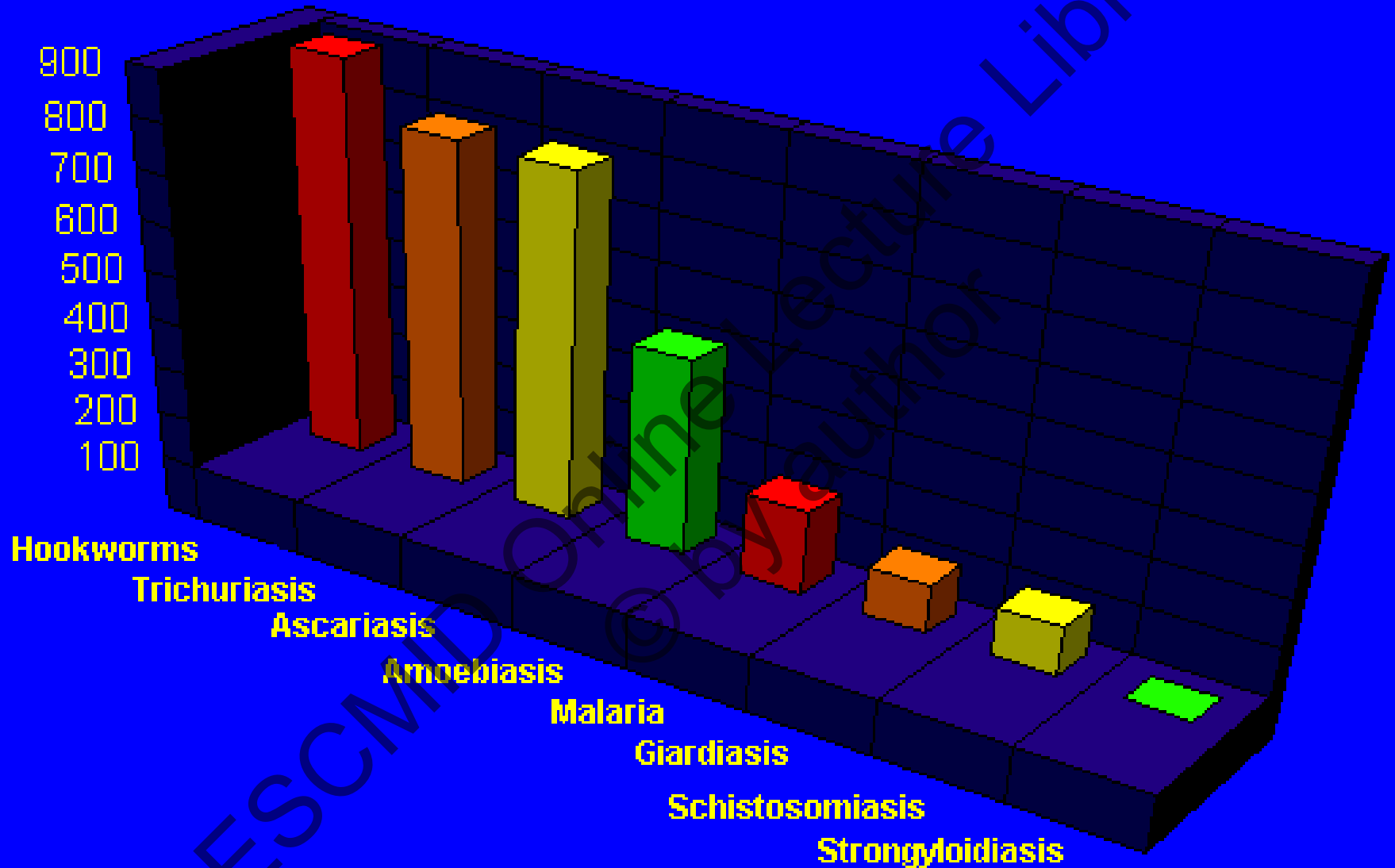


Introduction intestinal parasites

Overview of the most prevalent ones

