnum: vomitum quoque tollit ad usum. / Compescit tussim veterem, colicisque medetur. / Pellit pulmonis frigus ventrisque tumorem, / Omnibus et morbis subvenit articulorum* [10].

Hyssop (*hysopus*) was believed to have mucolytic properties; it helped to cure pulmonary diseases and reduced paleness: *Hysopus herba est purgans a pectore phlegma: / Ad pulmonis opus cum melle coquatur hysopus: / Vultibus eximium fertur reparare colorem* [10].

Back in the Middle Ages, they believed that a mixture of chervil (*chaerophyllum*) and honey had anticarcinogenic effect, while chervil mixed with wine was used as an analgesic and antiemetic medicine. Chervil was also widely used as a chronic gastritis medication: *Adpositum cancris tritum cum melle medetur. / Cum vino potum poterit sedare dolorem. / Saepe solet vomitum ventremque tenere solutum* [10].

Elecampane (*enula campana*) helped to cure malfunction of atrioventricular node. Combined with rue juice, it was considered the best treatment for club root disease: *Enula campana reddit praecordia sana. / Cum succo rutae si succus sumitur hujus, / Affirmant ruptis nil esse salubrious istis* [10].

Nasturtium juice (*nasturtium*) was believed to reduce hair loss (alopecia) and relieve toothache. Mixed with honey, it was an effective treatment for seborrhea: *Illius succus crines retinere fluentes / Allitus asseritur, dentisque curare dolorem. / Et squamas succus sanat cum melle perunctus* [10].

Celandine (*chelidonium*) was used to heal eyes and restore eyesight: *Plinius ut scribit, quamvis sint eruta, reddit* [10].

Willow juice (*salix*) was a popular cure for otomycosis. Decoction of willow bark mixed with vinegar was a remedy for dermatological diseases, including warts, while willow blossom was used as a contraceptive device: *Auribus infusus succus vermes necat ejus. / Cortex verrucas in aceto cocta*

*resolvit. / Pomorum succus, flos, partus destruit, ejus* [10].

The Middle Age doctors recognized hepatoprotective and restorative value of crocus (*crocus*): *Confortate crocus dicatur laetificando / Membraque defecta confortat hepar reparando* [10].

In addition to giving recommendations on health improvement, the “Rule” also specifically stresses the importance of etiological factors. According to Sarlernian school doctors, bath, wine, Venus, wind, pepper, garlic, smoke, leek, onion, lentil, tears, beans, mustard, sun, sexual involvement, fire, blow, sharp end, dust were harmful for eyesight: *Balnea, vina, Venus, ventus, piper, allia, fumus, / Porri cum cepis, lens, fletus, faba, sinapi. / Sol, coitus, ignis labor, ictus, acumina, pulvis, / Ista nocent oculis: sed vigilare magis* [10]. Afternoon nap, excessive activity or temulence were thought to be the cause of dull hearing: *Et mox post escam dormire, nimisque moveri, / Ista gravare solent auditus, ebrietasque* [10]. Colds in the head, consumption of nuts, oil, beverages, eel and raw apples resulted in hoarseness: *Nux, oleum, frigus capitis, anquillaque, potus / Ac pomum crudum faciunt hominem fore raucum* [10]. Excessive physical activity, hunger, vomit, bad fall, alcohol intoxication and cold could cause tinnitus: *Motus, longa fames, vomitus, percussio, casus, / Ebrietas, frigus, tinnitum causat in aure* [10]. Consumption of vinegar caused asthenia and dehydration. This seasoning also influenced sperm quality and had a cooling effect: *Infridigat, macerat, melancholiam dat, sperma minorat. / Siccus infestat nervos, et pinquia siccatur* [10].

On the pages of the treatise, we also come across prescriptions for specific diseases. For example, leek seeds were used to soothe toothache. It was also suggested to fumigate the bad tooth with a mixture of burnt henbanes and frankincense: *Sic dentes serva: porrorum collige grana, / Ne careas jure, cum jusquiamo simul ure: / Sique per embotum fumum cape dente remotum* [10]. Fasting, warm food, hard work, keeping the body warm, moderate consumption of liquid, breathing gymnastics were considered effective ways of getting rid of mucus in the human body. Moreover, there was a classification of mucus types depending on its localization. Chest mucus was called catarrh, throat mucus was referred to as hoarseness, and nose mucus was known as runny nose: *Jejuna, vigila, caleas dape, valde labora, / Inspira calidum, modicum bibe, comprime flatum: / Haec bene tu serva, si vis depellere rheuma. / Si fluat ad pectus, dicatur rheuma catarrhus: / Ad fauces branchus, ad nares est coryza* (LXXXII, 246–250). A cure for fistula was a mixture of orpiment, sulfur, soap and lime. The mixture was recommended to be applied four times: *Auripigmentum, sulphur miscere memento, / His decet apponi calcem: commisce saponi. / Quatuor haec misce: commistis quatuor istis* [10]. Ash was considered a fast haemostatic agent: *Si cruor emanat, spodium sumtum cito sanat* (LI, 153). In author’s opinion, dill, verbena, rose, celandines and rue infusion could improve eyesight: *Foeniculum, verbena, rosa, chelidonia, ruta, / Ex istis fit aqua, quae lumina reddit acuta* [10].

