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Risk Factors and Disease Prevalence in 3331 Personal Check-up's Performed in Preventive Medicine Between 2006 and 2011. Cross-sectional and Follow-up Study.

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Introduction

- retrospective analysis of 3331 check-up's between 09/2006-06/2011
- made in the preventive medicine department of the "ZithaKlinik", named "ZithaGesondheetsZentrum".
- Check-up's for employee's of several firm's and institutions.
- according to gender and age, several tests and examinations are performed. The results are given to the person, his general practitioner and/or another doctor of his choice.
- Cross sectional study and a follow-up study of persons having performed 2 check-up's or more over a 5-year period.

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Method and Population

- In the cross-sectional part, the analysis is done on 3331 individual check-ups (1447 woman, 1884 men). The average age is 50.3 years +/- 11.4.
- In the follow-up study, 478 persons (191 women, 287 men) had at least 2 (maximum 5) check-ups in the 5-year period of our observation.
- Initial age was 54.1 +/- 10.9 years for woman and 51.4 +/- 11.4 for men.
- Comparison to data published from ORISCAV in *Semper*.

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Cross-sectional study	**F**	**H**
Nombre de personnes	**1447**	**1884**
Âge moyen	50,4 +/- 11,9	50,3 +/- 11,0
Poids moyen	67,1 +/- 12,9	84,3 +/- 13,0
Taille moyenne	1,644 +/- 0,07	1,780 +/- 0,07
BMI moyen	25,1 +/- 4,9	26,8 +/- 3,8
Tour de taille moyen cm	84,4 +/- 11,7	97,0 +/- 10,5
> 80cm > 94cm %	**58,4%**	**60,4%**
Body fat % moyen	33,4 +/- 7,3	25,8 +/- 5,8
> norme %	**62,9%**	**56,4%**
BMI>25	29,2%	49,7%
BMI>30	14,5%	17,1%
Total	**43,7%**	**66,8%**

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Cross-sect study Prevalence	F	H
Nombre de personnes	**1447**	**1884**
HTA%	25,1	43,0
Diabète%	3,9	9,6
Tabagisme%	**16,0**	**15,2**
Dyslipidémie%	28,1	42,3
Hyperuricémie%	1,5	12,7
LP(a) > 0,3 g/L %	*34,7*	*29,2*
Homocystéinémie>10,6µmol/L	*12,4*	*31,7*
Manque d'activité physique %	**50,3**	**48,5**
Prob. Cardio %	7,2	10,2
Prob. Gyneco %	21,1	0
Prob. Alcool %	**3,6**	**4,9**
Prob. Gastro-entéro %	21,4	29,6
Stress %	7,5	5,0
Prob. Dos %	5,3	3,9
Migraines %	2,2	0,9
Cutané %	10,7	14,6
Endocrino %	18,4	5,1
Prob. Urologique %	3,0	15,2
Prévalence moyenne	**3,15 +/- 2,1**	**3,65 +/- 2,2**
Incidence moyenne	**1,52 +/- 1,1**	**1,78 +/- 1,3**

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Cross-sectional study	**F**	**H**
Nombre de personnes	**1447**	**1884**
Cholestérol total mg/dl	216,1 +/- 38,5	213,7 +/- 40,8
HDL mg/dl	69,1 +/- 16,3	53,0 +/- 14,5
LDL mg/dl	124,9 +/- 35,8	131,7 +/- 36,2
TG mg/dl	111,8 +/- 97,8	146,9 +/- 94,3
HbA1c %	6,75 +/- 1,7	6,70 +/- 0,9
Lp(a) g/L	0,36 +/- 0,38	0,32 +/- 0,35
Homocystéinémie µmol/L	7,75 +/- 2,6	9,90 +/- 3,9
25OH Vit D (D2+D3) ng/ml	*26,2 +/- 11,1*	*22,9 +/- 7,4*

