

An international survey of community prevalence of constipation and laxative use in adults

Wald, Arnold¹; Kamm, Michael²; Mueller-Lissner, Stefan³; Scarpignato, Carmelo⁴; Marx, Wolfgang⁵; Schuijt, Chris⁵

¹ University of Wisconsin School of Medicine and Public Health, Madison, WI, USA; ² St. Mark's Hospital, Harrow, United Kingdom; ³ Humboldt University, Berlin, Germany; ⁴ University of Parma, Parma, Italy; ⁵ Boehringer Ingelheim GmbH, Ingelheim, Germany

Introduction

Reported prevalence of constipation ranges from 4–28%, depending on definitions and methods used, making comparisons between countries difficult. To determine prevalence in a large community, self definition of constipation is important and use of a standard questionnaire is mandatory.

Aim

To determine the prevalence and demographics of constipation in 7 countries.

Methods

Representative samples of 2000 persons in each of US, UK, Germany (GE), France (FR), Italy (IT), Brazil (BR), and South Korea (SK) were administered a standard questionnaire (in the UK 121 persons refused to answer health related questions). Questions concerned presence, duration and frequency of constipation as well as treatment and duration, and frequency of laxative use by constipated persons.

Results

Demography

Table 1: Demographic characteristics of individuals included in questionnaire; gender and age groups were aligned in accordance to country.

Country	US	UK	FR	GE	IT	BR	SK	All
All N	2000	1879	2000	2000	2000	2000	2000	13879
Female (%)	52	52	52	52	52	52	50	52
< 30 yrs (%)	20	24	25	20	27	36	35	27
30–44 yrs (%)	29	27	27	27	26	31	33	29
45–59 yrs (%)	28	23	23	23	23	20	25	24
60+ (%)	22	26	25	30	24	13	7	21

Occurrence of constipation

Table 2 and Figure 1: Of people who report constipation, 1712 (12.3%) indicated they had constipation during the last twelve months. Of these, 527 had used a laxative for constipation; thus 3.8% of the total population and 30.8% of those with constipation had used a laxative during the past year.

The prevalence of constipation was lowest in Germany (=1, defined as standard), UK (OR 1.54; CI 1.20–1.99) and Italy (OR 1.50; CI 1.16–1.92) and highest in the US (OR 3.74; CI 3.00–4.68), France (OR 2.91; CI 2.31–3.65), Brazil (OR 4.06; CI 3.22–5.11) and South Korea (OR 4.23; CI 3.35–5.34). Females had a higher probability of constipation than men (OR 2.43; CI 2.18–2.71). Except for SK, and to a lesser extent BR, people 60 years and older had a higher probability of constipation than people <30 yrs. (OR 1.47; CI 1.25–1.73). In SK and BR, the distribution over the age groups was comparable with the overall age statistics, which is confirmed by Figure 1.

Table 2: Reporting constipation

Country	US	UK	FR	GE	IT	BR	SK	All
All constipated	353	145	280	107	159	334	334	1712
% of total population	18	8	14	5	8	17	17	12
Female (%)	63	74	70	73	70	75	68	70
< 30 yrs (%)	15	18	22	6	19	30	37	24
30–44 yrs (%)	31	26	23	21	23	32	29	28
45–59 yrs (%)	29	23	15	24	24	23	25	24
60+ (%)	25	31	38	50	32	13	6	24

