

HEADACHE AT WORK, YESTERDAY

- Results of the Pilot Study

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INTRODUCTION

- In 2017 Migraine was the **FIRST** worldwide cause of years-lived-with-disability, YLD(1) in people under 50 years(2), which are the active workforce.
- Indirect costs** represent **80%** of migraines' economic impact(3), related to productivity loss at work due to attack-related disability (3,6)
- The 2010 economic impact study of the European Brain Council(EBC) estimated a total annual cost of €43.514 million in purchasing power parity(PPP) for headache in **Europe**. Migraine was the costliest, **€18.463 million** PPP(152.8 million patients)(3).
- Although **Portugal** was not included in any study, the EBC extrapolated an annual cost of €603 Million, with around €482 Million indirect costs - 0.27% of the Portuguese Gross Domestic Product (GDP) in 2010 (7)

OBJECTIVE to study the impact of Migraine and Headache in an active workforce, in Portugal

METHODS

- A web-based survey with 37 questions that included the "Headache Yesterday" methodology was adapted by the author from the HARDSHIP (9)/ Eurolight questionnaire (8) with authorization from the Eurolight team and lifting-the-burden(LTB) global campaign (box1).
- The questionnaire-based survey link was made available on-line on one private health provider company's (Luz Saúde) intranet during a 10-day period. participation was anonymous and volunteer;
- The company's human resources office provided employees information (number, average gender, age and gross average hourly income); cost of health resources was collected from the company's online price table.

BOX 1

ORIGINAL HARDSHIP⁹ → Eurolight Project⁸, 103 Questions

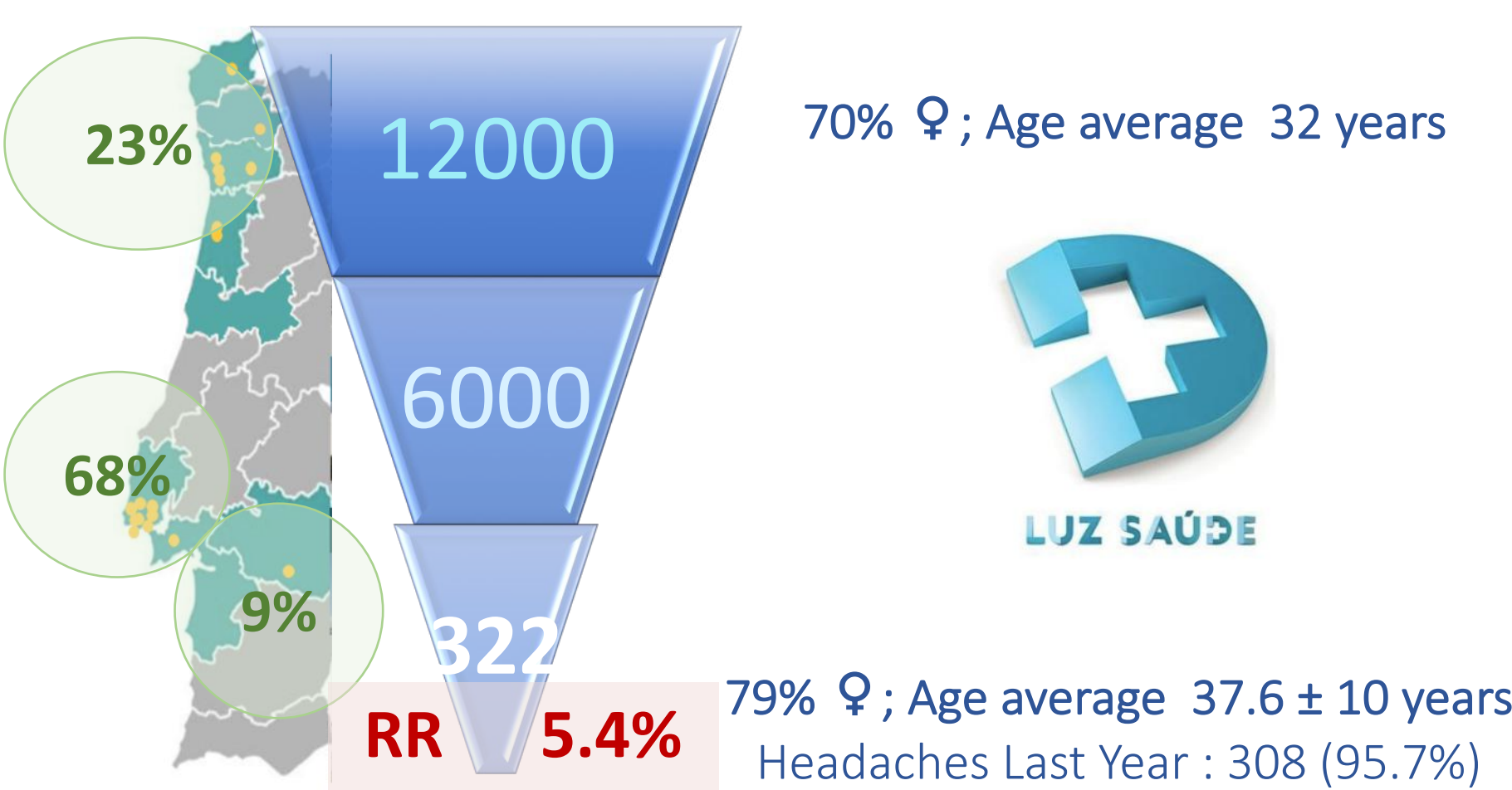
- Demographic data (age, gender), social situation (work status, marital status, education, income);
- Headache questions (including chronic headache);
- Characterization of chronic and most bothersome headache;
- Questions about "headache yesterday" – duration, intensity, impact (MIDAS), treatment;
- Healthcare resources, including acute/preventive medication, outpatient, ER and inpatient visits and diagnostic investigation;
- Impact including HALT, on work progression and meaningful relationships, quality of life (WHO-QoL), depression and anxiety (HADS).