Estimated worldwide prevalence of parasitic disease

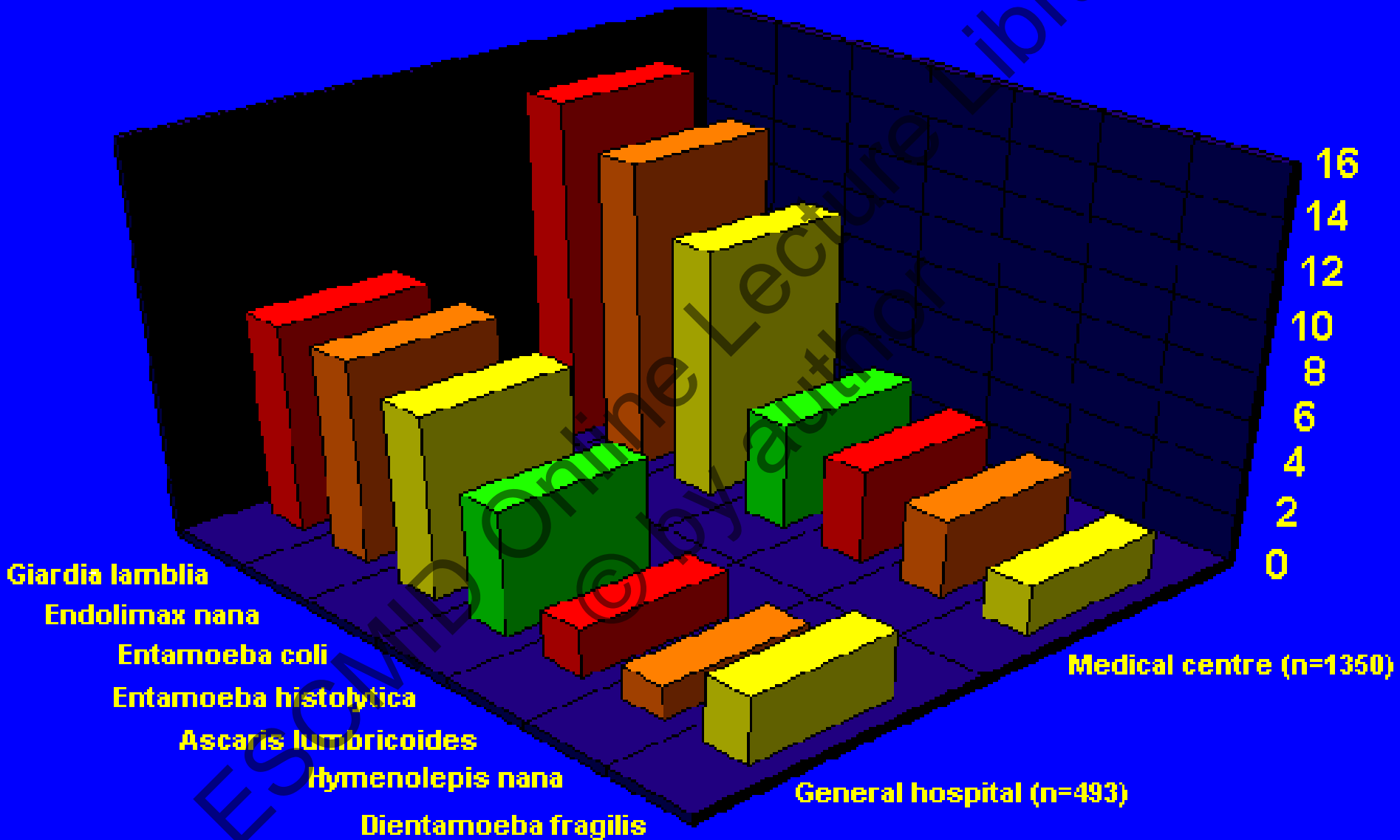
Global prevalence (millions)