Figure 1A

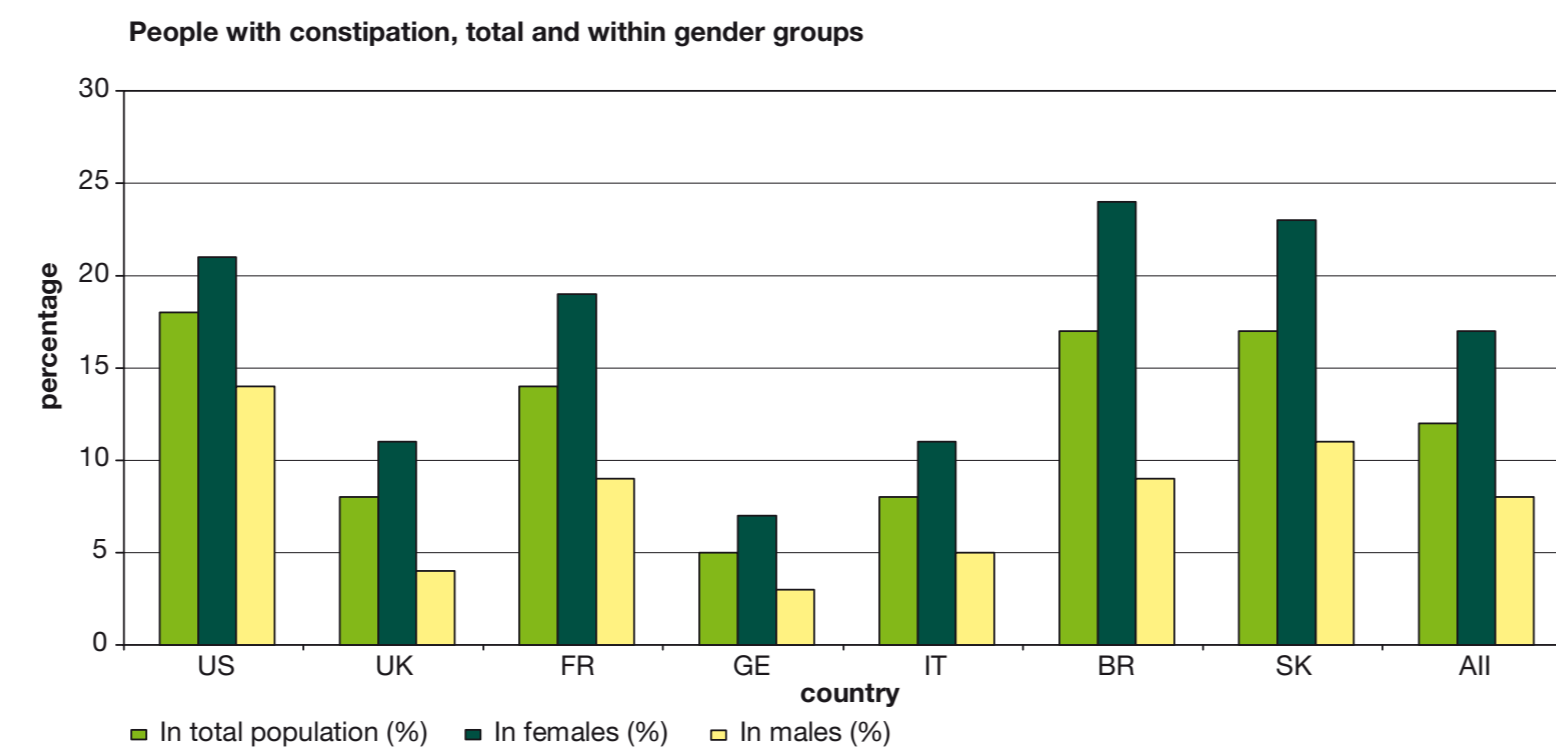


Figure 1B

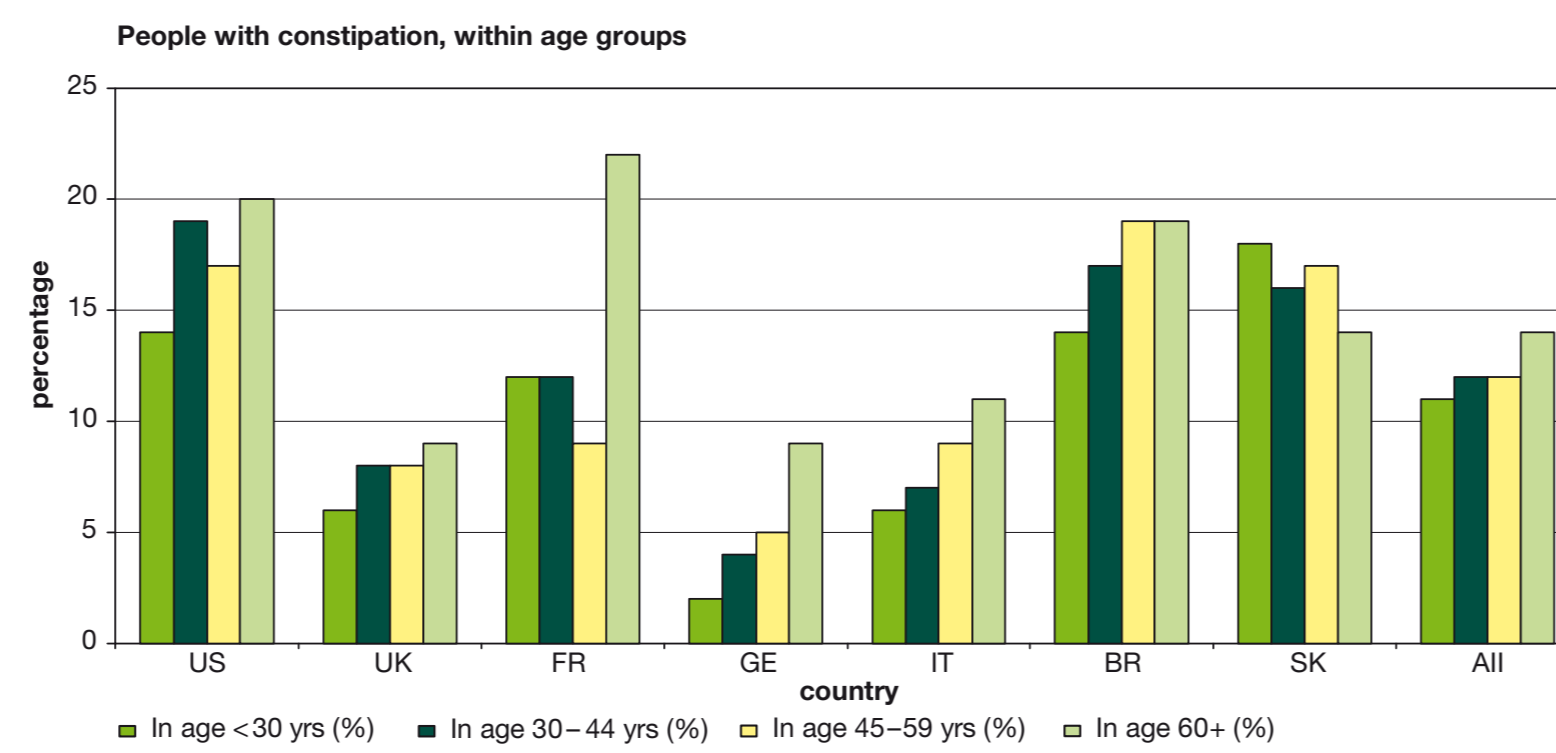


Figure 2: Duration of constipation. Of those with constipation in the last year, 30% indicated a duration of 10 yrs or more, 21% between 3 and 10 yrs, and 44% indicated a duration of less than 3 years.