SIMPLIFIED ADAPTED VERSION, 37 Questions:

- Demographic data (gender and age),
- Headache screening questions - lifetime, last year and last 30 days headache occurrence and
- Headache diagnosis, using ID-Migraine to classify Migraine or non-migraine headache (NMH); In patients with headaches in the last 30 days, headache frequency, medication use and HIT-6;
- "headache yesterday" duration, intensity, impact on work, social/familiar activities or domestic chores and about the ability to compensate for lost activities.
- Impact on career and work progression, in social and family life, about health resources use (outpatient visits, ER visits and procedures) and coping with headache

RESULTS

1. POPULATION



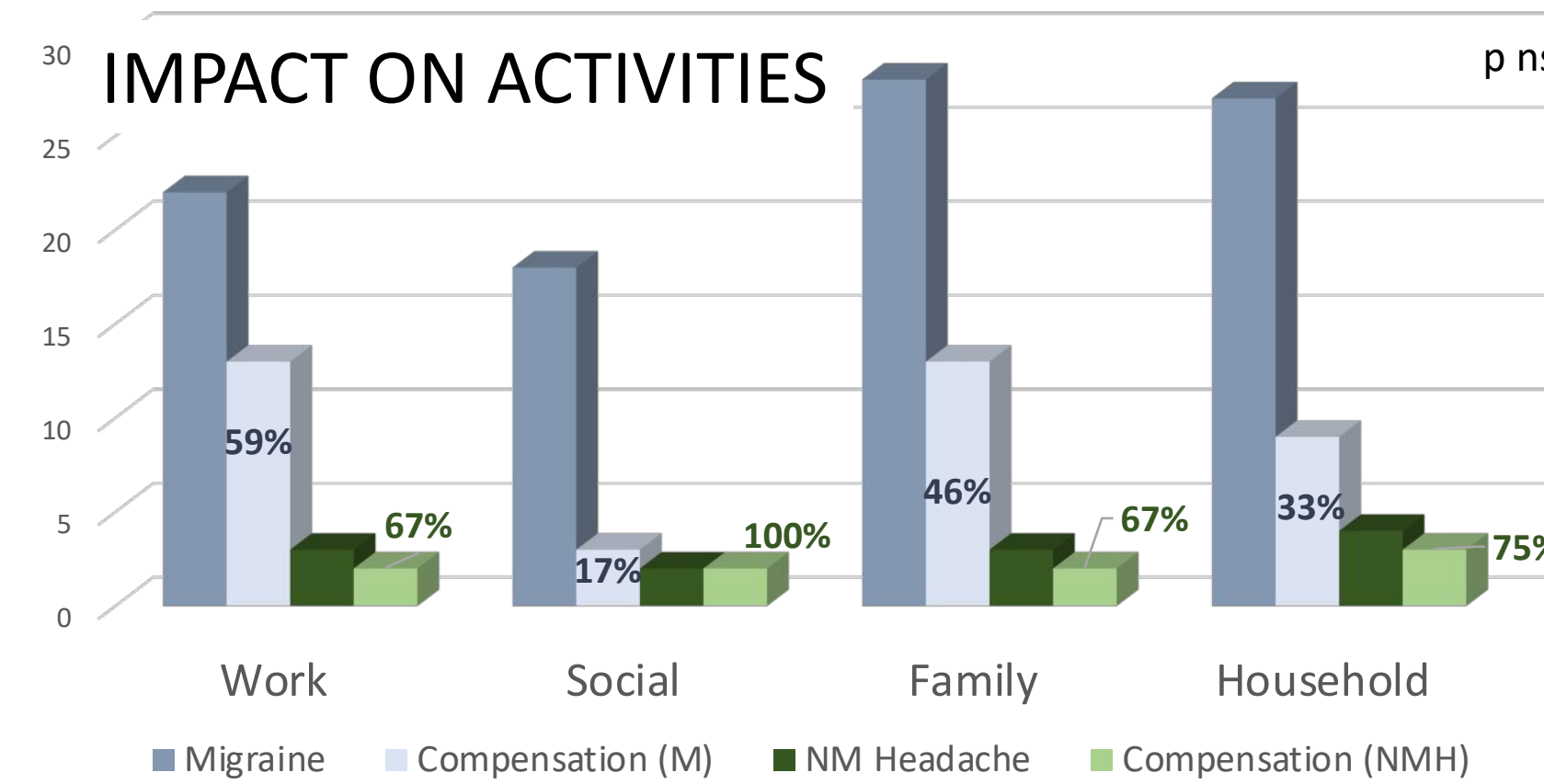
TOTAL SAMPLE	MIGRAINE	NON-MIGRAINE HEADACHE	
N	195	110	
♀ : ♂	169 (86.7%): 26	75 (68.2%): 35	$\chi^2 15.019, p<0.0001$
Age Average	36.7 ± 8.3	37.6 ± 11.2	T 0.747, p 0.456
Headache last 30 days Y: N	183 (94.3%):11	80(74%): 28	$\chi^2 25.311, p<0.0001$
Days with HA in last month	4.9 ± 5.2	2.3 ± 4.0	T -4.080, p<0.0001
Rescue med days last month	3.7 ± 4.6	0.9 ± 1.6	T -7.655, p<0.0001
Duration of attacks			
< 2h	24	42	
2 to 6h (half-day)	74 (38.3%)	53 (50.5%)	$\chi^2 57.647, p<0.0001$
6 to 12h (all day)	44	8	
12 to over 24h	51	2	
Attack intensity (VAS)	6.2 ± 2.0	4.1 ± 2.3	T -8.379, p<0.0001
HIT6- SCORE	59.7 ± 6.3	48.6 ± 7.1	T -13.411, p<0.0001