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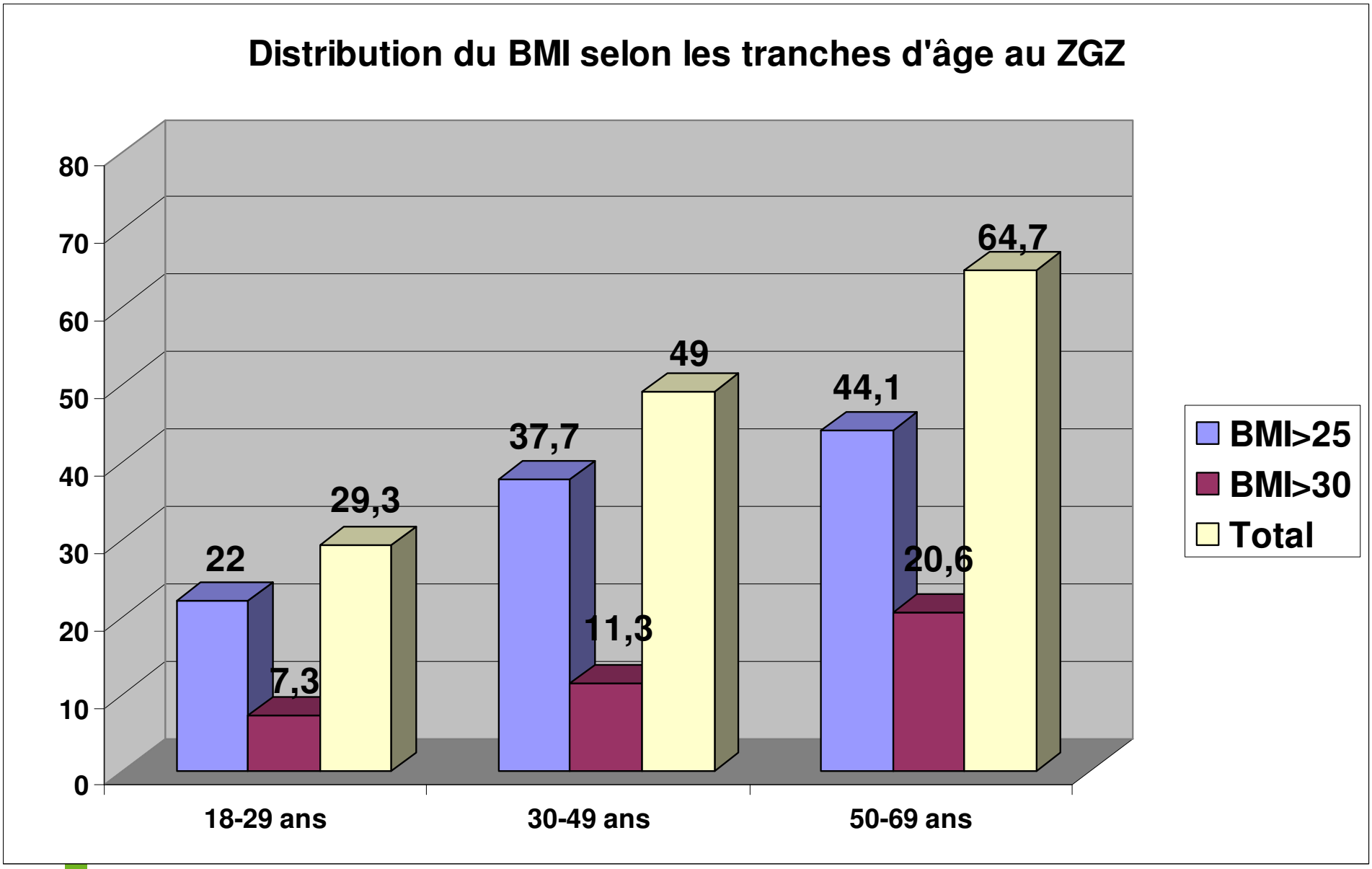

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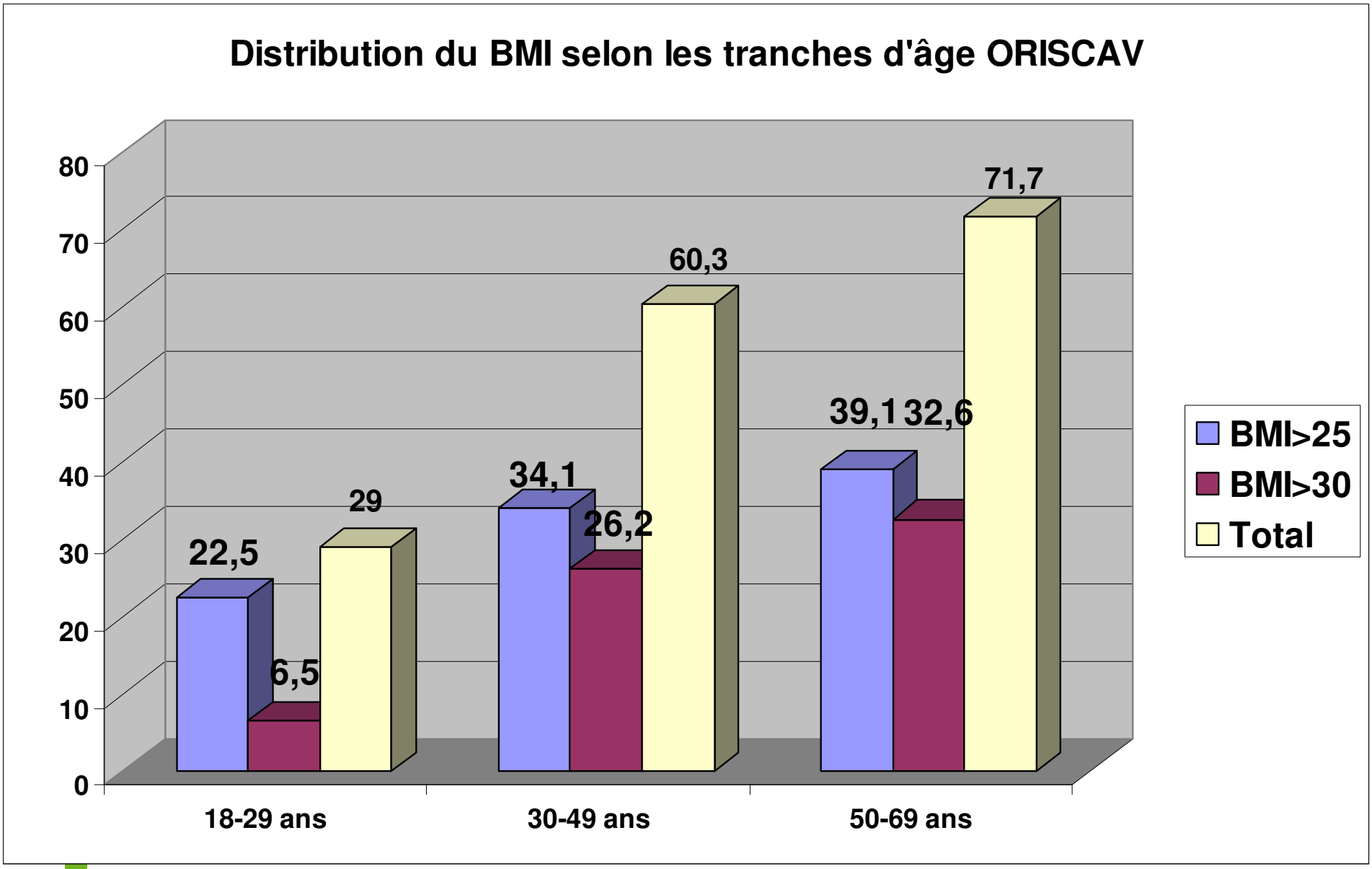