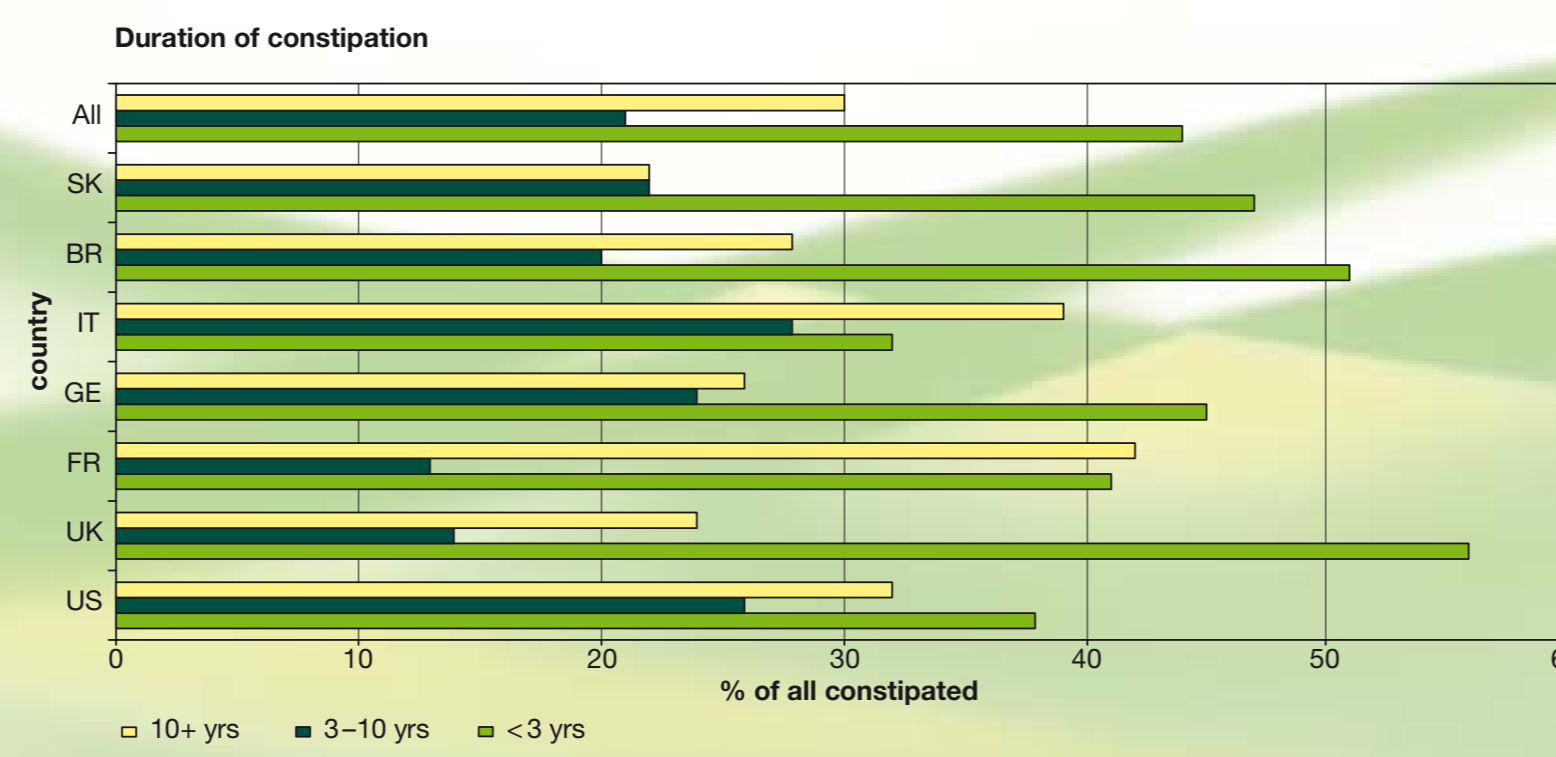
