



DIETARY-VITAMIN RECOMMENDATION ACCORDING TO DISEASES

Ana María Sánchez Peralta

Granada University of Pharmacy

INTRODUCTION- ABSTRACT

We take into account the adequate vitamin recommendation with the different foods according to the diseases presented by the people who arrive at the health center or the pharmacy. In this work, we will use the nutritional recommendation service. We will take into account the diseases that we attend and according to them, make a table of vitamin recommendations and therefore dietary recommendations in each case.

KEY WORDS: vitamins, ailments, beneficial, nutrition

ABBREVIATIONS

VIT: vitamins

A: A vitamin: (retinol)

D: D vitamin: (cholecalciferol)

E: E vitamin: (tocopherol)

K: K vitamin

B1: B1 vitamin: (thiamine)

B2: B2 vitamin: (riboflavin)

B3: Niacin

B5: Pantothenicacid

B6: B6 vitamin: (pyridoxine)

B12: B12 vitamin: (cyanocobalamin)

H: B8: Biotin

B9: Folic Acid

C: C vitamin: (Ascorbicacid)

ATRA: All Trans Retinoic Acid

CNS: Central nervous system

DESIGN AND METHODS

Through a previous review that I published [1] about vitamins for human use, I will make a grouping by diseases of the vitamins useful for each of them. Then we will make a summary table to have a quick visualization of the most necessary vitamins in each type of ailment.

CLASSIFICATION OF AILMENTS WE TAKE INTO ACCOUNT AND BENEFICIAL VIT

AGING	General	A – E – C – B1
ANEMIA	Iron deficiency	A
	Iron absorption	C
	Pernicious anemia	B12
	Macrocytic anemia	B9
	Sideroblastic anemia	B6
	Hemolytic anemia	E
	Sickle cell anemia	B9 – D – B12
	General	B2 – B6 – H
ASTHMA	C	
BERIBERI	B1	
BONES	Rickets	D
	Osteoporosis	D– K (intestinal bacterial flora)
	Osteomalacia	D
	Osteodystrophy	D

Hypophosphatemia	D
Tooth retention	D
Osteoarthritis	B3
Hyperphosphatemia	B3

CANCER No vitamins recommendation*

(In this treatment, we must no give resistance in the different cell lines)

Also is used ATRA (All Trans Retinoic Acid) in Promyelocytic Leukemia / C

CANCER PREVENTION	Antioxidant (General)	C – A(no in smokers) –E
	Breast	D – B12 – B9
	Colorectal	D
	Cervical	B9
	Esophageal cancer	B2
	Gastrointestinal	B9
	Prostate	D
	Recurrent hepatocellular carcinoma	K

CARDIOVASCULAR DISEASES (CVD)

(Myocardial Infarction)	CVD/ MI	E – B1 – B3 – B5 – B6 – B12 – H – B9 – C
	ICTUS	E – B1 – B3 – B5 – B6 – B12 – H – B9 – C
(High blood pressure)	HTN	D – E – B1 – B3 – B5 – B6 – B12 – H – B9 – C
	Arteriosclerosis prevent	E - B1 (DM) - B3 (vasodilator)- B5
	Atherosclerosis prevent	B3
	Second attack prevent	B3
	Lower Hyperhomocysteinemia	B6 – B12 – B9
	Pregnancy high blood pressure	B9

COAGULATION	Anti-hemorrhagic	K
	Vitamin K modulation	E

CHOLESTEROL	Hypercholesterolemia	B3 – B5 – B12 – H – C
	Steatorrhea	E

	Chronic cholestasis	E
	Biliary obstruction	E
	Biliary atresia	E
CNS	Seasonal Affective Disorder	D
	Depression	B1 – B2 – B3 – H – B9
	Anorexia	B2
	Bulimia	B2
	Irritability	B1 – B9
	Memory loss	B1 – B9
	Loss concentration	B1 – B5
	Cognitive function	B2 – B3
	Exhaustion	B1
	Alzheimer	B1 - B3 – B12 – B9
	Dementia	B3
	Abandonment acute alcohol	B1
	Chronic alcoholics	B2 – B9
	Ethyl-malonic encephalopathy	B2
	Migraine prevention	B2
	Nervous system	B3 – B12
	Neuritis	B6
	Tremor	B2
	Akathisia	B6
	Parkinson / Epilepsy	B6
	Insomnia	B9
DIABETES	type1/type2	D – B1 – B3 – B9
	type 2	H
	Vascular risk	H
DIARRHEA	malnourished children	A
	Crohn's disease	B1
		B3

