



LUMBALNI BOL KAO VODEĆI UZROK NESPOSOBNOSTI U SVETU I SRBIJI

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Definicija

- ▶ **Bol u donjem delu ledja** definiše se kao bol, mišićna napetost i nelagoda u području tela između donjeg rebrarnog luka i donje glutealne brazde, sa širenjem u nogu ili bez njega.

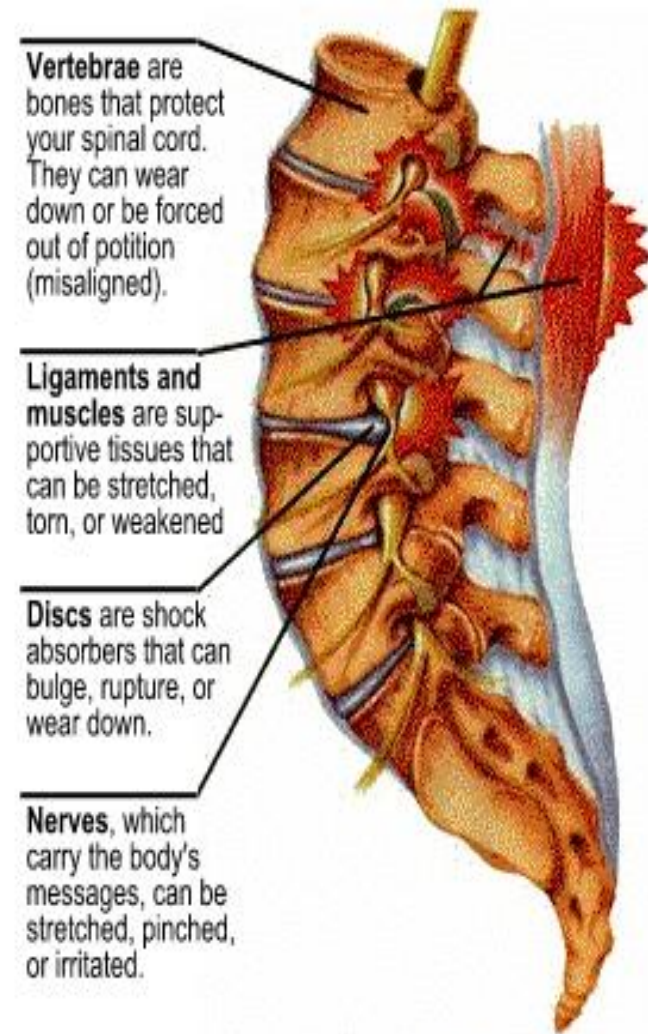
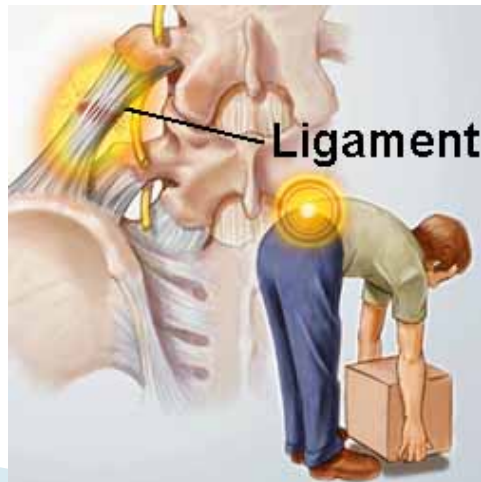


Dorsalgia

Wheeler A. Low Back Pain and Sciatica. Dostupno na: <http://emedicine.medscape.com/article/1144130-overview>. Last updated May 11, 2010.

Lumbalni bolni sindrom

Podrazumeva tegobe u vidu bolova, uz poremećaj funkcije lumbosakralnog dela kičmenog stuba i zaštitnu mišićnu reakciju na bol (spazam), a češće i simptome lumbalne kompresivne radikulopatije.



Klasifikacija LBP

AKUTNI LUMBALNI SINDROM (TRAJANJE DO 6 NEDELJA)

SUBAKUTNI LUMBALNI SINDROM (TRAJANJE 6-12 NEDELJA)

HRONIČNI LUMBALNI SINDROM (TRAJANJE DUŽE OD 12 NEDELJA)

Bol u donjem delu leđja (*Low Back Pain – LBP*)

- ▶ Drugi je najčešći razlog posete izabranom lekaru!
- ▶ Prvi je vodeći uzrok nesposobnosti na globalnom nivou!
- ▶ Ima značajan uticaj na kvalitet života, kako pojedinca tako i njegove okoline (prvo porodice), ona utiče na različite domene života, fizički i mentalni, kao i socijalne odnose.

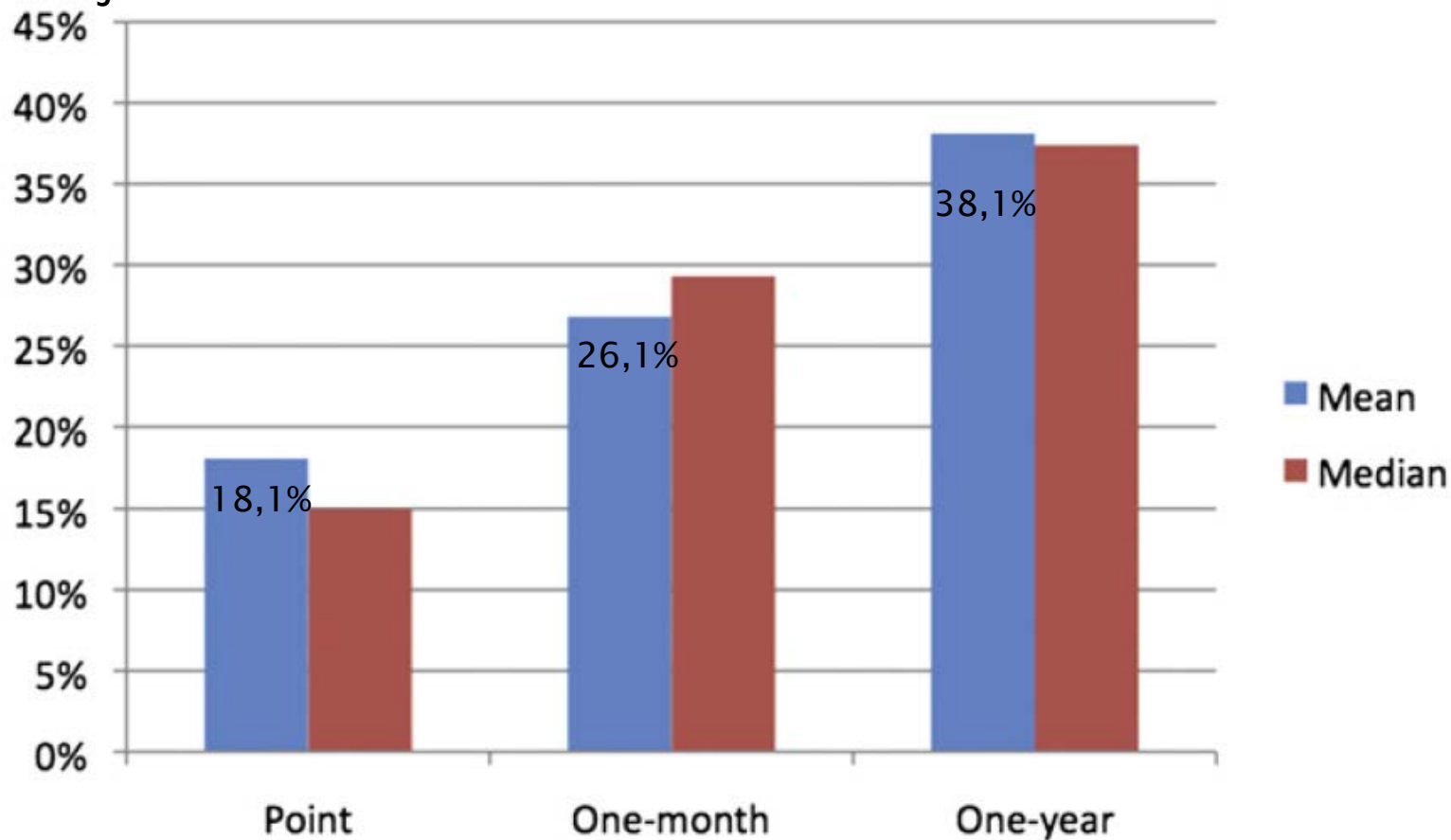
Učestalost bola u donjem delu leđja (*Low Back Pain – LBP*)

- ▶ LPB najčešći zdravstveni problem koji se javlja kod 80–85% ljudi tokom njihovog života (*WHO Tech Rep Ser, 2003*).
- ▶ Recidivira kod najmanje 50% pacijenata (Bul WHO, 2003).
- ▶ Najčešći profesionalni problem, sa 2–5% ljudi sa hroničnim LBP (*Karger Gazete, 2002*).