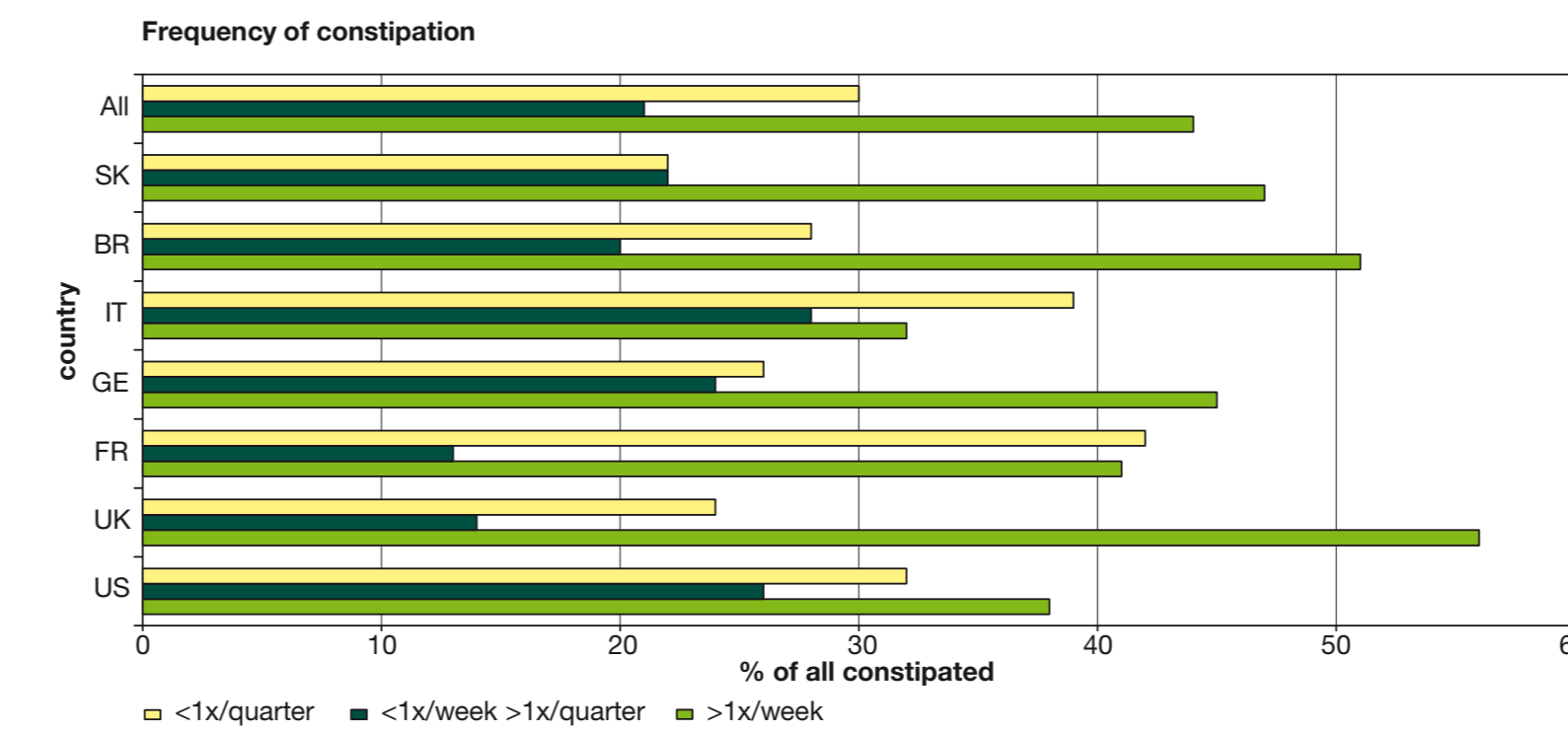