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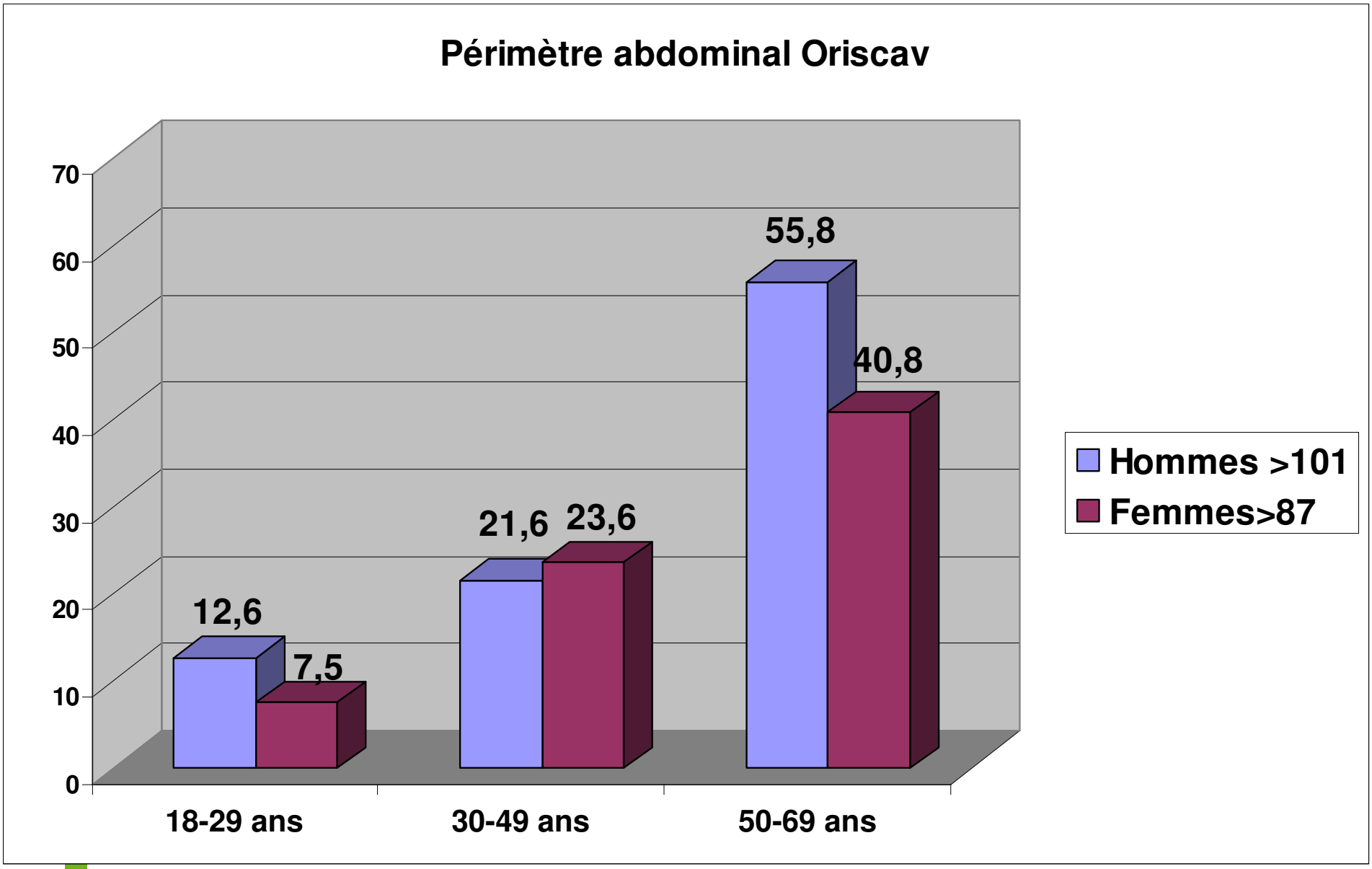