2. HEADACHE YESTERDAY. N= 65, 20.2%

	MIGRAINE	NON-MIGRAINE HEADACHE	
Headache Yesterday Y: N	56 (86%): 134	9 (14%): 97	$\chi^2 17.481, p<0.0001$
♀ : ♂	48: 8	5:4	$\chi^2 4.685, p 0.030$
Age Average	35.9 ± 8.1	34.0 ± 13.3	T 2.580, p 0.550
Days with HA in last month	9.4 ± 6.9	5.8 ± 7.4	T 0.598, p 0.157
Rescue treatment use Y:N	35 : 17	2 : 7	$\chi^2 6.535, p 0.011$
Duration LESS : MORE ½ day	21:35	8:1	$\chi^2 8.287, p 0.004$
Attack intensity (VAS)	5.8 ± 1.8	4.8 ± 1.8	T -1.582, p 0.119
HIT6- SCORE	62.3 ± 5.3	52.7 ± 7.2	T 1.814, p<0.0001

3. HEADACHE IN A WORKDAY N= 48, 14.9%

	MIGRAINE	NON-MIGRAINE HEADACHE	
Was Yesterday a Workday? Y:N	41:11	7:2	$\chi^2 0.005, p 0.942$
Absenteeism ? Yes (2h) : No	0:41	1 : 6	T 5.982, p 0.014
Reduced activities? Yes: No	38(69.1%):17	4(40%):6	$\chi^2 3.132, p 0.077$
Planned activities			
Completed 0 to 49%	16	2	$\chi^2 0.349, p 0.555$
Completed 50 to 100%	39	8	
How many can you compensate? (0 to 4)	1.6 ± 0.8	1.7 ± 1.2	T 1.554, p 0.219



4. COST OF HEADACHE N= 48, 14.9%

ITEMS	COST ESTIMATION
Point Absenteism	2h (20€/ wday) = 20€
Lost Productivity	27.7% (22.16 €/ wday) = 1.064 € (Mig 89%, 945 €)
Direct Healthcare Cost	58 OV + 22 EV + 28 BS = 16.216 € (51,50 €/ year/ employee with HA)

	TOTAL WAGE LOSS COST	TOTAL YEARLY COST
Sample	1.084€ / wday 260.083€ / wyear	262.500€ (815 € / HA employee/ year)
Luz Saúde*	3.996€ / wday 941.430€/ wyear	950.344€
PORTUGAL**	2.019.705€/ wday 475.820.477€ / wyear	480.998.891€

*Assuming 9.9% HA prevalence in total sample (N= 1188); 14.9% incidence of HY (N=177 HY); ** Assuming Total workforce 5.219.4000, hourly wage of 8,70€

DISCUSSION

- ECONOMIC IMPACT of HEADACHE in the Portuguese workforce = 815€ per headache suffering employee per year
 - LOW ABSENTEISM - 2h/ sample ~ 1,25 min per person with Headache Yesterday
 - LOW IMPACT of DIRECT COSTS – 51,50 € per person with Headache
- HIGHER impact on social activities(28%) and relations with friends or family(28%)