Data from World Health Organisation

Faecal parasites in 6 month survey

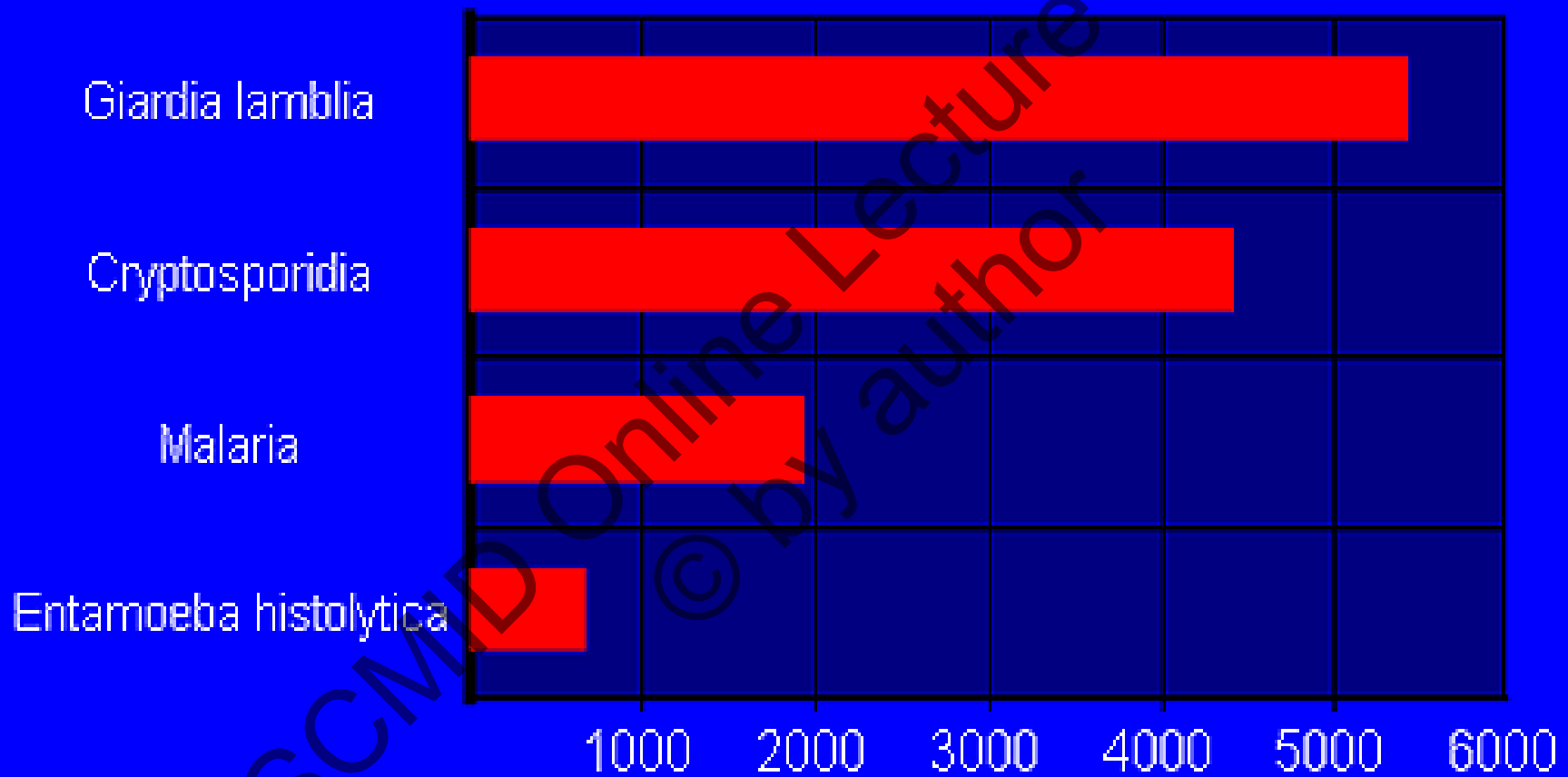
% of samples positive



Bruckner et al, Los Angeles, U.S.A.