Sistematski prikaz: prevalencija LBP na globalnom nivou

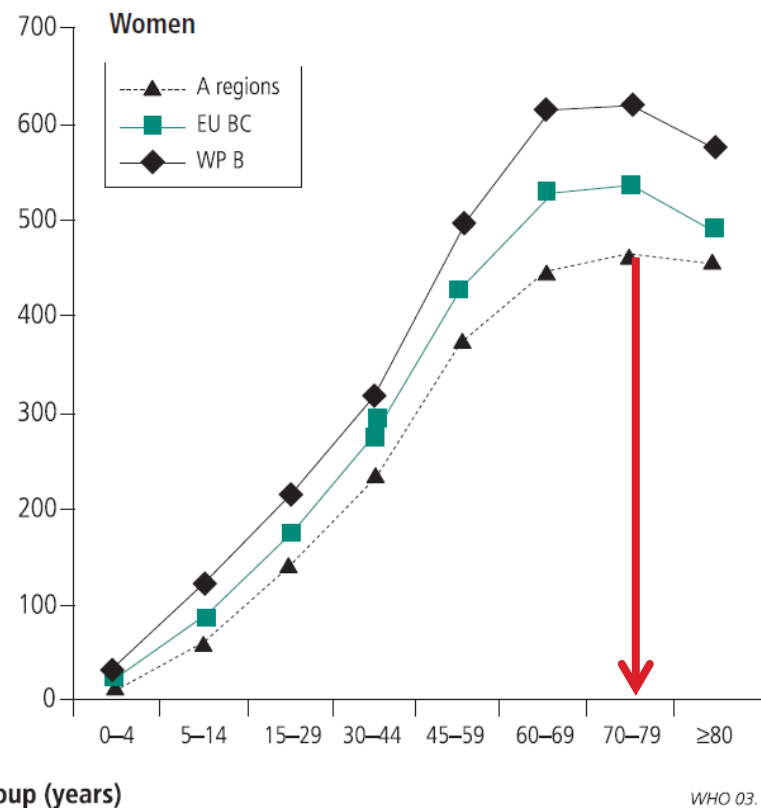
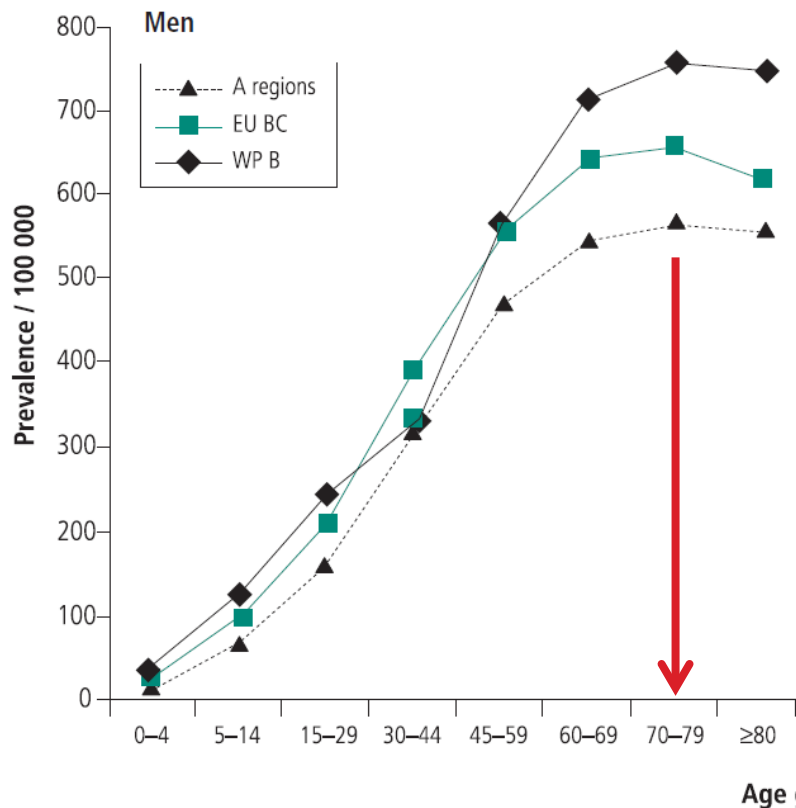
Prevalencija



The unadjusted prevalence of low back pain in the general population, by country.

Citation	Country	Age range (years)	Prevalence (%)	Standard error (%)	Risk of bias
<i>Point prevalence</i>					
Walker et al. [66]	Australia	18–99	25.6	1.00	Low
Skovron et al. [67]	Belgium	15–99	33.0	0.76	Low
Cassidy et al. [68]	Canada	20–69	28.7	1.35	Low
Hoy et al. [13]	China	15–99	34.1	3.00	Low
Biering-Sorensen [21]	Denmark	30–60	13.7	0.87	Low
Bredkjaer [69]	Denmark	16–99	12.0	0.47	Low
Kohlmann et al. [70]	Germany	25–74	39.2	3.41	Low
Mahajan et al. [71]	India	15–99	8.4	0.87	Low
Mohseni-Bandpei et al. [72]	Iran	11–14	15.0	0.51	Low
Carmona et al. [73]	Spain	20–99	14.8	0.83	Low
Andersson et al. [74]	Sweden	25–74	23.2	1.05	Low
Harkness et al. [75]	United Kingdom	18–64	18.0	0.88	Low
Hillman et al. [76]	United Kingdom	25–64	19.0	0.69	Low
<i>One-week prevalence</i>					
Grimmer et al. [77]	Australia	13–13	7.8	1.29	Low
Haq et al. [78]	Bangladesh	15–99	20.1	1.11	Low
Davatchi et al. [79]	Iran	15–99	14.8	0.50	Low
Al-Awadhi et al. [80]	Kuwait	15–99	9.5	0.34	Low
Cardiel et al. [81]	Mexico	18–99	6.3	0.49	Low
Chaiamnuay et al. [12])	Thailand	15–99	11.7	0.92	Low
Jones et al. [58]	United Kingdom	10–16	15.6	1.62	Low
Minh Hoa et al. [82]	Viet Nam	16–99	11.2	0.68	Low
<i>One-month prevalence</i>					
Heistaro et al. [83]	Finland	30–59	49.5	0.66	Low
Stranjalis et al. [84]	Greece	15–99	31.7	1.47	Low
Kristjansdottir [85]	Iceland	11–16	34.0	1.03	Low
Croft et al. [86]	United Kingdom	18–75	39.0	0.73	Low
Watson et al. [87]	United Kingdom	11–14	24.0	1.15	Low
<i>Three-month prevalence</i>					
Miro et al. [88]	Spain	65–99	43.9	2.04	Low
<i>One-year prevalence</i>					
Lau et al. [89]	China, Hong Kong	18–99	21.7	2.30	Low
Hestbaek et al. [20]	Denmark	30–50	56.0	1.37	Low
Hestbaek et al. [90]	Denmark	12–22	32.4	0.48	Low
Taimela et al. [91]	Finland	7–16	9.7	1.23	Low
Demyttenaere et al. [92]	Spain	18–99	20.0	1.23	Low
Demyttenaere et al. [92]	Ukraine	18–99	50.3	1.70	Low
Walsh et al.; Demyttenaere et al. [92,93]	United Kingdom	20–59	36.1	0.93	Low

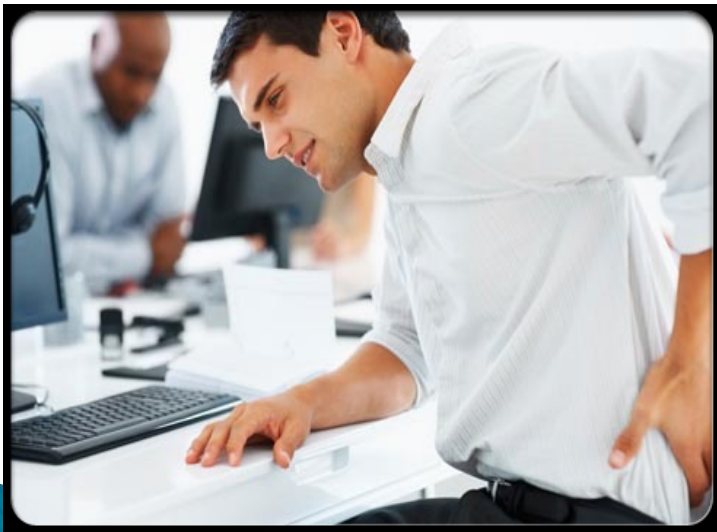
Prevalencija LBP po polu, uzrastu i regionima, 2000.