Figure 3: Frequency of constipation. Overall, 44% had constipation at least once per week, 30% had constipation less than once per 3 months, whereas 21% mentioned a frequency between less than once per week but more than once per quarter. Weekly constipation was most frequent in UK, and least frequent in IT.



Treatments used for constipation

Figure 4: Treatment of constipation. Of those with constipation, 25% did nothing and waited till the constipation disappeared; this was most frequent in the US and least in BR. More respondents changed their nutrition to treat their constipation, fewer did exercise, and 32% used a household remedy. Nearly one third of constipated persons used a laxative to treat their constipation. The major reasons for choosing a laxative were prescription by a physician (13%), advice by a health care professional (12%), or personal decision by the patient (13%); multiple answers were possible, as patients could use several laxatives for the treatment of their constipation.

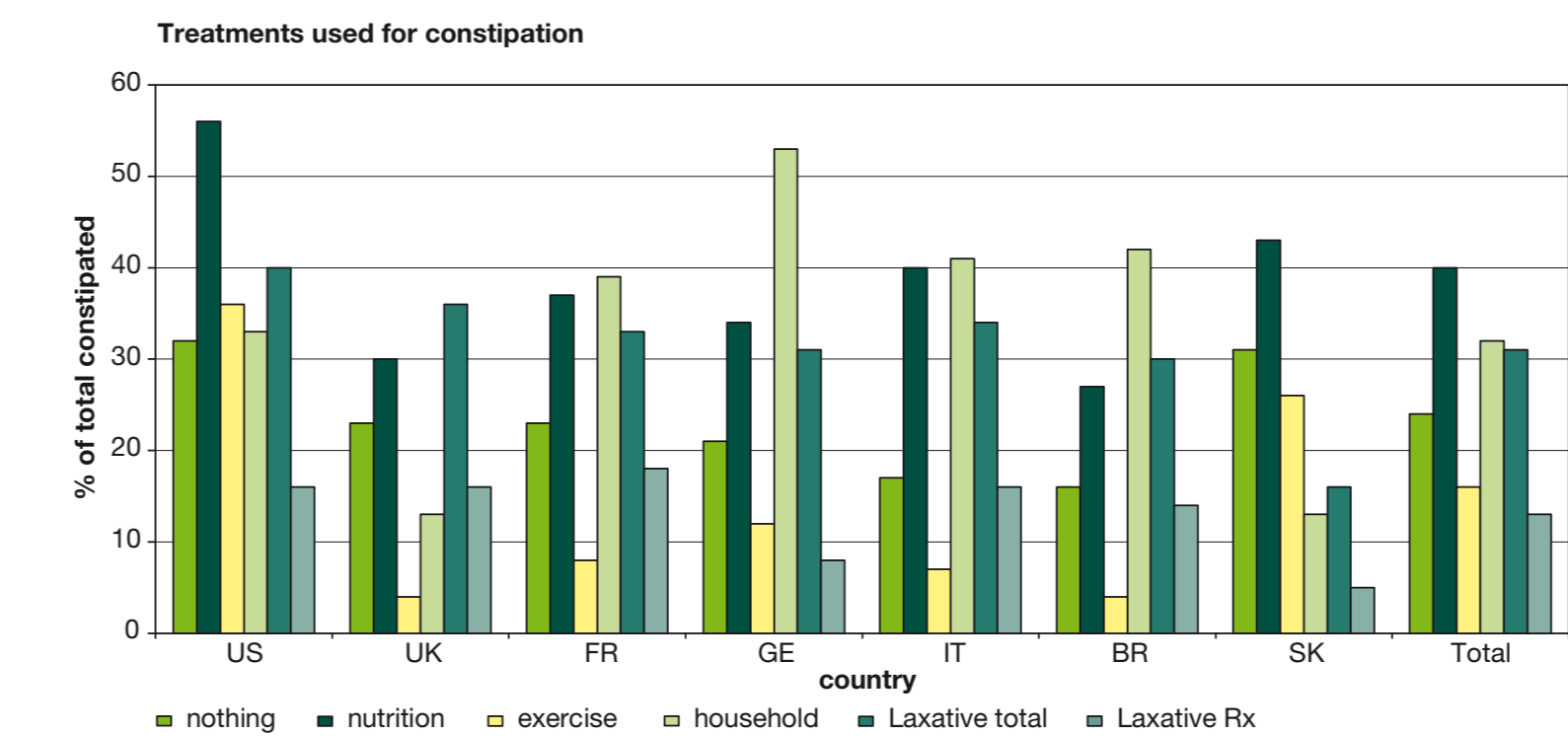
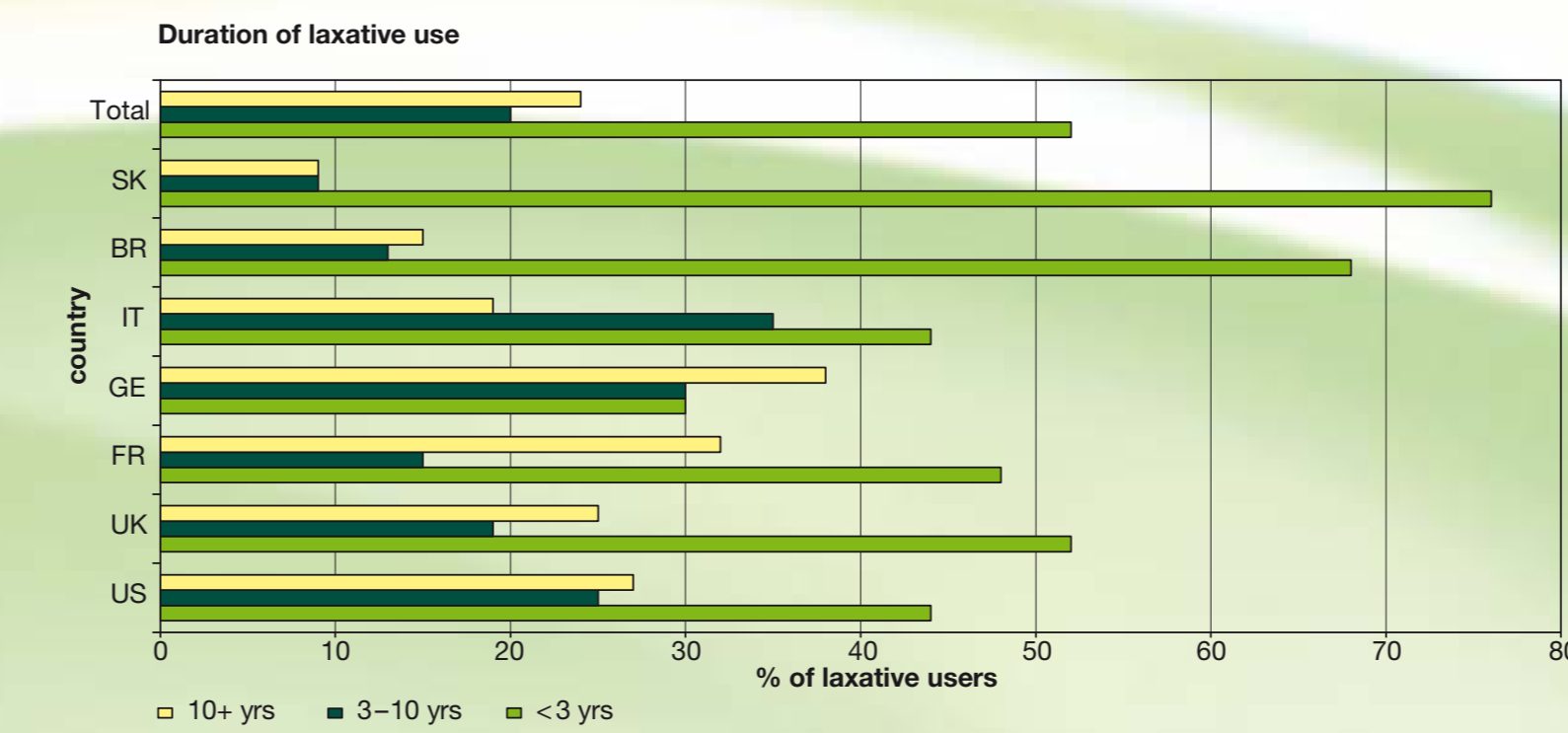