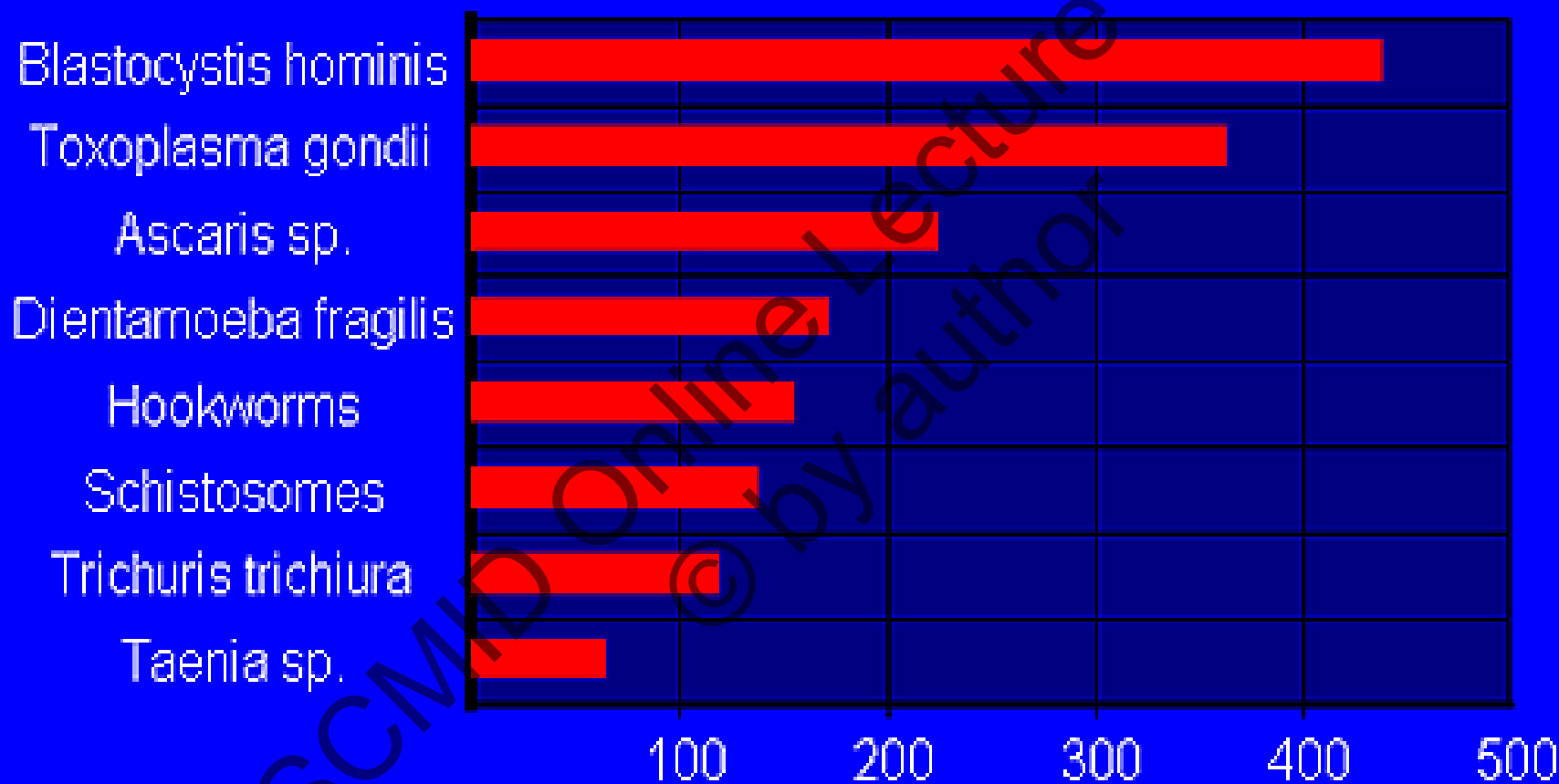
Parasite reports, England & Wales

Year Mean 1995 - 1997



Parasite reports, England & Wales

Year Mean 1995 - 1997