WHO 03.154

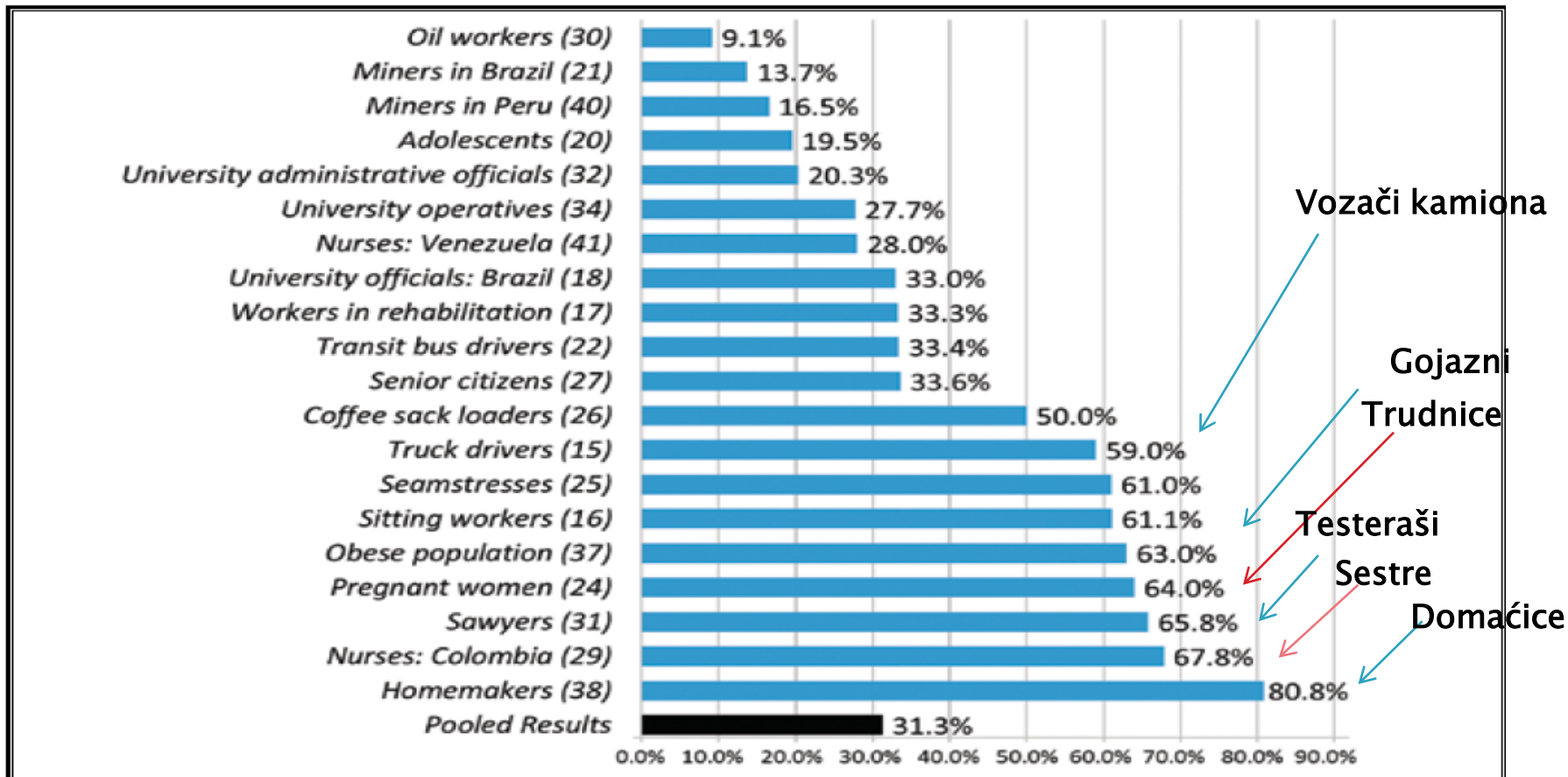
Ogroman profesionalni problem

- ▶ 80% zaposlenih sa LBP vraća se na posao unutar 1 meseca, a 90% unutar 3 meseca.
- ▶ 5% zaposlenih nikada se ne vrati na posao.



J Bone Joint Surg Am 2006; 88:21-24.

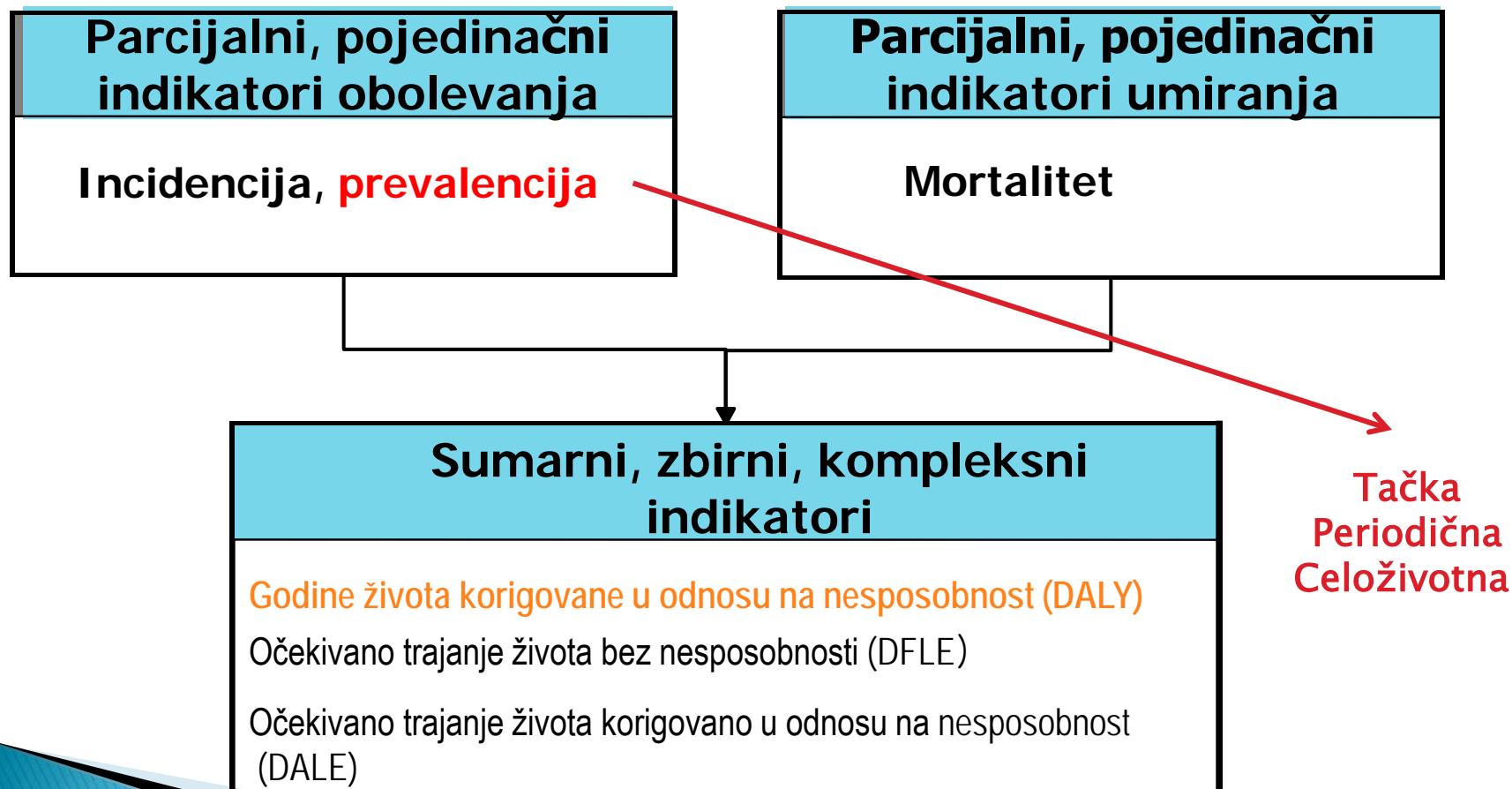
Prevalence of Low Back Pain in Latin America: A Systematic Literature Review



28 studija, 20.559 osoba, 7 zemalja Latinske Amerike

Pokazatelji (indikator) opterećenja društva bolestima

GBD 1990.
GBD 2010.



Godine života korigovane u odnosu na nesposobnost (DALY–Disability Adjusted Life Years)

- ❖ Zbirna mera
- ❖ kombinuje mortalitetne i morbiditetne podatke
 - ❖ jedna brojna vrednost
- ❖ 1 DALY = 1 izgubljena godina “zdravog” života

Godine života korigovane u odnosu na
nesposobnost
(*DALY*– *D*isability *A*adjusted *L*ife *Y*ears) =

Izgubljene godine života usled
prevremene smrti
(*YLL*–*Y*ears of *L*ife *L*ost)

+

Izgubljene godine života usled
nesposobnosti određene težine
(*YLD*– *Y*ears of *L*ife with *D*isability)

$$YLD = I \times d \times tn$$

I = broj novoobolelih

d = prosečno trajanje bolesti
(do remisije ili smrti)

tn = težina nesposobnosti:

0 – stanje optimalnog zdravlja

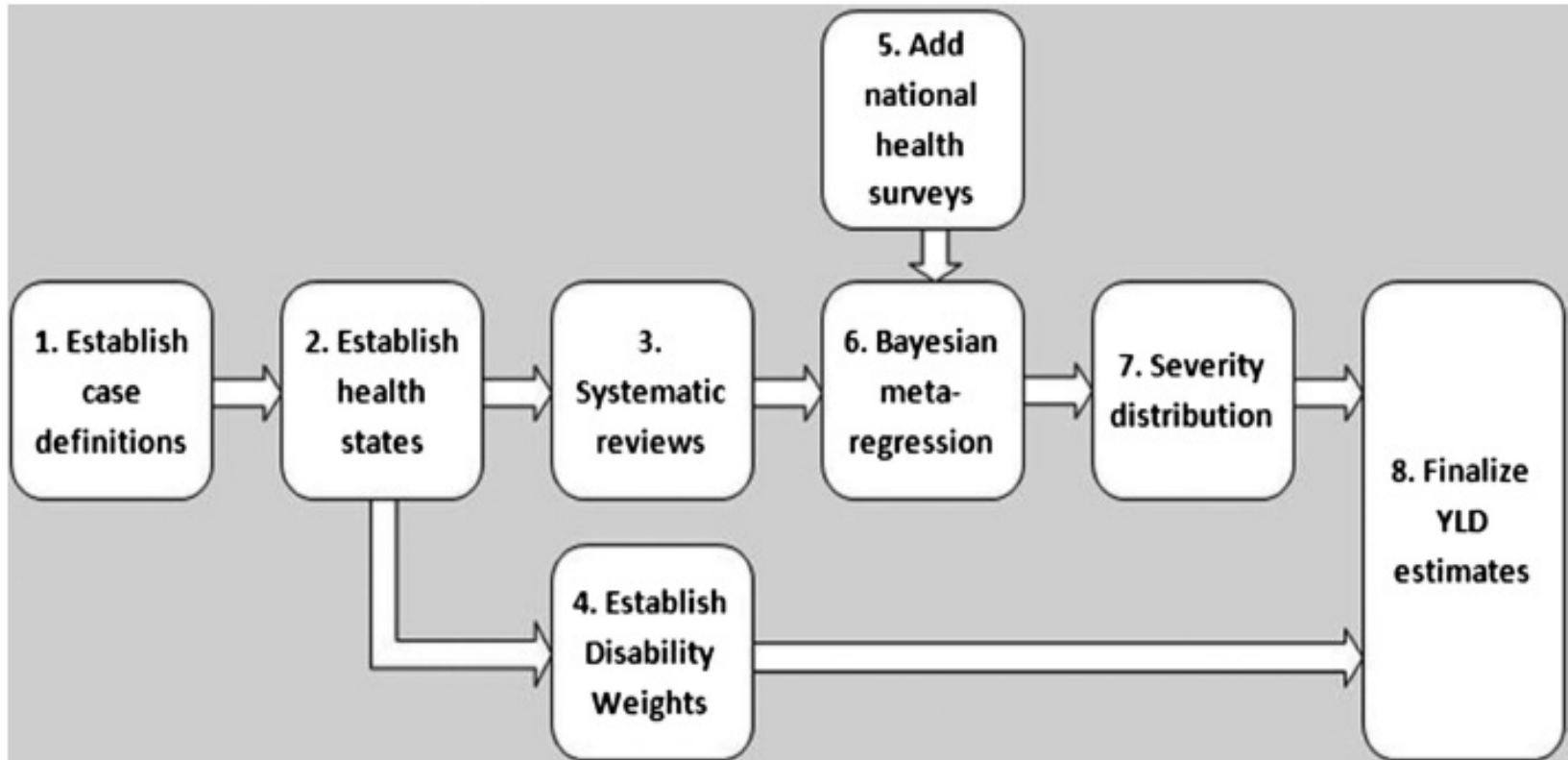
1 – stanje ekvivalentno smrti

YLL - Years of Life Lost- **Izgubljene godine života usled prevremene smrti**

YLL_x = (broj umrlih u uzrastu x)
x (izgubljene godine očekivanog života
u datom uzrastu x u odnosu na
posmatrani standard)

Koraci za procenu opterećenosti društva LBP, GBD 2010.

Dužina trajanja istraživanja –6 godina



Definicija slučaja: bol u donjem delu ledja (*LBP*)

- ▶ Ograničena aktivnost kod LBP (+/- bol u jednom ili oba donja ekstremiteta) koja traje najmanje jedan dan .
- ▶ “Donji deo ledja” se definiše kao zadnji deo tela od poslednje linije 12 rebra do donjeg glutealnog nabora.



*Best Prac & Res Clin Rheum 2010; 24:155–164.
Ann Rheum DIS 2014; 73: 968–974.*

Skoring sistem za odredjivanje kvaliteta studija koje treba uključiti u sistematski pregled ili meta analizu ili GBD studiju

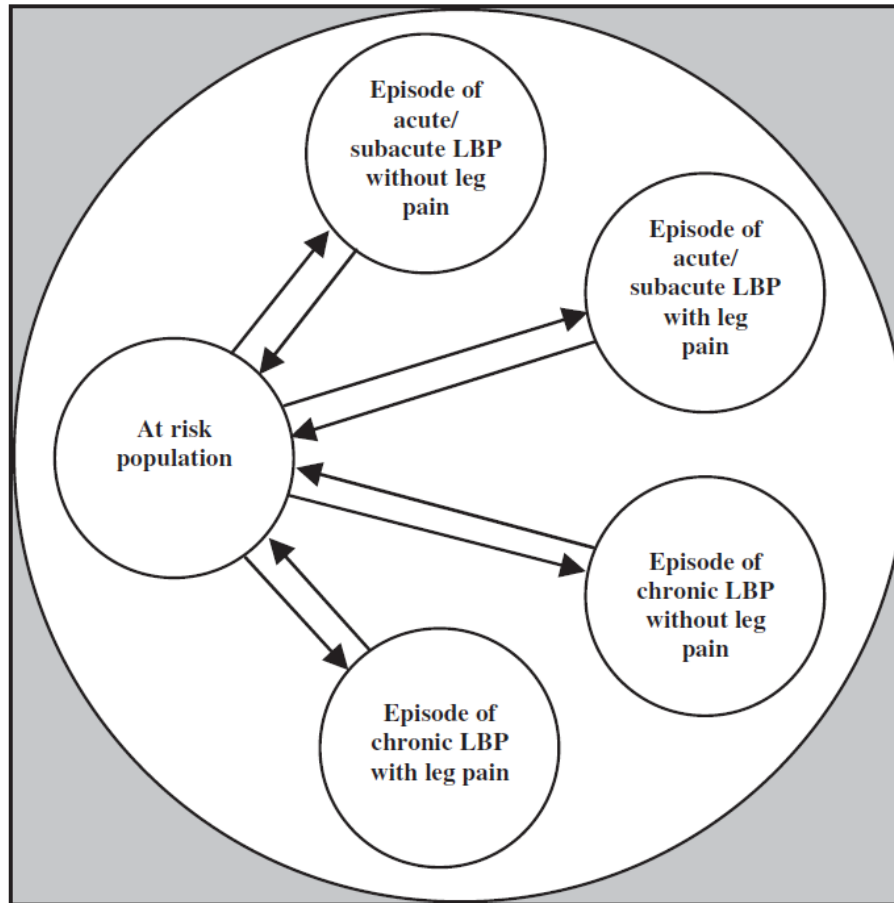
Velika variranja prevalencija LBP ???

- ▶ 1. reprezentativan uzorak ciljne populacije
- ▶ 2. veličina uzorka
- ▶ 3. merenje ishoda koje doprinosi validnosti i pouzdanosti rezultata
- ▶ 4. definicija slučaja LBP
- ▶ 5. procenat obuhvata
- ▶ 6. poredjenje onih koji su uključeni i onih koji nisu uključeni u studiju – redukcija/eliminacija pristrasnosti
- ▶ 7. period prisećanja jasno definisan
- ▶ 8. vrsta studije
- ▶ 9. način prikupljanja podataka (intervju...)

Kriterijumi za uključivanje u GBD studiju, 2010. godine

- ▶ Identifikovano je 170 publikovanih studija (1128 procena).
- ▶ Isključene su studije sa visokom pristrasnošću (n=242) i studije gde je računa prevalencija za period duži od jedne godine (n =105).
- ▶ Jedna nemačka studija je dodatno isključena, jer je u njoj prevalencija LBP kod starijih Nemaca bila 77%–92%, što je mnogo više nego u druge dve studije gde je pristrasnost bila manja (20%–50 %).
- ▶ Ukupno uključeno 117 studija i 780 procena, sa podacima dostupnim za 47 zemalja i 16 od 21 GBD regiona sveta.

Model prirodnog toka bolesti za LBP



Best Prac & Res Clin Rheum 2010; 24:155-164.

The eight sequela categories used for calculating the severity distribution of low back pain (with disability weights, and proportional distributions), GBD 2010

Category	DW	Proportion
Low back pain without leg pain		
Mild acute low back pain	0.040 (0.023–0.064)	49.8% (42.1–57.1)
Mild chronic low back pain	0.101 (0.067–0.149)	22.7% (16.9–28.8)
Severe acute low back pain	0.269 (0.184–0.373)	10.5% (8.1–13.4)
Severe chronic low back pain	0.366 (0.248–0.499)	17.0% (11.8–23.2)
Low back pain with leg pain		
Mild acute low back pain	0.040 (0.023–0.064)	36.1% (28.3–43.7)
Mild chronic low back pain	0.101 (0.067–0.149)	26.1% (20.4–33.0)
Severe acute low back pain	0.322 (0.219–0.447)	12.0% (9.3–15.3)
Severe chronic low back pain	0.374 (0.252–0.506)	25.8% (18.1–33.8)

The two milder classes of low back pain disability weights used the mild acute and chronic neck pain weights.

Sequelae for low back pain in GBD 2010

Sequela	Lay description	Disability weight
Severe acute low back pain without leg pain	This person has severe low back pain, which causes difficulty dressing, sitting, standing, walking and lifting things. The person sleeps poorly and feels worried	0.269 (0.184–0.373)
Severe acute low back pain with leg pain	This person has severe low back and leg pain, which causes difficulty dressing, sitting, standing, walking and lifting things. The person sleeps poorly and feels worried	0.322 (0.219–0.447)
Severe chronic low back pain without leg pain	This person has constant low back pain, which causes difficulty dressing, sitting, standing, walking and lifting things. The person sleeps poorly, is worried and has lost some enjoyment in life	0.366 (0.248–0.499)
Severe chronic low back pain with leg pain	This person has constant low back and leg pain, which causes difficulty dressing, sitting, standing, walking and lifting things. The person sleeps poorly, is worried and has lost some enjoyment in life	0.374 (0.252–0.506)

Prevalencija LBP – za svet (GBD, 2010. g.)