EYE	Night blindness	A		
	Xerophthalmia	A		
	Retinal integrity	A		
	Photophobia	B2		
	Bitot spots	A		
	Cataracts prevention	A- B2		
	Age-related macular degeneration (AMD)	B3		
GROWTH	children	B9 – A – D – E – C – H		
	Neural tube defects (fetus)	B9		
Hyperparathyroidism	D			
Hepatitis	H			
Hearing loss (age related)	B9			
IMMUNE SYSTEM	Antihistaminic	C		
	INFECTIONS	Measles	A	
		Malaria	A	
		Parasites	A	
		Viral	A	
		Urinary	C	
	Immunomodulation	D		
	Decreased immunity	B9		
	LUNG DISEASE	Cystic Fibrosis	E	
		Pneumonia prevention	C	
METABOLISM	In weight loss	A		
	Fat malabsorption	D		
	Metabolic disorders	B1 - B2 - B3		
	Energetic metabolism	B1		
	Carbohydrate metabolism	B3		
	Fat metabolism	B3 – H		

Protein metabolism B3 - B6 - B12

Poor absorption of nutrients B9

MUSCLES

D - E

Dystrophy E

Leg cramps E – B1 (pregnancy)

Fatigue B12 – H – B9

Chronic Fatigue Syndrome B9

Weakness B9

Tremor syndrome in legs (restless legs syndrome) B12

Muscle aches H

Exercise recovery C

NAUSEA

H

PAIN

Back pain D

Migraine B2

Muscle aches H

PELLAGRA

B3

POLYPS PREVENTION

in no smokers A

RENAL

Renal osteodystrophy D

REPRODUCTION

Infertility E

Spontaneous abortions E

Sex hormones B3

Sex glands H

Preeclampsia B2

Vaginitis C

SCURVY

C

SKIN	Acne	A
	Skin aging	A
	Skin burn	E – B5
	Skin lesion	C
	Psoriasis	D
	Cell maintenance	B3
	Pigmentation disorders	D
	Collagen disease	D
	Lips, mouth, tongue, nose, anus lesions	B2 – B3
	Adnexa (hair, sebaceous glands, sweat glands)	B2 – H
	Hair loss	H
	Bleeding gums	C
	Premature graying	B9
	Brittle nails	H
	Seborrhea	B2 – H
	Glossitis, dermatitis	B3
	Senile warts	D
	Wound healing	A – B5 – C
	Jaundice	B2

SLIMMING DIET All vitamins (A-D-E-K-B1-B2-B3-B5-B6-B12-H-B9-C)

STOMACH ULCER C
Helicobacter pylori C

TISSUES
Connective C
Collagen C – D
Epithelial A
Mucus secreting cells A
Cell destruction E

[1]

SUMMARY TABLE:“Ailments and the beneficial vitamins in their different cases”

AILMENTS AND SITUATIONS	BENEFICIAL VITAMINS IN SOME CASES
Aging	A E C B1
Anemia	A D E B2 B6 B12 H B9 (folic) C
Asthma - antihistamine	C
Beriberi	B1
Bones	D (K) B3
Cancer	
Cancer prevention	A (no smokers) E C - D K B2 B12 B9
Cardiovascular diseases - Ictus	D E B1 B3 B5 B6 B12 H B9 C
Cholesterol	E B3 B5 B12 H C
CNS - nervous system	D B1 B2 B3 B5 B6 B12 H B9
Connective tissue - collagen	C D
Diabetes	D B1 B3 H B9
Diarrhea	A B1 B3
Eye	A B2 B3
Growth	A D E H B9 C
Hearing loss per age	B9H
Hepatitis	H
Hyperparathyroidism	D
Infections - Immune system	A C- D B9
Lung disease	E C
Muscles	D E B1 B12 H B9 C
Nausea	H
Pain	D B2 H
Pellagra	B3
Polyps prevention	A (no smokers)
Preeclampsia	B2
Renal	D
Reproduction	E B3 H - B9 C
Scurvy	C
Skin - Adnexa (graying*)	A D E B2 B3 B5* H B9* C
Slimming diet - malnutrition (all)	A D E K B1 B2 B3 B5 B6 B12 H B9 C
Stomach ulcer	C

VITAMINS: NECESSARY CONTRIBUTIONS IN ADULTS AND FOOD WHERE WE FIND THEM

LIPOSOLUBLE VITAMINS

VITAMIN A (retinol) 800- 1000 µg/ day normal adult (+500)

A-rich foods: butter, eggs, milk, and meat (especially liver) and some fish. Since the beta-carotene found in carrots, sweet potatoes and pumpkins, amaranth, spinach and cassava, mangoes, apricots, cherries, peaches, papayas and tomatoes. Yellow maize is the only cereal that contains carotene. Red palm oil also provides this vitamin.

VITAMIN D (cholecalciferol) 5- 10 µg/ day normal adult (+5)

D-rich foods: only found in the fat of certain animals, in nature. The fish liver oils are rich. It is, also found in eggs, cheese, milk and butter. The meat and fish contribute in small amounts. Breast milk of human is deficient in vitamin D.

VITAMIN E (tocopherol) 8- 10 mg/ day normal adult (+4)

E-rich foods: vegetable oils and whole grain cereals, in nuts, wheat germ and whole wheat, yolk, and green leafy vegetables.