There are also some suggestions on meat consumption in the “Rule”. Meat is known to contain the whole range

of valuable amino acids, iron, zinc and B vitamins. Back in the Middle Ages, doctors were aware of the fact that wholesomeness of meat depends on this product type. Veal and poultry were considered nutritious and healthy kinds of meat: *Sunt nutritivae multum carnes vitulinae* [10], *Sunt bona gallina, capo, turtur, sturna, columba, / Quiscula, vel merula, phasianus, ortyometra, / Perdrix, friggellus, orex, termulus, amarellus* [10]. Animal heart and stomach weren't recommended for consumption, while tongue, lungs, and chicken brain were considered to be good for health: *Egitur tarde cor, digeritur quoque dure / Similiter stomachus, melior sit in extremitates, / Reddit lingua bonum nutrimentum medicinae / Digeritur facile pulmo, cito labitur ipse. / Est melius cerebrum gallinarum reliquorum* [10]. Fish contains a range of micro-elements, which are vital for normal functioning of human body. Perch, pike, salmon, gudgeon, freshwater trout, flatfish, carp and cod were considered to be nutritious and healthful: *Lucius et perca, saxaulis et albica, tinca, / Gornus, plagitia, cum carpa, galbio, truta* [10]. Excessive consumption of eels, according to the doctors, caused hoarseness: *Vocibus anquillae pravae sunt, si comedantur* (XXXI, 91).

Dairy products, donkey milk in particular, were an important part of a healthy diet: *Ac nutritivum plus omnibus est asininum* [10]. Whey was highly praised for its detoxification properties: *Incidit atque lavat, penetrat, mundat quoque serum* [10]. Bread and cheese was considered wholesome only for healthy people: *Caseus et panis bonus est cibus hic bene sanis* [10].

Arnold of Villanova contemplated about health benefits and hazards of wine. White sweet wine was considered good for the body: *Sunt nutritive plus dulcia candida vina* [10]. New wine had antidiuretic, hepatotoxic and splenotoxic effects. It also raised urine lithogenicity: *Impedit urinam mustum, solvit cito ventrem. / Hepatis emphraxin, splenis generat, lapidemque* [10]. Consumption of red wine caused dyspepsia and disfluency: *Si vinum rubeum nimium quandoque bibatur, / Venter stipatur, vox limpida turbificatur* [10]. Back in the Middle Ages, wines were highly praised due to their curative effect. Wine was recommended for consumption in the morning; drinking wine in the evening was considered unhealthy: *Si tibi serotina noceat potatio; vina / Hora matutina rebibas, et erit medicina* [10]. A mixture of wine, salt and sea water was used to overcome motion sickness: *Nausea non poterit quemquam vexare marina, / Antea cum vino mixtam si sumserit illam* [10]. Mature beer was considered wholesome, as the drink was not only a diuretic, but also gave energy to the body and stimulated weight gain: *De qua potetur, stomachus, non inde gravetur* [10].

Of particular interest, in our opinion, are some general suggestions on food culture listed in the "Rule". Liquid dishes were considered a significant part of a diet and a good way to start lunch. In case there was a need to wash down the food, it was advised to consume as little liquid as possible. Consumption of eggs should be followed by a sip of wine, consumption of fish – by one nut, consump-

tion of meat – by some cheese: *Inter prandendum sit saepe parumque bibendum: / Ut minus aegrotas, non inter fercula potes. / Ut vites poenam, de potibus incipe coenam. / Singula post ova pocula sume nova. / Post pisces nux sit: post carnes caseus adsit* [10]. Only soft-boiled eggs were considered wholesome: *Si sumas ovum, molle sit atque novum* [10]. Medieval doctors paid special attention to the calorie content of food. Wheat, milk, green cheese, bull's eggs, pork, brain, eggs, figs and grapes were listed among the most nutritious foods: *Nutrit et impinquat triticum, lac, caseus infans, / Testiculi, porcina caro, cerebella, medullae, / Dulcia vina, cibus gustu jucundior, ova / Sorbilia, maturae ficus, uvaeque recentes* [10]. The diet was also thought to be related to a person's temperament. Thus, for example, melancholics were advised to avoid eating peaches, apples, pears, milk, salty food as well as venison, hare, goat and bull meat: *Persica, poma, pyra, lac, caseus, et caro salsa, / Et caro cervina, leporine, caprina, bovina, / Haec melancholica sunt infirmis inimica* [10].

Day regimen and hygiene are among the chief recommendations for maintaining good health. According to "The Salernitan Rule of Health", in order to stimulate mental activity one should avoid hypothermia and having breakfast after washing with cold water, but should maintain physical activity: *Lumina mane manus surgens gelida lavet aqua. / Hac illac modicum pergat, modicum sua membra / Extendat, crines pectat, dentes fricet: ista / Confortant cerebrum, confortant caetera membra* [10]. Fresh air and keeping hands clean were also essential for a healthy lifestyle: *Si fore vis sanus, ablue saepe manus* [10]; *Aër sit mundus, habitabilis, ac luminosus / Nec sit infectus, nec olens foetore cloacae* [10]. The doctors were biased against afternoon nap as it caused headaches, lethargy, catarrh, fever: *Febris, pigrities, capitis dolor atque catarrhus / Haec tibi proveniunt ex somno meridian* [10].