- ▶ Uzasno standardizovana trenutna prevalencije za LBP (0–100 godina starosti) u 2010. je bila **9,4%** (95% CI 9,0–9,8).
- ▶ Muškarci: **10,1%** (95% CI 9,4–10,7)
- ▶ Žene: **8,7%** (95% CI 8,2–9,3).



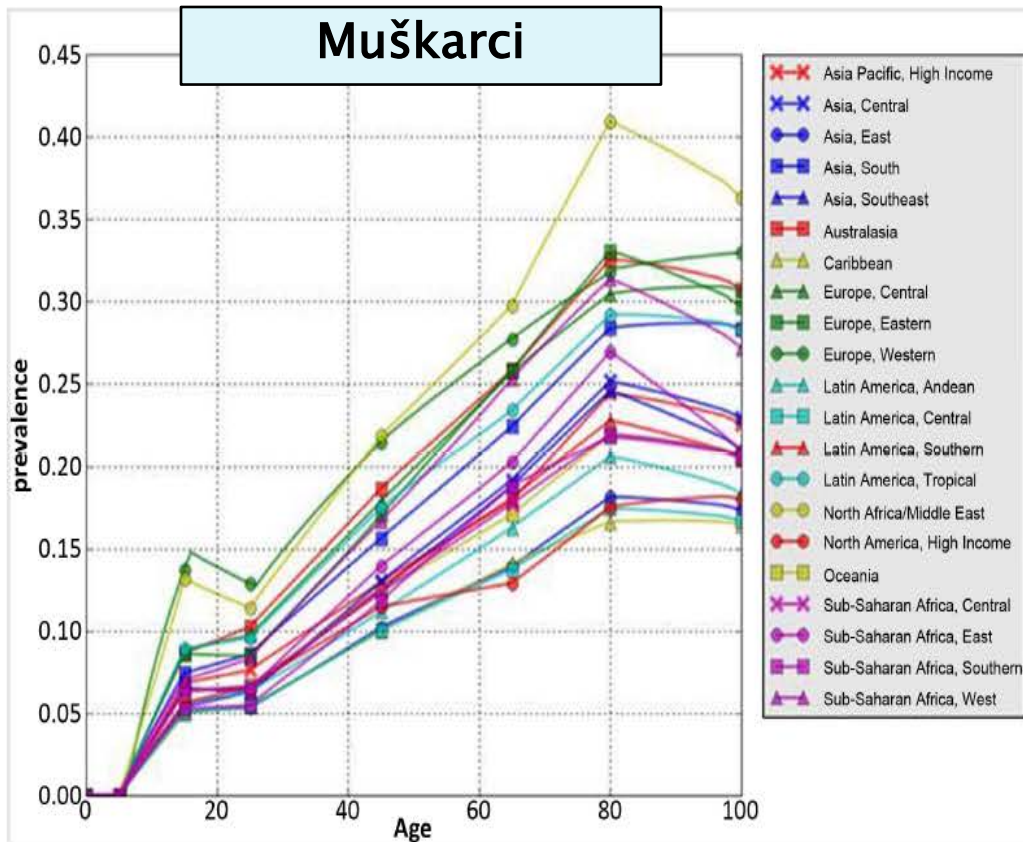
Ann Rheum DIS 2014; 73: 968–974.

Uzrasno standardizovana prevalencija i DALY (95% IP) za LBP za uzrast 0–100 godina, po regionima i polu, 2010.g, GBD 2010. g.

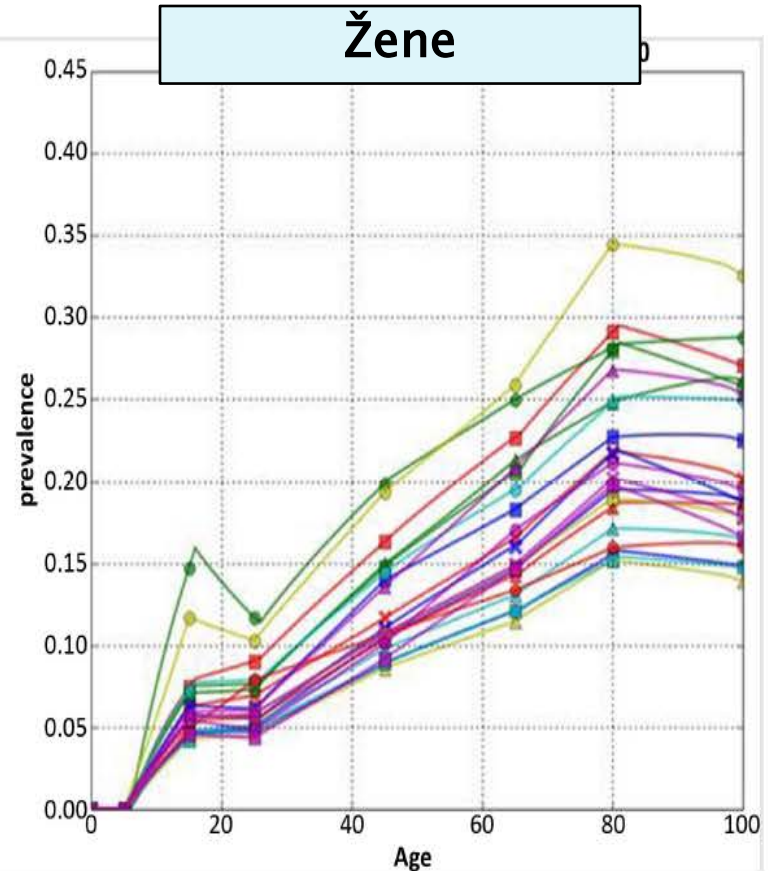
Country	Sex	Prevalence	Prevalence LL	Prevalence UL	DALYs	DALY LL	DALY UL
Asia-Pacific high income	Male	9.4	6.9	12.5	1388	859	2117
	Female	8.6	6.4	11.5	1385	885	2125
Australasia	Male	12.9	10.6	15.5	252	167	364
	Female	11.5	9.3	13.9	235	156	342
Caribbean	Male	7.0	5.8	8.3	183	119	260
	Female	6.0	4.9	7.2	165	111	229
Central Asia	Male	9.1	7.5	11.2	417	269	590
	Female	7.8	6.4	9.5	396	268	560
Central Europe	Male	12.6	10.5	15.1	1126	739	1582
	Female	10.3	8.6	12.5	1050	688	1490
East Asia	Male	7.1	5.3	9.3	7390	4710	11 018
	Female	6.2	4.7	8.2	6210	3766	9069
Eastern Europe	Male	12.2	10.2	14.6	1744	1179	2493
	Female	10.4	8.6	12.3	1942	1331	2701
Latin America Andean	Male	8.0	5.8	10.8	247	151	379
	Female	6.7	5.0	9.2	213	133	325
Latin America central	Male	7.0	5.8	8.3	942	613	1343
	Female	6.2	5.2	7.4	887	586	1265
Latin America southern	Male	8.8	6.0	12.2	347	207	538
	Female	7.2	5.0	10.0	316	190	484
Latin America tropical	Male	12.3	9.7	15.2	1542	1007	2288
	Female	10.1	7.9	12.6	1360	854	1973
North Africa/Middle East	Male	15.7	14.2	17.5	4179	2845	5773
	Female	13.9	12.6	15.3	3550	2446	4898
North America high income	Male	7.7	6.2	9.4	1914	1231	2743
	Female	7.7	6.1	9.5	2012	1304	2887
Oceania	Male	8.6	5.9	12.3	44	26	69
	Female	7.6	5.2	11.0	38	23	62
South Asia	Male	11.1	9.3	13.2	10 406	7014	14 704
	Female	9.2	7.8	10.9	8258	5585	11 631
Southeast Asia	Male	8.7	7.5	10.0	3165	2156	4376
	Female	7.1	6.2	8.2	2723	1839	3805
Sub-Saharan Africa central	Male	8.9	6.1	12.6	365	212	574
	Female	7.6	5.3	10.5	324	193	498
Sub-Saharan Africa east	Male	9.7	8.5	11.1	1514	1018	2107
	Female	7.6	6.6	8.7	1220	840	1677
Sub-Saharan Africa southern	Male	8.3	6.8	9.8	300	201	416
	Female	6.7	5.5	8.0	260	169	374
Sub-Saharan Africa west	Male	11.7	10.3	13.5	1759	1230	2416
	Female	9.5	8.2	10.9	1419	963	1977
Western Europe	Male	15.5	14.2	16.9	4964	3417	6806
	Female	14.5	13.3	15.8	4915	3361	6652

Prevalencija (na 1) za LBP u odnosu na pol, godine starosti i regione, GBD 2010. g.