VITAMIN K 45- 80 mg/ day normal adult (+0)

K-rich foods: beans, fish liver, soybean oil, egg yolk, vegetables. All in green leafy vegetables, eggs, cheese, pork and liver are rich in vitamin K. (Normally produced by intestinal bacteria).

HYDROSOLUBLE VITAMINS

VITAMIN B1 (thiamine) 1- 1.5 mg/ day normal adult (+0.5)

B1-rich foods: thiamine is widely distributed in foods of plant and animal origin. The richest sources are cereal grains and seeds. Green vegetables, fish, meat, fruit and milk all contain useful amounts. Both the seeds and cereals, thiamine is mostly in the germ and outer layers, therefore, much can be lost during milling. The rice bran, wheat and other cereals tend to be naturally rich in thiamine. Yeasts are also rich in thiamine.

VITAMIN B2 (riboflavin) 1.1- 1.3 mg/ day normal adult (+0.5)

B2-rich foods: The richest sources of riboflavin are milk and non-fat products. In green vegetables, meat (especially liver), fish and eggs. It is also in grains, cereals and seeds (wheat germ, lentils), and in Brewer's yeast, coconut, bread, cheese.

VITAMIN B3 (niacin) 12- 16 mg/ day normal adult (+3)

B3-rich foods: Niacin is well spread over all the food, but are especially rich in niacin meat, organ meats, grains and legumes, eggs, milk, green leafy vegetables and fish.

Corn is deficient in providing niacin and tryptophan. They are rich the whole wheat flour, whole wheat bread, yeast, wheat bran, beef liver, wheat germ, brown rice, almonds.

VITAMIN B5 (pantothenic acid) 4- 7 mg/ day normal adult (+2)

B5-rich foods: The best sources of pantothenic acid are organ meats, raw vegetables, eggs, and milk and its derivatives. This is in many food types like meats, fruits, green vegetables, cereals, organ meats, egg yolks, milk, yeast, peanuts.

VITAMIN B6 (pyridoxine) 1.4- 2 mg/ day normal adult (+0.5)

B6-rich foods: The best source of pyridoxine is in cereals and legumes, chicken, fish and nuts, meat, fruits, vegetables, eggs and milk.

VITAMIN B12 (cyanocobalamin) 2- 2.2 µg/ day normal adult (+0.6)

B12-rich foods: Vitamin B12 is only in foods of animal origin. Many bacteria can synthesize too. Herbivores, such as cattle, obtain vitamin B12 from the action of bacteria on vegetable matter on her tummy. Humans apparently do not get vitamin B12 by bacterial action in their digestive system. However, fermented vegetable products can provide vitamin B12 in the diet of humans. The main source of vitamin B12 are organ meats, fish especially sardines, herring and oysters, lean meat, chicken, cheese and eggs. In the vegetable kingdom, the only sources of vitamin B12 are yeast, alfalfa and two Japanese seaweed (wakame and kombu).

VITAMIN H (biotin) 25- 30 µg/ day normal adult (+5)

H-rich foods: Biotin-rich foods are oatmeal, organ meats, yeast and egg yolk (eggs cooked), and is found in small amounts in whole grains, dairy products, cauliflower, fruit, fish and tomatoes.

VITAMIN B9 (Folic acid) 150- 200 µg/ day normal adult (+200)

B9-rich foods: The richest sources of folate are dark green leaves, liver and kidney (viscera). Other vegetables and meats contain minor amounts. In whole grains, legumes, nuts and mushrooms.

VITAMIN C (ascorbic acid) 60- 200 mg/ day normal adult (+35)

C-rich foods: Sources of vitamin C in the diet are almost exclusively fruits, and vegetables, especially citrus fruits like oranges, although breast milk and organ meats contain it in small amounts. Citrus fruits, kiwi, tomatoes, peppers, strawberries and melons are the foods rich in vitamin C.

CONCLUSSIONS

Exist different lines of vitamins necessary in the different ailment, tissues or structures. It may be helpful to recommend certain foods to people with specific diseases, such as group B of vitamins in relation to the nervous system, or to the cardiovascular system. Antioxidants such as Vitamin A (not in smokers), C and E are recommend in the prevention of cancer in general, and specific vitamins in prevention of certain cancers, but always only in "prevention". (Vitamin A, does not prevent lung cancer in smokers, but does the opposite: increase the risk). Vitamins shouldnot berecommend in the cancer already established. No vitamins in cancer and all vitamins in slimming diets. In the slimming diets, we have lack of the minimum amounts of all of them so it is always advisable a multivitamin if there are no contraindications. We do not take into account the minerals and other trace elements and it is a limitation of this work.

With the summary table, we have a quick view of the different vitamin groups most needed according to different tissues or diseases. We can recommend certain foods knowing their richness of vitamins, or directly the vitamins supplements in Pharmacy. Sometimes the whole food count on incorrect amounts of salt, carbohydrates, fats or proteins for the patient [2,3,4], but vitamin supplements do not have this problem.

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