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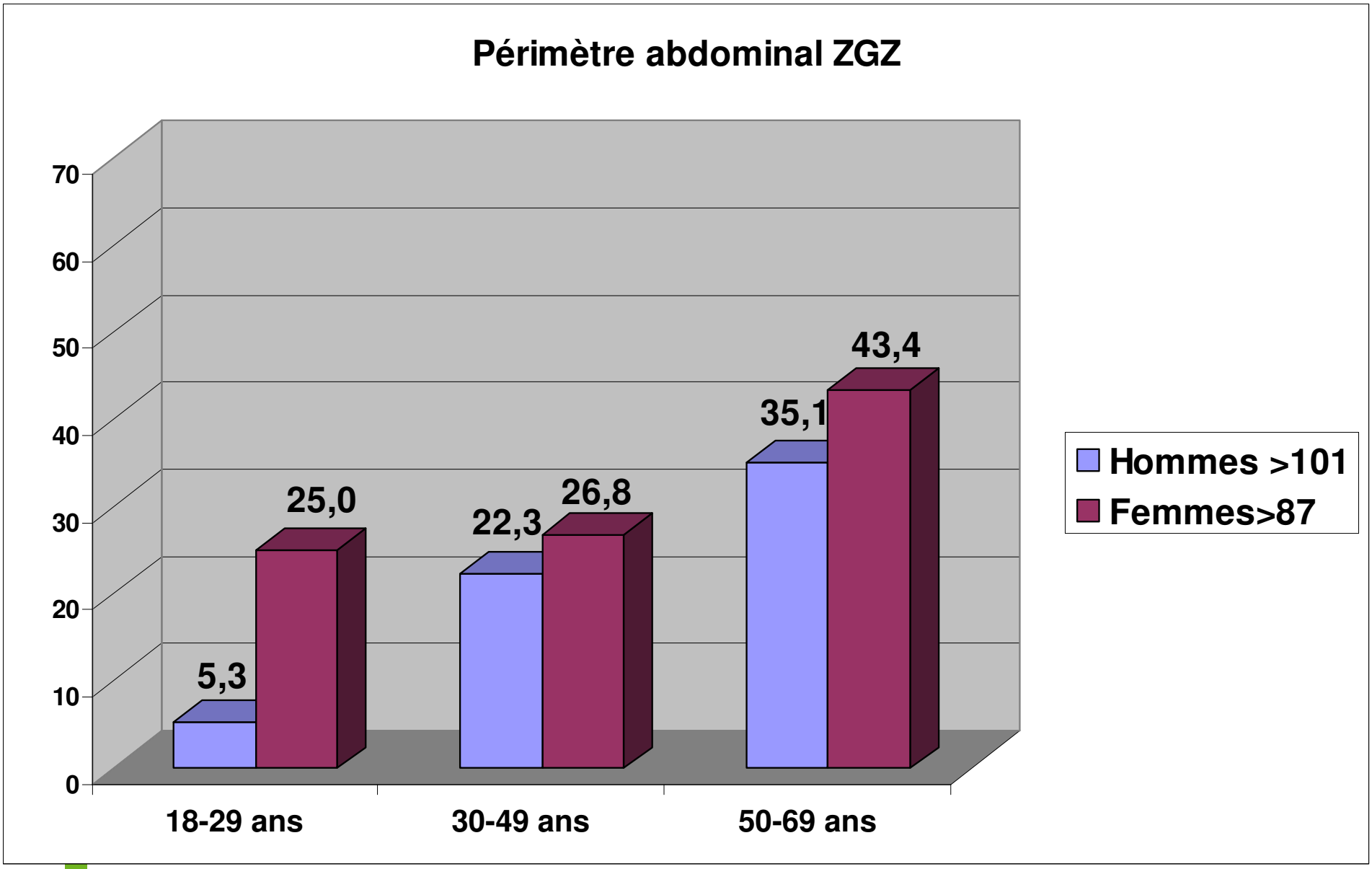

