



Materials, Methods and Data Analysis of Diabetes Registers

The Diabetes Register of Bucharest, Romania

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Special BIRO Academy Meeting

“Coordinated Information Delivery from Diabetes Registers
to improve quality and outcomes in Europe”

Rome 4-5th June 2010

Romania, Bucharest Reference Population



BIRO Source
(Ambulatory Centre,
Paulescu Institute,
Eye Diabetes
Centre, Bucharest)

Source
GPs, Countyes
Centres,
Cantacuzino
Hospital - GDM

Country: Romania
Region: Bucharest
Total Population: 1.944.367
Diabetes Prevalence: 2.6%
Type of Data Sources: clinical
data

N.Participating Centres: 41

Clinical Data

Romania, Bucharest Reference Population



AIM:

- The aim of this study was to identify the risk factors of hypertension in newly diagnosed diabetes using the “Best Information through Regional Outcomes (BIRO)” a novel and easy to use software package tool for epidemiological studies and clinical trials.



Romania, Bucharest Reference Population



Methods:

- We used baseline data 2842 newly diagnosed diabetes patients in 2007, $n=1,427$ (50.21%) women, and $n=1,415$ (49.79%) men. The numbers of records, their male/female split by age bands is given as Table 1. The numbers of records and numbers of patients with an identified diabetes type and age band is given as Table 2 created through BIRO package. Patients were from Ambulatory Centre of Diabetes, Inst. "N. Paulescu", located in Bucharest, Romania. Systolic blood pressure (SBP) and Diastolic blood pressure (DBP) were items (variables) used on this study.



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Reference Diabetes Data



Table 1.

Age Classes	Female	Male	
0 - 34	71 (4.98 %)	109 (7.70 %)	180 (6.33 %)
35 - 54	422 (29.57 %)	573 (40.49 %)	995 (35.01 %)
55 - 74	786 (55.08 %)	622 (43.96 %)	1408 (49.54 %)
75 +	148 (10.37 %)	111 (7.84 %)	259 (9.11 %)
	1427 (50.21 %)	1415 (49.79 %)	2842 (100 %)



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Reference Diabetes Data



Table 2

Type of Diabetes	0 - 34	35 - 54	55 - 74	75 +	
Type 1	124 (70.86 %)	70 (7.06 %)	10 (0.71 %)	1 (0.39 %)	205 (7.24 %)
Type 2	51 (29.14 %)	921 (92.94 %)	1398 (99.29 %)	258 (99.61 %)	2628 (92.76 %)
	175 (6.18 %)	991 (34.98 %)	1408 (49.7 %)	259 (9.14 %)	2833 (100 %)

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Reference Diabetes Data



The proportion of Type 1 patients with a SBP record in the data file

Type 1									
SBP	0 - 34		35 - 54		55 - 74		75 +		
	Female	Male	Female	Male	Female	Male	Female	Male	
	0 - 129	47 (92.16%)	54 (81.82%)	17 (60.71%)	31 (77.50%)	0 (0.00%)	1 (25.00%)	1 (100.00%)	
130 - 159	3 (5.88 %)	12 (18.18%)	9 (32.14%)	5 (12.50%)	2 (66.67%)	3 (75.00%)	0 (0.00 %)	0 (0.00%)	34 (17.62%)
160 +	1 (1.96 %)	0 (0.00 %)	2 (7.14 %)	4 (10.00%)	1 (33.33%)	0 (0.00%)	0 (0.00 %)	0 (0.00%)	8 (4.15 %)
	51 (26.42%)	66 (34.2%)	28 (14.51%)	40 (20.73%)	3 (1.55%)	4 (2.07%)	1 (0.52 %)	0 (0 %)	193 (100%)

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Reference Diabetes Data



The proportion of Type 2 patients with a SBP record in the data file

Type 2									
SBP	0 - 34		35 - 54		55 - 74		75 +		
	Female	Male	Female	Male	Female	Male	Female	Male	
0 - 129	10 (76.92%)	13 (39.39%)	113 (33.43%)	149 (32.75%)	155 (22.69%)	145 (26.51%)	40 (30.08%)	20 (21.28%)	645 (28.09%)
130 - 159	2 (15.38%)	18 (54.55%)	182 (53.85%)	238 (52.31%)	354 (51.83%)	299 (54.66%)	58 (43.61%)	49 (52.13%)	1200 (52.26%)
160 +	1 (7.69%)	2 (6.06%)	43 (12.72%)	68 (14.95%)	174 (25.48%)	103 (18.83%)	35 (26.32%)	25 (26.60%)	451 (19.64%)
	13 (0.57%)	33 (1.44%)	338 (14.72%)	455 (19.82%)	683 (29.75%)	547 (23.82%)	133 (5.79%)	94 (4.09%)	2296 (100%)

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Reference Diabetes Data



Test Table: produced with SPSS version 18.