## CONCLUSIONS

"Regimen Sanitatis Salerni" by Arnold of Villanova is a valuable source of information about the level of medieval medical knowledge as well as evidence of people's concern about maintaining and improving health. The renowned doctor's suggestions are based on three fundamentals: dietology, hygiene and day regimen. Sanitary and hygiene suggestions, therapeutic practices, proper nutrition principles, analysis of influence of animal and plant products on the human body, prescriptions for medicinal plants administration are not merely a pathway to salubrity but also basic standards of sanitary and epidemic well-being. The medieval treatise provided the underlying framework for modern dietology and healthy lifestyle.

Directions for future research consist in the necessity to conduct investigation of healthcare related publications by other authors. The results of such explorations are a useful source of educational information about the history of medicine. They also show us the ways to prevent many diseases, strengthen immune system and steer clear from pandemics.

## REFERENCES

1. Cruz Cruz J. Mesa y dietética medievales: el régimen de Arnaldo [date access 29.01.2015]. [https://issuu.com/juancruzacruz/docs/mesa\\_y\\_diet\\_tica\\_medieval2](https://issuu.com/juancruzacruz/docs/mesa_y_diet_tica_medieval2) (in Spanish)
2. Bifulco M., Capunzo M., Marasco M. et al. The basis of the modern medical hygiene in the medieval Medical School of Salerno. *J Matern Fetal Neonatal Med.* 2015;28(14):1691–3. doi: 10.3109/14767058.2014.964681.
3. Bifulco M., Marasco G., Colucci-D'Amato L. et al. Headaches in the medieval Medical School of Salerno. *Cephalalgia.* 2020;40(8):871–877. doi: 10.1177/0333102420905317.
4. Bifulco M., Amato M., Gangemi G. et al. Dental care and dentistry practice in the Medieval Medical School of Salerno. *British dental journal.* 2016;221(2):87–89. doi.org/10.1038/sj.bdj.2016.528.
5. Da Costa R., da Silva M.C. O Regimen sanitatis (1308) de Arnau de Vilanova (c. 1238-1311) e sua prescricao da boa dieta. The Regimen sanitatis by Arnold of Villanova (c. 1238-1311) and his prescription of good diet. *eHumanista: Journal of Iberian Studies.* 2016;34:463–480.
6. Guerrero Peral A.L., de Frutos González V. La neurología en el Regimen Sanitatis Salernitanum. *Neurology in Sanitatis Salernitanum Regimen. Neurologia.* 2009;24(3):194–9. (in Spanish)
7. Uvarova N.V., Logvinenko B.A., Sobakar A.A. et al. Salernskiy kodeks zdorovya kak istochnik mediko-filosofskih znaniy. The Salernitan Rule of Health as a Source of Medical and Philosophical Knowledge. *Meditsinskie novosti Gruzii.* 2019;10(295):159–163. (in Russian).
8. Kisteniova O.A. "Salernskiy kodeks zdorovya" Arnolda iz Villanovi – stranitsa istorii gerodietetiki. The Salernitan Rule of Health by Arnold of Villanova as a Page in Gerodietetic History. *Gerontologiya. Nauchno-prakticheskiy zhurnal.* 2013;1(1): 80–89. (in Russian).
9. Berger Ye. Ob avtorstve "Salernskogo kodeksa zdorovya". The Authorship of "Regimen sanitatis Salernitanum". *Opera medica historica. Moskva: Pechatnyiy dom "Magistral".* 2017, 60p. (in Russian).
10. Regimen Sanitatis Salerni <http://www.academiajr.it/bibvirt/regimen.html> [date access 29.01.2015].

## ORCID and contributionship:

Halina M. Zahajska: 0000-0003-1449-0269 <sup>A, B, D</sup>  
Marta J. Petryshyn: 0000-0003-4060-7440 <sup>A, D, E</sup>  
Oxana V. Liubimova: 0000-0003-0413-309X <sup>A, E, F</sup>

## Conflict of interest:

The Authors declare no conflict of interest

---

## CORRESPONDING AUTHOR

### Oxana V. Liubimova

Yuriy Fedkovych Chernivtsi National University  
2 Kotsyubynsky st., 58012 Chernivtsi, Ukraine  
tel: +(038)095-440-51-45  
e-mail: o.liubimova@chnu.edu.ua

**Received:** 25.10.2020

**Accepted:** 02.08.2021

---

**A** – Work concept and design, **B** – Data collection and analysis, **C** – Responsibility for statistical analysis,  
**D** – Writing the article, **E** – Critical review, **F** – Final approval of the article



Article published on-line and available in open access are published under Creative Common Attribution-Non Commercial-No Derivatives 4.0 International (CC BY-NC-ND 4.0)