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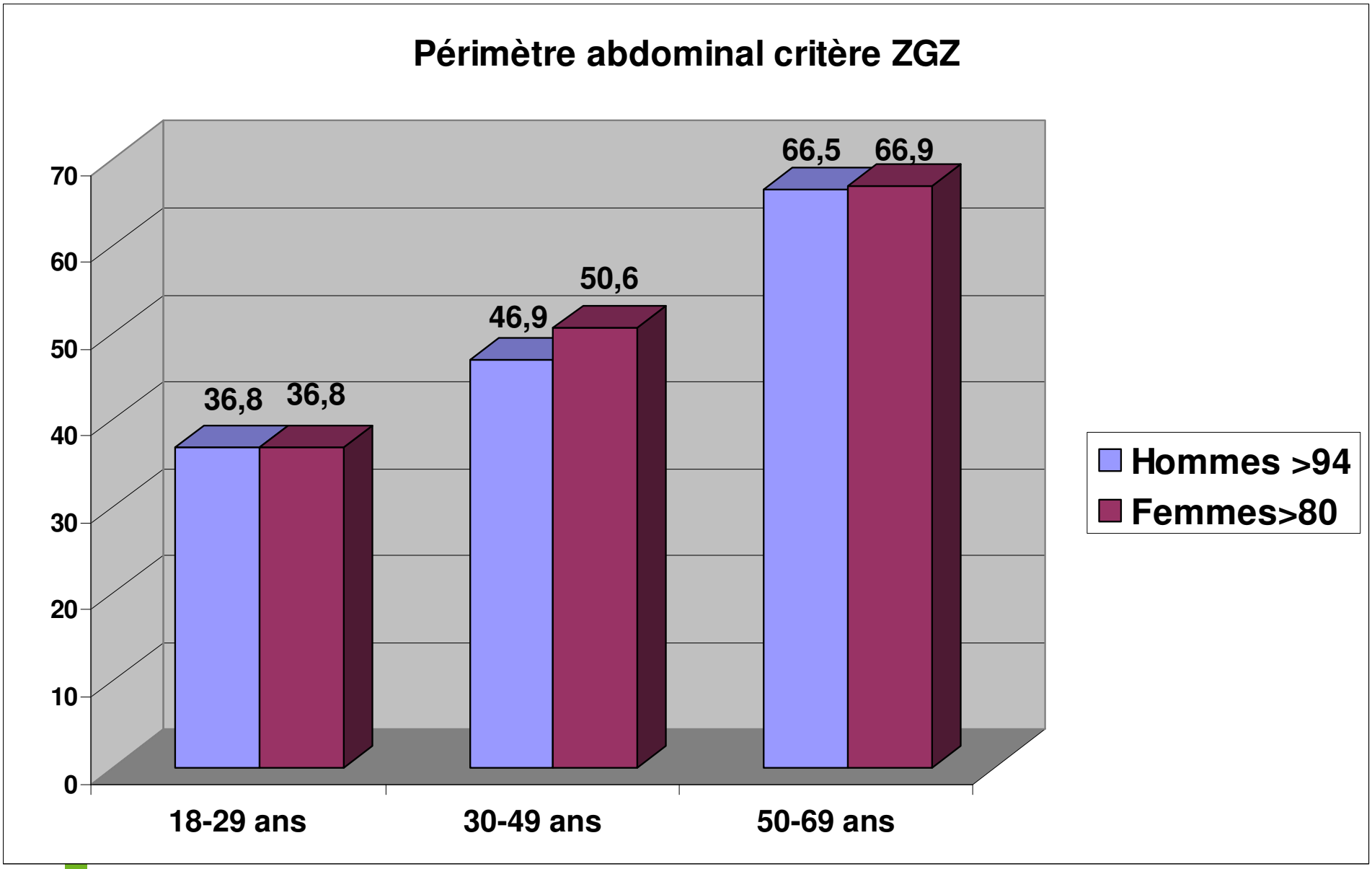

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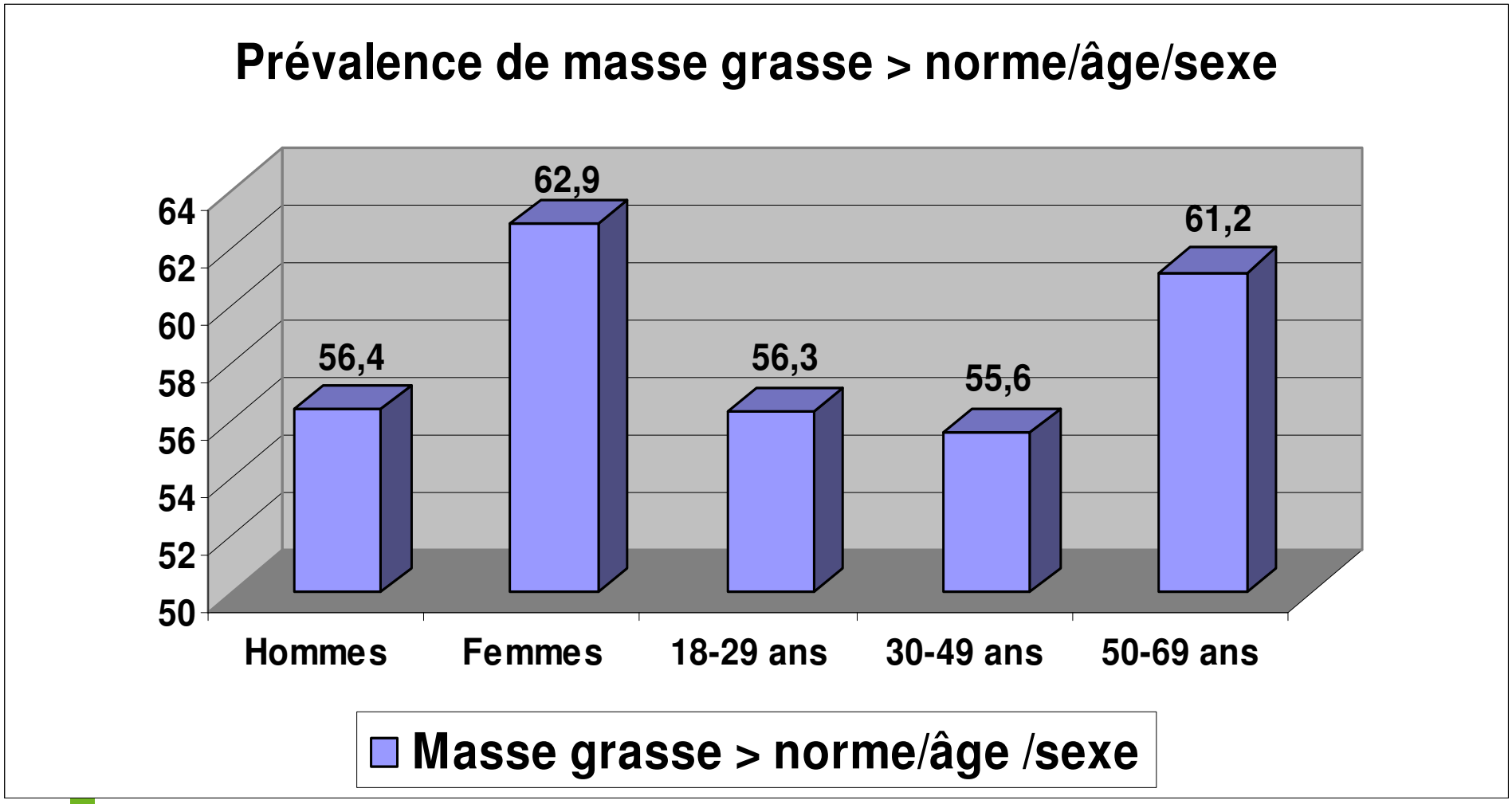