Figure 5: Duration of laxative use. Of those who use any laxative for constipation, 24% had used a laxative for 10 years or more, another 20% between 3 and 10 years, and 52% for less than 3 years.



Laxative use

Table 3: Laxative use by those constipated, percentages within gender and age groups. 31% of constipated used a laxative. The use of laxatives was median in GE, highest in the US (OR 1.69; CI 1.04–2.74), comparable to GE in UK, FR, IT and BR, but lowest in SK (OR 0.56; CI 0.32–0.97).

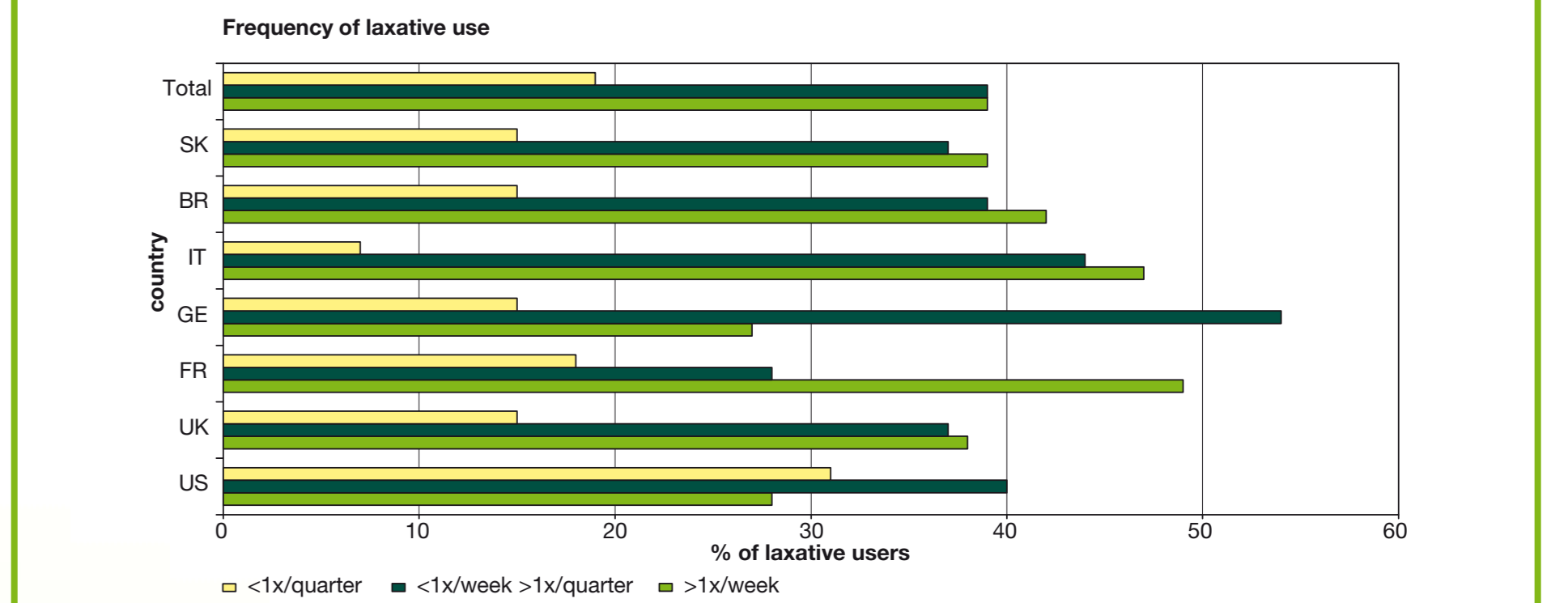
Overall, no gender influence on laxative use was found. However, in GE and FR women used a laxative more often than men, the reverse was true in IT. In BR, females used a laxative twice as often than males, and in SK the use of laxatives by females and males was comparable.

In general, the use of laxatives increased with age (45% for those 60 yrs and older vs 25% for those under 30 yrs; OR 1.63; CI 1.14–1.64). The increasing use with age is especially reported for the US and the UK; in FR, GE and IT the 3 lower age groups show comparable use, however the oldest age group clearly shows a higher use of laxatives. Interestingly, in BR and in SK, there are no clear differences in laxative use between all age groups.

Country	US	UK	FR	GE	IT	BR	SK	All
N constipated	353	145	280	107	159	334	334	1712
N laxative users	142	52	92	33	55	99	54	527
Laxative users (% of constipated)	40	36	33	31	34	30	16	31
In females (%)	38	35	35	33	29	34	16	31
In males (%)	43	38	27	23	46	17	17	30
In age <30 yrs (%)	31	14	26	18	31	29	19	25
In age 30–44 yrs (%)	32	31	22	7	24	31	13	25
In age 45–59 yrs (%)	44	37	21	27	26	30	14	29
In age 60+ (%)	52	51	48	44	51	27	23	45

Figure 6: Frequency of laxative use. 39% of laxative users mentioned to use a laxative at least weekly, 19% less than every 3 months, whereas 39% used a laxative less than weekly but more than once per quarter.

Not shown in Figure 6: 12% of all laxative users indicated daily use (lowest in IT, highest in FR). This is equivalent to 3.6% of the total constipated group and 0.4% of the total population. Of the laxative users, a mean of 67% (range 56–85%) used a laxative at least once per month, which is equivalent to 20.6% of all constipated, and 2.5% of the total population.



Conclusions:

Prevalence of self defined constipation varies among countries and is related to gender, and in age in all but SK and BR. Laxative use is highest in US, lowest in SK and is associated with age but not gender, duration and frequency of constipation in all countries.