Prevalence in the Netherlands-1

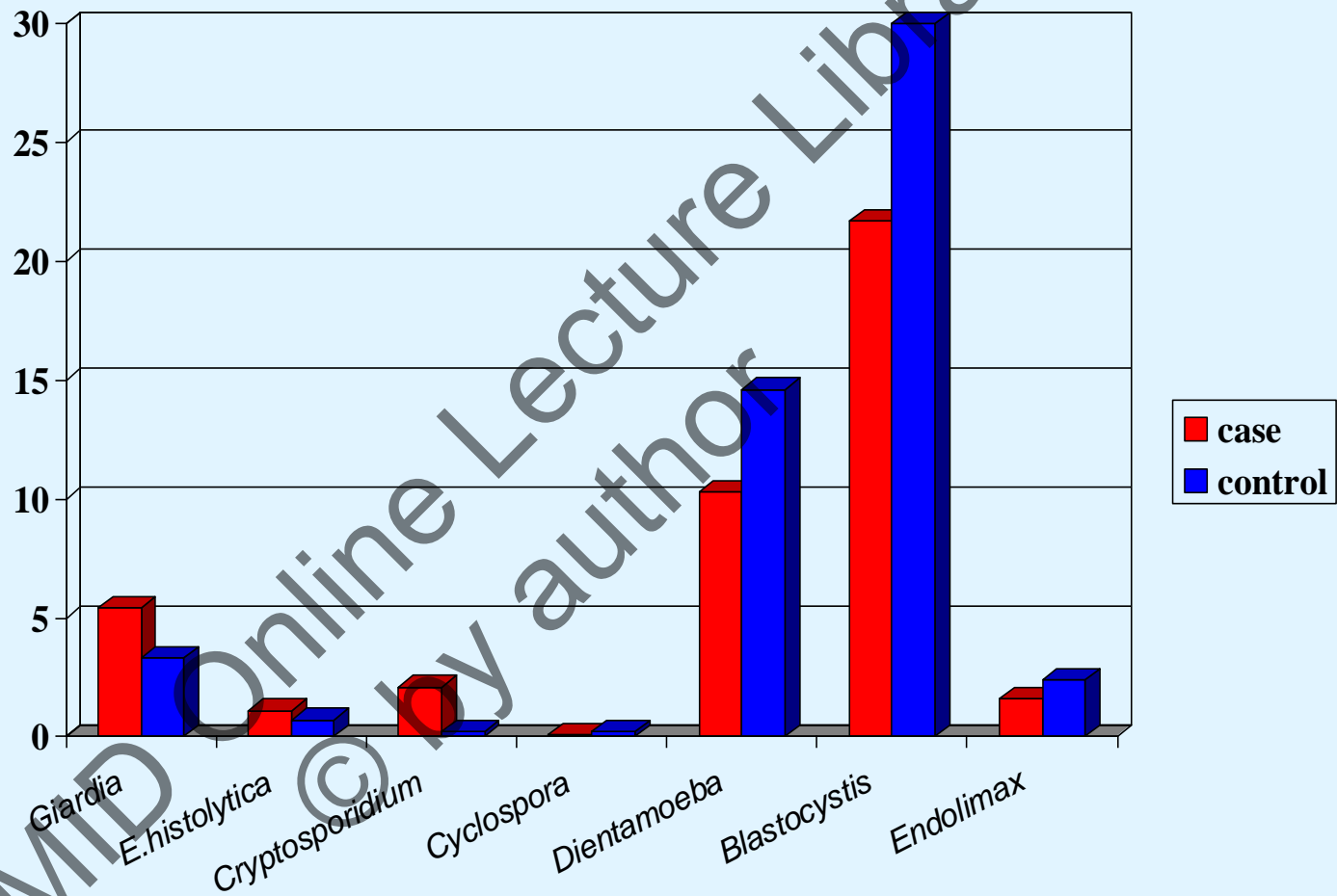
National: Nivel and Sensor study

1996 - 1999 National Institute of Public Health

LM Kortbeek et al.