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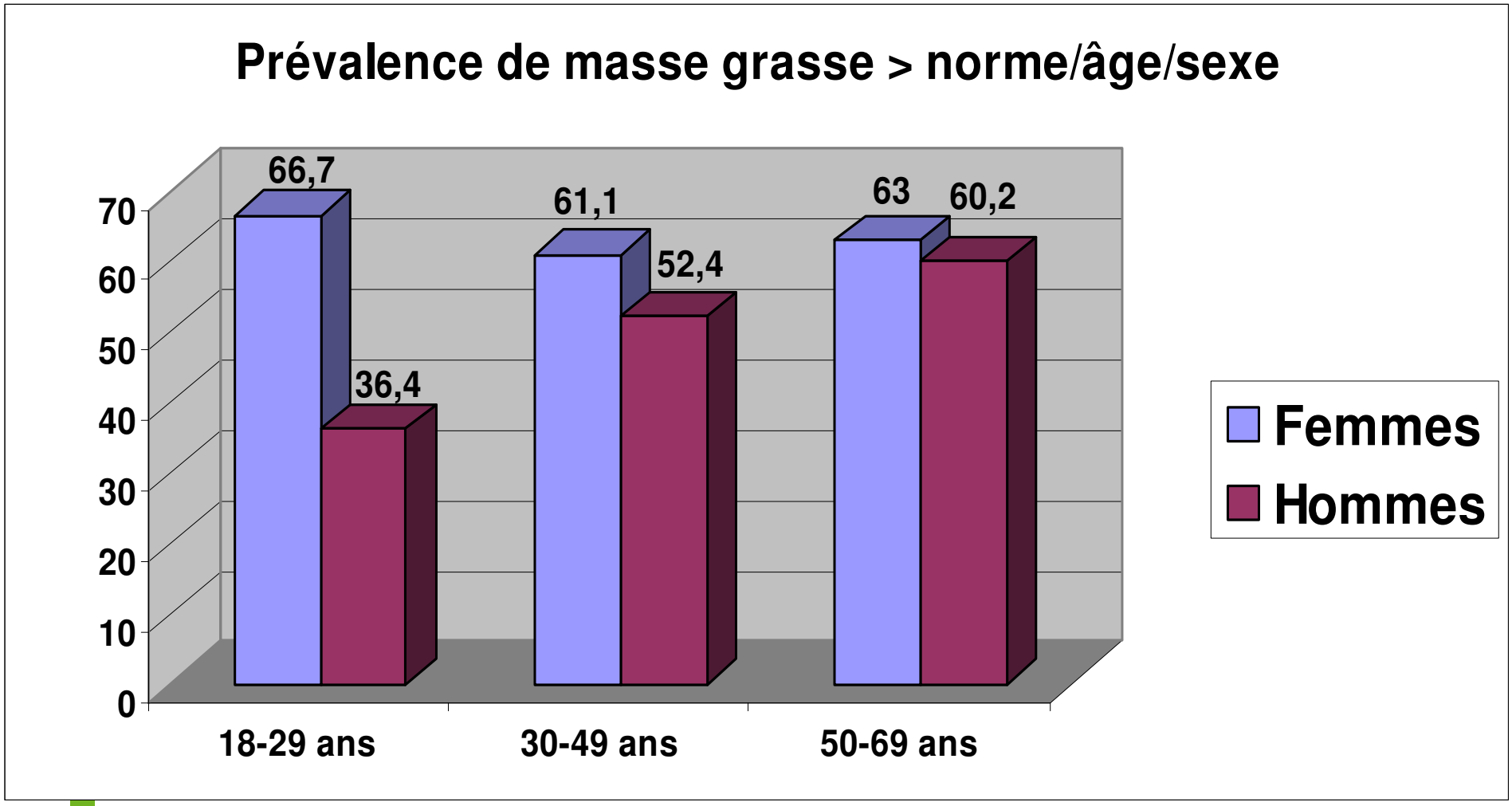

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Intermediate conclusions

- Best marker for metabolic disease/cardiovascular prevention:
  - BMI?
  - Waist/abdominal perimeter ?
  - Body Fat Content (impedancemetry) ?