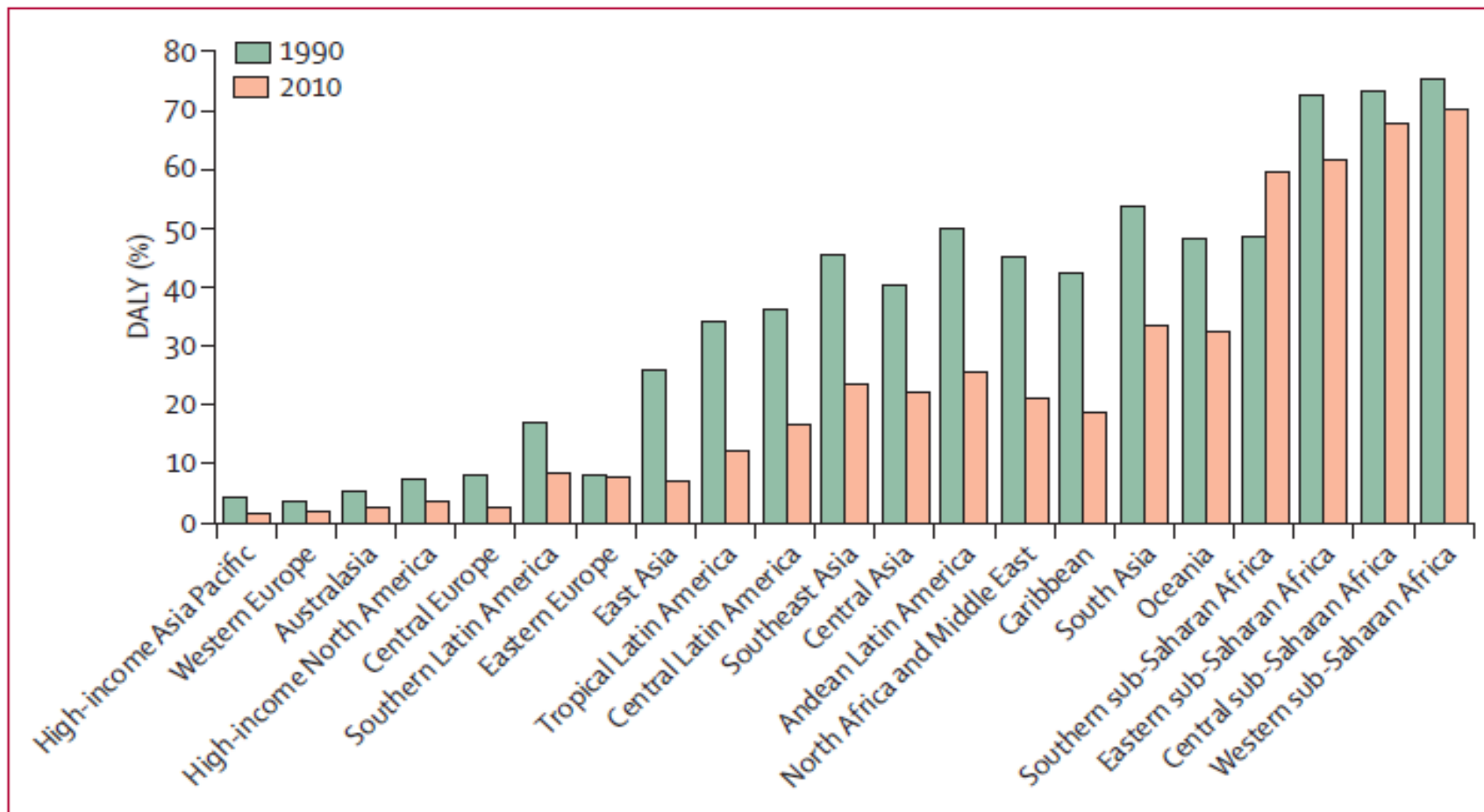
Muškarci



Žene



Procentualno učešće DALY-ja za određene regione među svim DALY-jima na globalnom nivou za 1990. i 2010. godinu (GBD)



2503 milijardi DALY-ja – 1990.g.

2490 milijardi DALY-ja – 2010.g.

↓ 0,5%

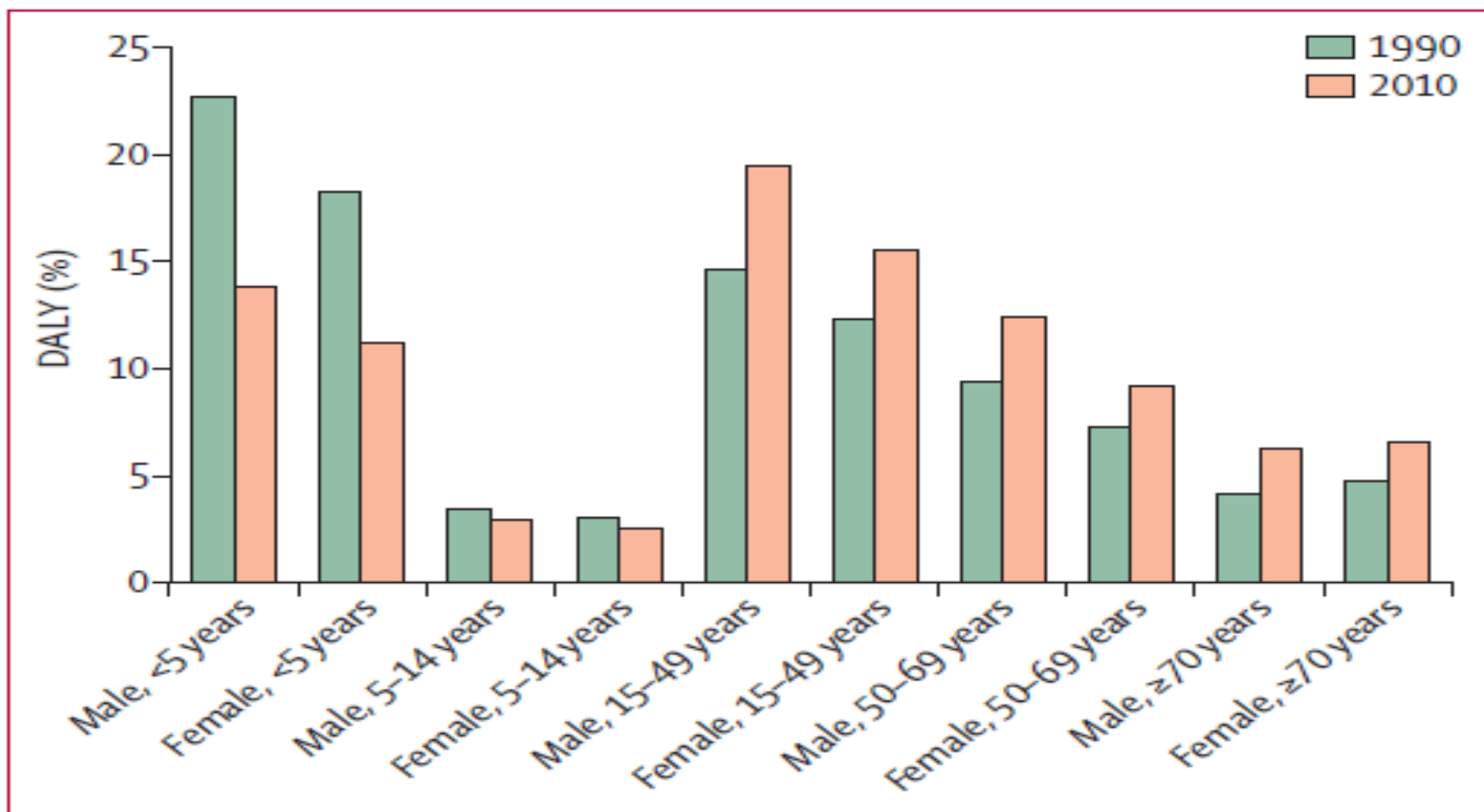
Opterećenost društva zaraznim i nezaraznim bolestima 1990. i 2010. g.

	All causes	Communicable, maternal, neonatal, and nutritional disorders	Non-communicable diseases	Injuries
1990 DALYs (thousands)	2 502 601	1 181 610	1 075 297	245 694
DALYs expected with 2010 population, 1990 population age structure, 1990 DALY rates (thousands)	3 444 678	1 744 235	1 374 650	325 793
DALYs expected with 2010 population, 2010 population age structure, 1990 DALY rates (thousands)	3 386 762	1 481 435	1 579 654	325 673
2010 DALYs (thousands)	2 490 385	868 024	1 343 696	278 665
Percentage change from 1990 due to population growth	37.6%	47.6%	27.8%	32.6%
Percentage change from 1990 due to population ageing	-2.3%	-22.2%	19.1%	0.0%
Percentage change from 1990 due to change in DALY rates	-35.8%	-51.9%	-21.9%	-19.1%
Percentage change from 1990 to 2010	-0.5%	-26.5%	25.0%	13.4%