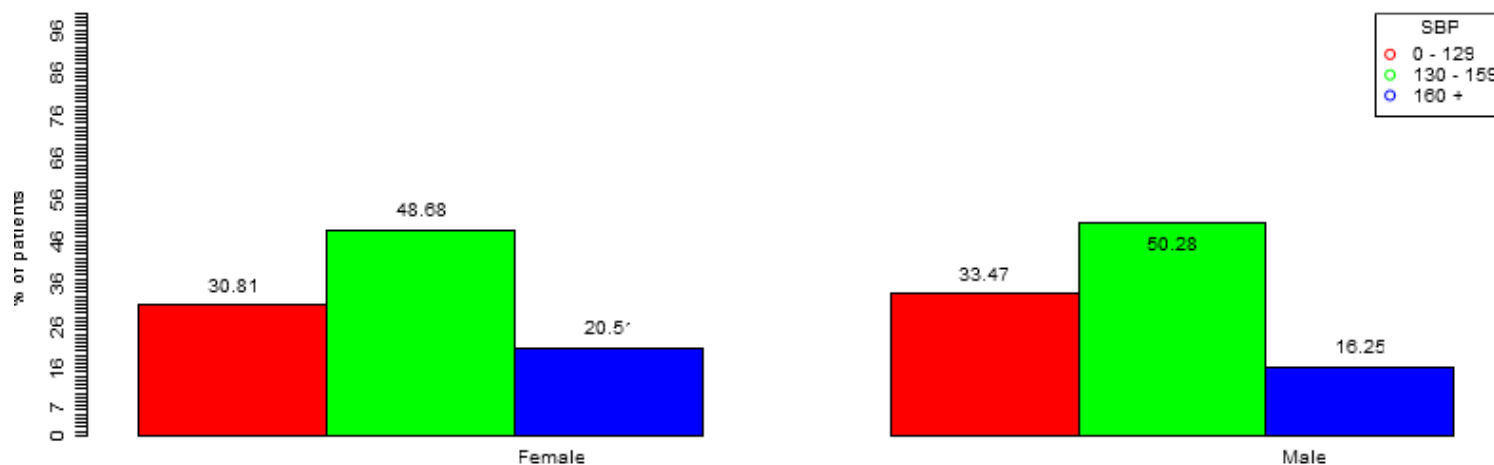
		Type 2			
SBP 130-159		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	F. 0-34 yrs	2	.1	.2	.2
	M. 0-34 yrs	18	.6	1.5	1.7
	F. 35-54 yrs	182	6.4	15.2	16.8
	M. 35-54 yrs	238	8.4	19.8	36.7
	F. 55-74 yrs	354	12.5	29.5	66.2
	M. 55-74 yrs	299	10.5	24.9	91.1
	F. 75+ yrs	58	2.0	4.8	95.9
	M. 75+ yrs	49	1.7	4.1	100.0
	Total	1200	42.2	100.0	
Missing	System	1642	57.8		
Total		2842	100.0		

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Reference Diabetes Data



Barplot: SBP (by Gender) percent of patients

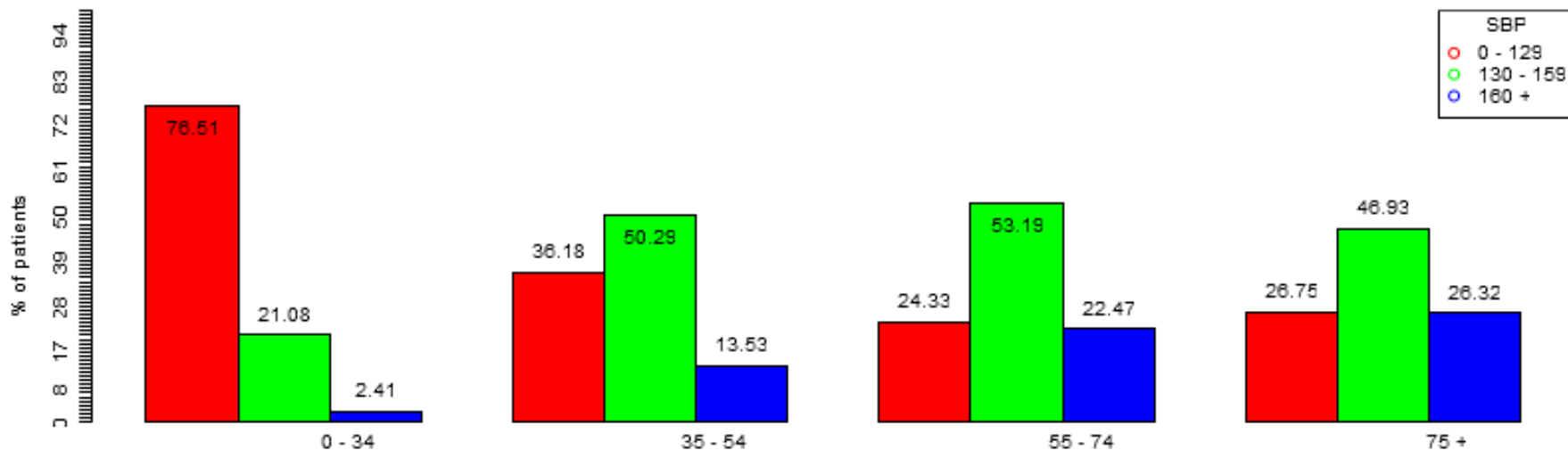


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Reference Diabetes Data



Barplot: SBP (by Age Classes)



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Conclusions (1):

- SBP in huge majority of the type 2 newly diagnosed is elevated.
- Hypertension is highly prevalent in the very elderly.
- Health information systems in diabetes tend to be fragmented, inaccurate, cumbersome, untimely, and isolated.
- BIRO presents a novel and easy to use technology to this problem.
- The BIRO project not only created an infrastructure to make data from national or regional registers available for international comparison of health indicators, it also provided valuable tools and information to set up these registers.



Romania, Bucharest Reference Population



Conclusions (2):

- Frequency figures coincide perfect for both BIRO and SPSS
- BIRO technology is helpful tool for creating camera ready papers or for preparation of the peer review papers.



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Thanks for the attention!



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