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Cross-sect study Prevalenc	**<30**	**30-50**	**>50**
nombre de personnes	**116**	**1407**	**1606**
HTA%	12,5	17,3	43,8
Diabète%	**0,9**	**2,7**	**10,1**
Tabagisme%	14,9	16,2	16,0
Dyslipidémie%	**5,2**	**18,7**	**44,0**
Hyperuricémie%	4,3	5,6	10,3
LP(a) > 0,3 g/L %		*33,3*	*28,3*
Homocystéinémie>10,6mmol/	*15,8*	*27,7*	*26,1*
Manque d'activité physique %	**35,5**	**45,5**	**51,6**
Prob. Cardio %	1,7	4,9	10,9
Prob. Gyneco %	3,4	8,9	9,4
Prob. Alcool %	1,0	3,1	5,8
Prob. Gastro-entéro %	4,3	22,4	30,5
Stress %	6,0	6,5	6,2
Prob. Dos %	2,6	4,2	4,9
Migraines %	1,7	1,6	1,4
Cutané %	11,0	15,2	11,8
Endocrino %	9,8	8,8	12,1
Prob. Urologique %	1,0	5,0	12,3
Prévalence moyenne	**1,56 +/- 1,3**	**2,73 +/- 1,9**	**4,0 +/- 2,2**
Incidence moyenne	**0,94 +/- 0,9**	**1,54 +/- 1,1**	**1,9 +/- 1,3**

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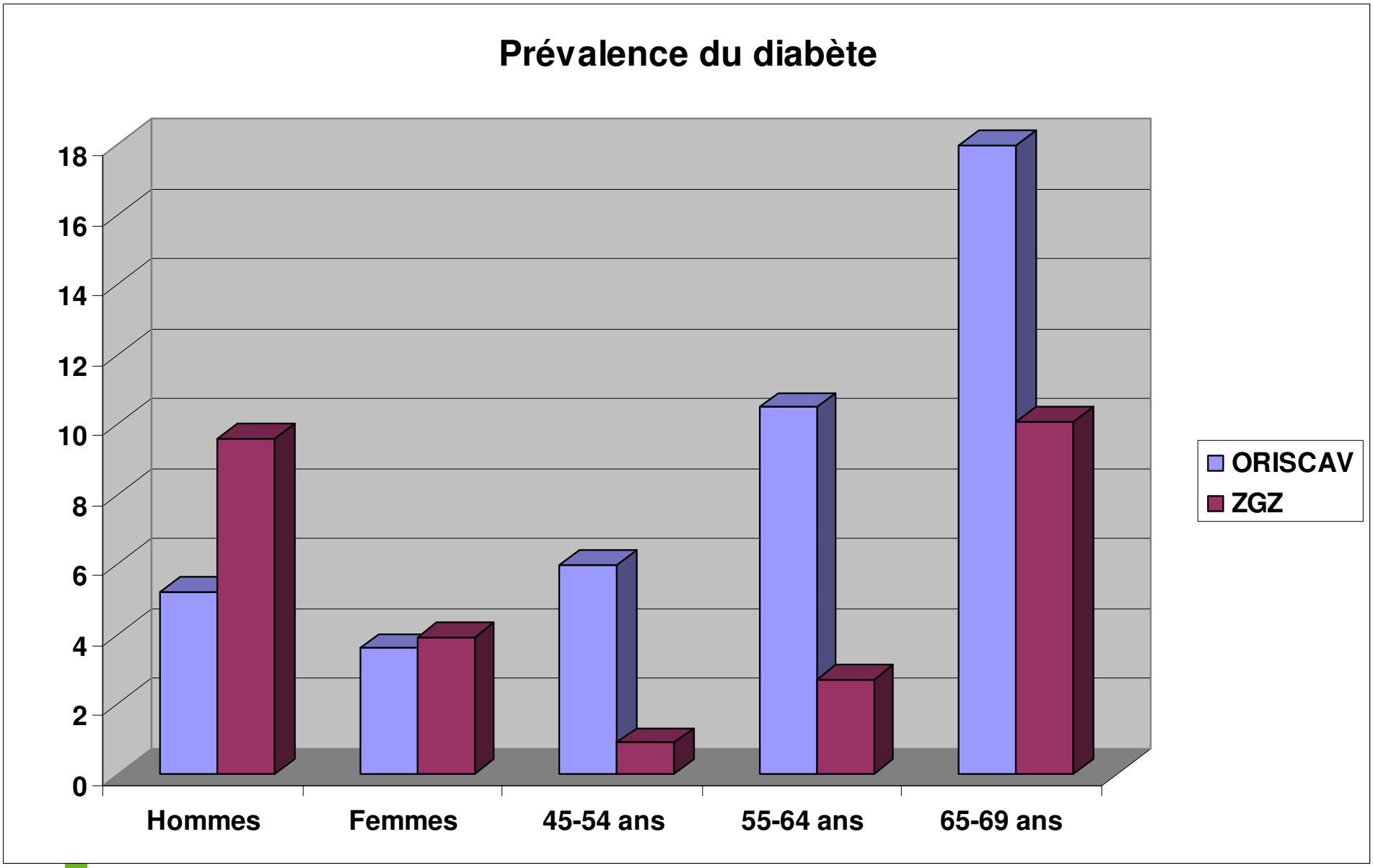