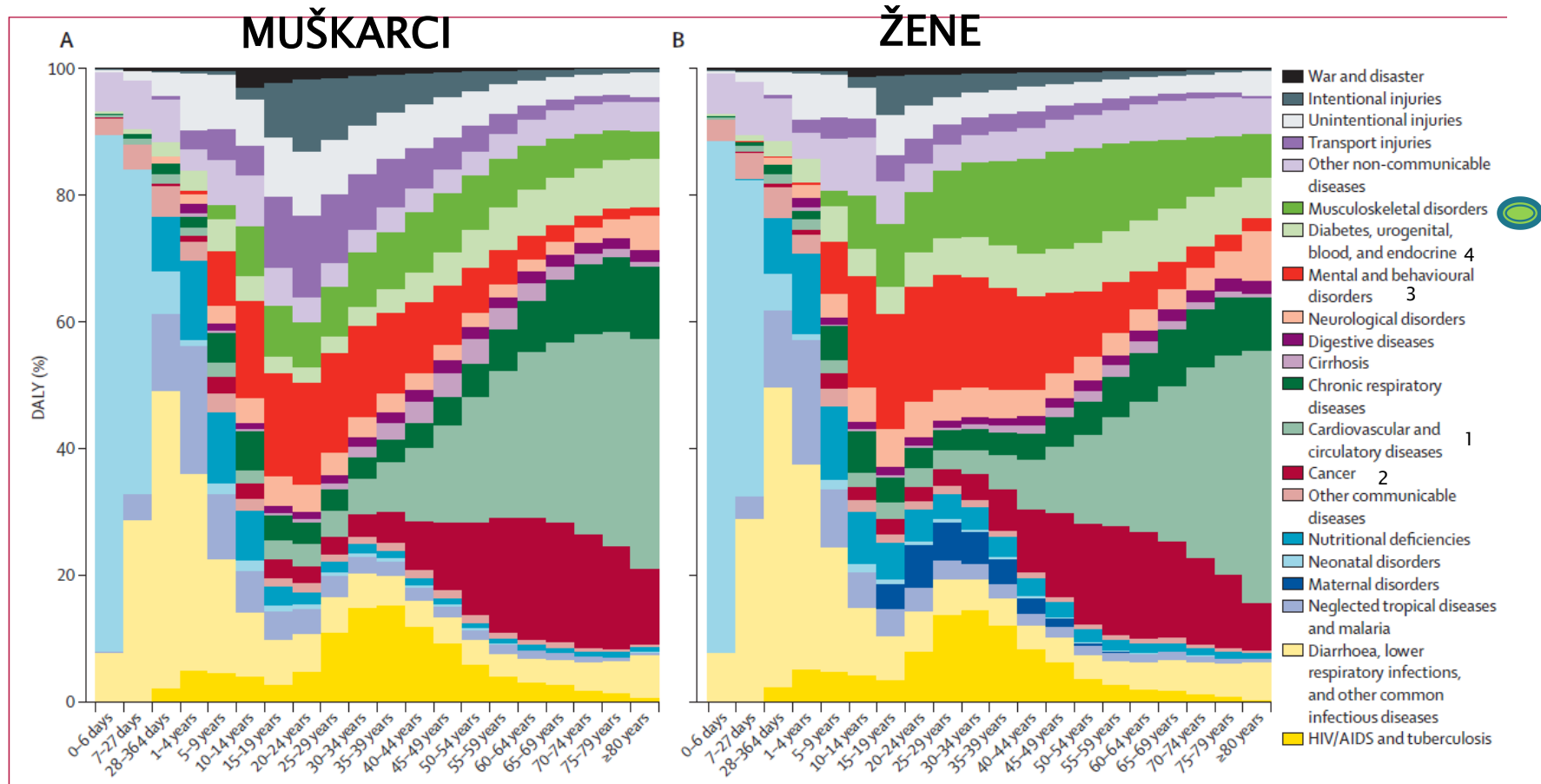
DALY=disability-adjusted life years.

1990.	43% DALY-ja	47% DALY-ja	10% DALY-ja
2010.	35% DALY-ja	54% DALY-ja	11% DALY-ja

Procentualno opterećenje društva po uzrastu i polu u 1990. i 2010. g.



Procenat globalnog opterećenja društva (DALY) po polu, uzrastu i uzroku za 2010. g.



2490 milijardi DALY-ja – 2010.g

MSD-6,8% DALY-ja
 LBP - 3,4% DALY-ja
 NP - 1,3% DALY-ja
 Osteoarthritis-0,7% DALY-ja
 KVB+CA=19% DALY-ja

Opterećenost celokupnog društva muskuloskeletnim poremećajima, 1990. i 2010. g.

	All ages DALYs (thousands)			DALYs (per 100 000)		
	1990	2010	%Δ	1990	2010	%Δ
Muskuloskeletal disorders	116 554 (88 684-147 285)	169 624 (129 771-212 734)	45.5	2198 (1673-2778)	2462 (1883-3088)	12.0
Rheumatoid arthritis	3335 (2573-4192)	4815 (3705-6056)	44.4	63 (49-79)	70 (54-88)	11.1
Osteoarthritis	10 449 (7100-14 788)	17 135 (11 884-24 256)	64.0	197 (134-279)	249 (172-352)	26.2
Low back and neck pain	82 111 (56 962-110 433)	116 704 (80 615-156 527)	42.1	1549 (1074-2083)	1694 (1170-2272)	9.4
Low back pain	58 245 (39 934-78 139)	83 063 (56 632-111 880)	42.6	1099 (753-1474)	1206 (822-1624)	9.7
Neck pain	23 866 (16 535-33 105)	33 640 (23 469-46 476)	41.0	450 (312-624)	488 (341-675)	8.5
Gout	76 (48-112)	114 (72-167)	49.3	1 (1-2)	2 (1-2)	14.9
Other musculoskeletal disorders	20 583 (17 019-23 254)	30 856 (25 815-34 583)	49.9	388 (321-439)	448 (375-502)	15.4

Lancet 2012; 380:2163-96.

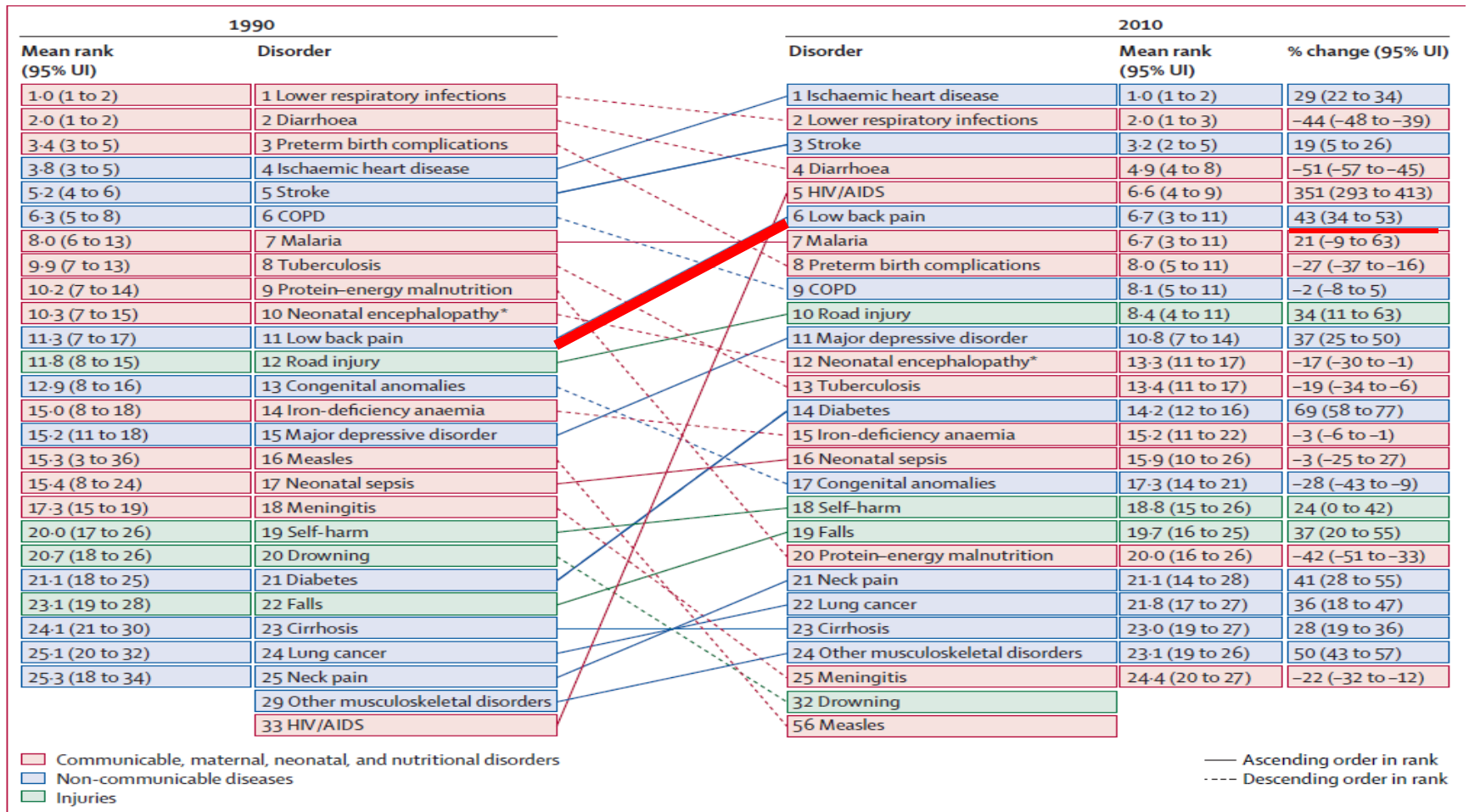
DALY za LBP 1990. i 2010. godine

- ▶ **58,2 miliona** (95% CI 39.9M –78.1M) u 1990.g.
- ▶ **83,0 miliona** (95% CI 56,6M–111,9M) u 2010g.
- ▶ Porast DALY–ja za **42,6%**
- ▶ Porast broja stanovnika odgovorno je za 30% porasta DALY–ja, a za 13% starenje populacije
- ▶ Muškarci 44,2M; 95% CI 30,3M–60,1M
- ▶ Žene 38,9M; 95% CI 26,5M –52,9 M
- ▶ Najveći DALY između 35 i 50 godina.