1. case control study in GP patients suffering from gastroenteritis
2. prospective population based cohort study with a nested case-control

Case control study: N=857 cases 574 controls



Prevalence in the Netherlands-2

Local: the “Haarlem” study

Mank et al

- February 1994 - February 1996
- 80 General Practitioners
- Patients: age between 0 - 65 years
- Diarrheal complaints of more than 1 week's duration or intermittent diarrhea

Results

Prevalence (in percentages) of bacterial-, viral-, and parasitic species in stool samples from patients with persistent diarrhea in General Practice (N=892 patients)

Species	Prevalence	Most Prevalent
Bacteria	7.7	<i>Campylobacter jejuni</i>
Viruses	5.8	Rota
Pathogenic Protozoa	25.3	<i>Giardia lamblia</i>
Nonpathogenic Protozoa	36.2	<i>Blastocystis hominis</i>
Helminths	0.6	<i>Trichuris trichiura</i>

Results

Prevalence (in percentages) of protozoal species in stool samples from patients with persistent diarrhea and asymptomatic subjects in General Practice

Protozoal species	Persistent Diarrhea (n=892)	Asymptomatic subjects (n=205)
<i>Cryptosporidium spp</i>	3.3	0.5
<i>Dientamoeba fragilis</i>	8.2	4.4
<i>Entamoeba histo/dispar</i>	1.4	--
<i>Giardia lamblia</i>	14.6	2.0
<i>Blastocystis hominis</i>	25.7	37.1
<i>Endolimax nana</i>	15.2	12.2
<i>Entamoeba coli</i>	3.5	6.3

Manisa – Turkey
Celal Bayar University

Species	2009		2010	
<i>Blastocystis hominis</i>	6%	(n=57)	5%	(n=54)
<i>Chilomastix mesnili</i>	<1%	(n=1)	<1%	(n=6)
<i>Dientamoeba fragilis</i>	-		<1%	(n=10)
<i>Endolimax nana</i>	<1%	(n=4)	<1%	(n=8)
<i>E. histo/dispar</i>	<1%	(n=2)	<1%	(n=4)
<i>Entamoeba coli</i>	<1%	(n=16)	<1%	(n=17)
<i>Giardia lamblia</i>	1%	(n=57)	2%	(n=54)
<i>Iodamoeba bütschlii</i>	<1%	(n=7)	<1%	(n=3)
<i>Enterobius vermicularis</i>	1%	(n=49)	<1%	(n=14)
<i>Hymenolepis nana</i>	<1%	(n=7)	<1%	(n=2)
<i>Taenia saginata</i>	-		<1%	(n=1)
Stool samples examined	3962		3136	

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Survey amongst schoolchildren Corum province Turkey (N=681)

Species	2009	technique
<i>Blastocystis hominis</i>	9% (n=64)	nativ-lugol
<i>Chilomastix mesnili</i>	-	nativ-lugol
<i>Dientamoeba fragilis</i>	-	nativ-lugol
<i>Endolimax nana</i>	<1% (n=4)	nativ-lugol
<i>E. histo/dispar</i>	1% (n=7)	nativ-lugol
<i>Entamoeba coli</i>	3% (n=23)	nativ-lugol
<i>Giardia lamblia</i>	6% (n=43)	nativ-lugol
<i>Iodamoeba bütschlii</i>	<1% (n=3)	nativ-lugol
<i>Enterobius vermicularis</i>	18% (n=123)	anal band / cellotape
<i>Hymenolepis diminuta</i>	<1% (n=1)	katokatz
<i>Ascaris lumbricoides</i>	<1% (n=2)	katokatz

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It's a wormy world

prevalence helminths / protozoal species

- region
- population
 - Healthy individuals (carriers) / parasite burden
 - GP patients / hospitalized patients
- diagnostic work-up (Medical doctors)
- laboratory techniques

- Helminths

- *Enterobius vermicularis*
- Taenia spp
- *Hymenolepis diminuta / nana*
- *Ascaris lumbricoides*

- Protozoal species

- *Giardia lamblia*
- Cryptosporidium spp
- *Dientamoeba fragilis*

- *Blastocystis hominis*