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Follow-up Study

Suivi longitudinal	Initial	Final	Initial	Final
	F	F	H	H
Nombre de personnes	**191**	**191**	**287**	**287**
Âge moyen	54,1 +/- 10,9	56,4 +/-10,9	51,4 +/- 11,4	53,7 +/- 11,2
Poids moyen	66,1 +/- 12,9	67,1 +/-13,4	**84,0 +/- 12,6**	**83,9 +/- 12,5**
Taille moyenne	**1,641 +/- 0,067**	**1,635 +/- 0,067**	**1,785 +/- 0,076**	**1,777 +/- 0,077**
BMI moyen	24,3 +/- 5,3	25,5 +/- 5,2	26,5 +/- 3,8	27,0 +/- 3,9
Tour de taille moyen cm	*88,3 +/- 11,3*	83,7 +/- 11,0	*97,4 +/- 10,0*	96,9 +/- 10,6
> 80cm > 94cm %	*73,0%*	55,9%	*66,7%*	59,5%
Body fat % moyen	*33,4 +/- 6,1*	32,5 +/- 7,5	*25,8 +/- 6,8*	25,6 +/- 5,6
> norme %	*52,3%*	53,8%	*48,7%*	51,4%
BMI>25	32,8%	30,3%	50,6%	50,7%
BMI>30	10,9%	13,9%	14,7%	17,6%
Total	**43,7%**	**44,2%**	**65,3%**	**68,3%**

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Suivi longitudinal	**Initial**	**Final**	**Initial**	**Final**
	F	**F**	**H**	**H**
Nombre de personnes	**191**	**191**	**287**	**287**
HTA%	17,3	24,5	28,7	38,6
Diabète%	4,7	5,3	9,8	9,8
Tabagisme%	**13,0**	**11,6**	**13,6**	**12,2**
Dyslipidémie%	24,6	30,4	32,2	28,5
Hyperuricémie%	1,0	1,1	6,3	10,8
Manque d'activité physique %	**41,5**	**57,7**	**37,5**	**57,6**
Prob. Cardio %	5,8	6,8	9,1	12,9
Prob. Gyneco %	20,9	26,3		
Prob. Alcool %	2,2	4,2	2,6	4,5
Prob. Gastro-entéro %	19,4	18,9	23,8	26,1
Stress %	4,2	6,8	3,1	5,9
Prob. Dos %	6,3	3,2	2,8	3,8
Migraines %	3,1	1,6	0,7	1,0
Cutané %		7,6		16,2
Endocrino %		18,5		4,5
Prob. Urologique %		4,2		21,0
Prévalence moyenne		3,21 +/- 2,0		3,83 +/- 2,1
Incidence moyenne		1,35 +/- 1,0		1,45 +/- 1,0

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Conclusions for the cross-sectional study

- Asymptomatic diseases/risk factors for non-communicable diseases are extremely frequent in the population examined.
- Most persons are not sufficiently conscious of their problems to act up and change their life-style or seek adapted pharmacological prevention.
- Absolute number of risk factors/pathologies (prevalence) rise with age but incidence rises less (newly discovered pathologies after a first, second or a record of 21 check-up's)

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Conclusions for the follow-up study

- The follow-up analysis shows that risk factors and pathologies are not reduced but get more frequent.
- Life-style changes are rare or insufficient to change the pathological value back to normal or therapeutically range.

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General Conclusions

- Changes in lifestyle are difficult to obtain in an at risk population
- Prevention might be easier than cure/correction of the problem
- Earlier information about risk, meaning lower cut-offs and levels for risk factors might give earlier alert to individuals, giving them the chance to cope before pathologies arise!

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General Conclusions

- Even if BMI is lower in woman, abdominal obesity and fat-mass are higher than in man
- Better tools for addictions screening is needed
- The better than national records results in tobacco use is probably due to a selection of more health-oriented individuals and of a higher socio-educative-economic level.
- Even with several biases (retrospective design, selection bias, …) our study puts similar problems forward in the population as ORISCAV.

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General Conclusions

- A better health promotion advocating healthier living must be associated with better communication and new motivational tools.
- Prevention and therapeutical education for patients with chronic non-communicable diseases will be the challenge of the near future as their prevalence's increase due to ageing of the population and worse individual lifestyles.
- In this task, efforts must be made on the personal level (health-team with the individual patient) but also on the national level (for example: national health promotion, legal frame work for patient education by multi-professional teams as they exist already in neighbor states).

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Merci, am Numm vun der ganzer Equipe vum ZithaGesondheetsZentrum

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Body fat according to age and gender

Age	Hommes	Femmes
20-29 ans	11,8-19,9%	18,5-25,2%
30-39 ans	15,3-22,1%	20,3-27,0%
40-49 ans	18,0-24,0%	23,4-30,1%
50-60 ans	19,8-25,6%	26,6-33,1%
> 60 ans	20,2-26,2%	27,4-34,0%