Lancet 2012; 380:2163–96.

Dvadesetpet vodećih uzroka opterećenja društva bolestim na osnovu DALY-ja, GBD, 2010. g.



Dvadesetpet vodećih uzroka opterećenja društva bolestima na osnovu DALY-ja, GBD, 2010. godine

Ranking legend

- 1-10
- 11-20
- 21-30
- 31-50
- 51-90
- 91-176

Cause	Global	High-income Asia Pacific	Western Europe	Australasia	High-income North America	Central Europe	Southern Latin America	Eastern Europe	East Asia	Tropical Latin America Central	Latin America Southeast Asia	Central Asia	Andean Latin America	North Africa and Middle East	Caribbean	South Asia	Oceania	Southern sub-Saharan Africa	Eastern sub-Saharan Africa	Central sub-Saharan Africa	Western sub-Saharan Africa	
Ischaemic heart disease	1	3	2	2	1	1	1	1	2	1	2	3	1	4	1	2	4	6	14	21	19	20
Lower respiratory infections	2	7	21	30	21	17	6	13	15	7	6	4	2	1	5	4	1	1	2	3	4	2
Cerebrovascular disease	3	1	3	5	7	2	3	2	1	4	11	1	3	11	4	3	12	11	7	16	14	16
Diarrhoeal diseases	4	46	52	53	48	77	44	49	49	26	14	8	18	8	11	8	3	3	3	4	2	3
HIV/AIDS	5	108	59	87	37	72	34	4	38	12	13	13	31	13	58	9	17	9	1	1	5	4
Low back pain	6	2	1	1	3	3	2	3	5	3	7	7	7	5	2	13	10	14	15	17	23	13
Malaria	7	163	162	157	155	163	166	163	169	145	154	22	162	142	66	58	44	5	20	2	1	1
Preterm birth complications	8	58	44	29	26	37	12	35	27	9	9	11	8	6	8	11	2	7	6	5	6	7
Chronic obstructive pulmonary disease	9	18	7	3	2	7	7	10	3	10	16	9	11	18	13	22	5	18	9	20	20	22
Road injury	10	16	12	9	10	8	5	7	4	5	4	5	5	2	6	10	11	15	13	11	12	9
Major depressive disorder	11	12	4	4	5	5	4	5	8	6	5	6	6	3	3	7	14	12	10	13	17	19
Neonatal encephalopathy*	12	84	66	50	54	66	42	40	24	20	20	12	4	9	18	15	6	19	12	9	10	10
Tuberculosis	13	42	107	123	124	55	65	17	37	46	44	2	15	21	33	17	8	4	4	7	7	12
Diabetes	14	10	10	14	8	9	9	15	10	8	3	10	12	15	9	6	16	2	8	29	28	26
Iron-deficiency anaemia	15	39	84	36	117	29	27	29	32	18	17	14	13	7	10	5	9	21	11	12	11	11

Lancet 2012; 380:2163-96.

Rangiranje LBP na osnovu nesposobnosti (YLD-a) i globalnog opterećenja (DALY-ja), 2010. g, medju 291 uzrokom, GBD 2010. g.

Region	YLD ranking	DALY ranking
Globally	1 ←	6
Central Asia	2	7
East Asia	1	5
Asia-Pacific high income	1	2
South Asia	1	10
Southeast Asia	2	7
Australasia	1	1
Caribbean	4	13
Central Europe	1	3
Eastern Europe	1	3
Western Europe	1	1
Andean Latin America	2	5
Central Latin America	2	7
Southern Latin America	1	2
Tropical Latin America	1	3
North Africa/Middle East	1	2
North America high income	1	3
Oceania	2	14
Central sub-Saharan Africa	3	23
Eastern sub-Saharan Africa	3	17
Southern sub-Saharan Africa	4	15
Western sub-Saharan Africa	2	13

21 svetski region

Ogromni direktni i indirektni troškovi usled LBP – jedan od najskupljih zdravstveni problem

Annual back pain costs

	Direct costs (millions)	Allied health costs (millions)	Indirect costs# (millions)	GDP*	Health expenditure
Australia (1991)	AU\$1,020	AU\$724		0.22% 0.16%	1.65% 1.17%
United Kingdom (1998)	£1,632,000		AU\$2,000–\$8,000 £1,068,000–£5,018,000	0.43%–1.72% 0.19%	2.78%
USA (1990)	US\$24,300			0.12%–0.58% 0.42%	3.22%

#Estimates of indirect costs vary depending on the econometric models used.

*GDP = Gross Domestic Product (for year of study). Bruto domaći proizvod

Direktni troškovi:
lekovi,
pomagala,
dijagnostički testovi...

Indirektni troškovi:
izgubljene zarade,
smanjenja radna
produktivnost,
cena dodatne nege

Nefinansijski troškovi:
gubitak uključivanja u
svakodnevne, porodične i
socijalne aktivnosti.

Uzrok bola u donjem delu ledja

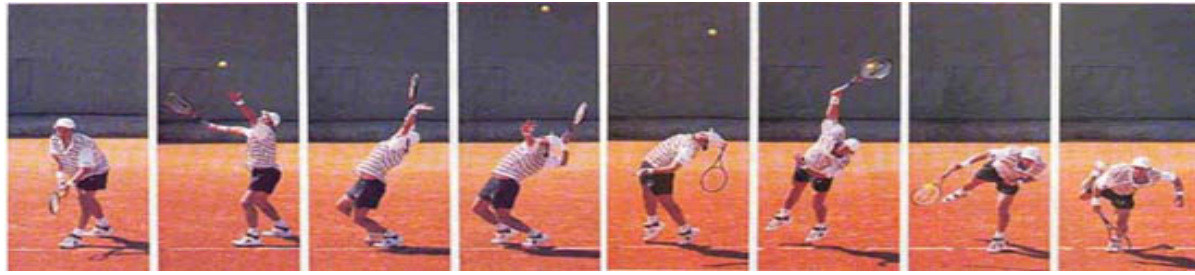
- ▶ Nespecifičan
- ▶ Specifičan (10–15%)(degenerativne, povrede, tumor, infekcije, zapaljenska oboljenja kičme, metabolička oboljenja, kongenitalni poremećaji kičmenog stuba, statički poremećaji...)

Diskus hernija – prolaps intervertebralnog diska i kompresija nervnog korena – 1–4%
Spinalna stenoza – 3%
Kompresivna fraktura (osteoporoza) – 4%

Faktori rizika lumbalnog bola

- ▶ Mehanički stresovi kičme – podizanje tereta, ponavljana podizanja, rotacioni pokreti, vibracije, vožnja, statička postura tokom posla, prolongirano sedenje ili hodanje, saobraćajne nezgode, padovi...
- ▶ Psihološke karakteristike – loš socio-ekonomski status, psihološki distres, nezadovoljstva i frustracije – životom, poslom, napredkom u službi...

Faktori rizika za LBP



- ▶ *Nasledje*
- ▶ *Uzrast: 30–50 (65) godina, adolescenti*
- ▶ *Pol*
- ▶ *Nizak S–E status, nizak stepen obrazovanja*
- ▶ *Prekomerna TT i gojaznost*
- ▶ *Psihosocijalni faktori: stres, nervoza, depresija*
- ▶ *Profesionalni faktori: nezadovoljstvo poslom, monotoni zadaci, nedostatak socijalne podrške, loši odnosi na poslu, preveliki zahtevi na poslu*
- ▶ *Težak fizički rad (posao i sport), nepravilno dizanje tereta, nepravilno nošenje tereta, dugotrajno sedanje, dugotrajno stajanje, dugotrajna vožnja i hodanje, naglo savijanje i uvijanje tela, izloženost vibracijama, rad u noćnim smenama...*
- ▶ *Nepravilno držanje tela, trudnoća, pušenje.....*
- ▶ *Povrede, degenerativne promene na mišično–koštanom sistemu, tumori,.....*



Zaključak

Globalni problem!



- ▶ **Poznavanje opterećenosti društva**
LBP omogućava:
- ▶ **bolje sagledavanje njenog socijalnog značaja, veličine troškova i nesposobnosti,**
- ▶ **planiranje i adekvatan razvoj zdravstvene zaštite,**
- ▶ **unapredjenje prevencije, dijagnoze i lečenja,**
- ▶ **edukaciju profesionalnog kadra,**
- ▶ **istraživanje etioloških faktora, kao osnova za primarnu prevenciju,**
- ▶ **razvoj strategije za prevenciju LBS (edukacija, promena životnih i radnih navika –prestanak pušenja, smanjenje težine, zauzimanje zaštitnih položaja tokom profesionalnih aktivnosti, preventivne i terapijske vežbe...).**

HVALA NA PAŽNJI!

*“Um je vlastito mesto
i može napraviti raj od pakla,
i pakao od raja.”*

J. Milton

