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Obesity in adults in Malta from 2002-2014

Introduction

Obesity is recognized as a great health risk and a public health challenge in most countries in the world today.¹ According to the World Health Organisation, worldwide, 39% of adults aged 18 years and older were overweight and 13% were obese in 2016.²

Within the European Union in adults aged 18 years and over, 35.7% were overweight and 15.9% were obese in 2014.^{3,4} Malta had the highest percentage of obesity amongst all EU countries in 2014 with 35.0% of adults being overweight and 26.0% of adults being obese.^{3,4}

The obesity rates reported above and in this report for Malta are self-reported and not based on examination. In another local study 'Sahhtek' which was based on measured weight rather than self-reported, it was found that in adults aged 18 to 70 years, 36% were found to be overweight and 34% were found to be obese.⁵

Apart from obesity being a risk factor for a number of diseases including cardiovascular diseases and cancer it is also a cause of impairment in its own right.¹

Methodology

Data for analysis was obtained from the European Health Interview Surveys carried out in Malta in 2014/15 and 2008 and the National Health Interview Survey carried out in 2002. These surveys were carried out on a nationally representative sample of adults aged 15 years and over.

Trends in prevalence of obesity by age group in males in Malta from 2002-2014

From 2002 to 2014 there was a small increase in the percentage of males who were obese (table 1) however this was not statistically significant.

	Percentage			
males	underweight	normal	overweight	obese
2002	1.5	32.9	40.5	25.1
2008	1.3	29.7	44.7	24.2
2014	1.4	33.4	38.2	27.1

Table 1: Trend in BMI from 2002 to 2014 in males

When comparing obesity rates in 2002 with 2014 in males by age group, a significant increase in obesity rate was observed only in males aged 65-74 years ($P=0.02$).

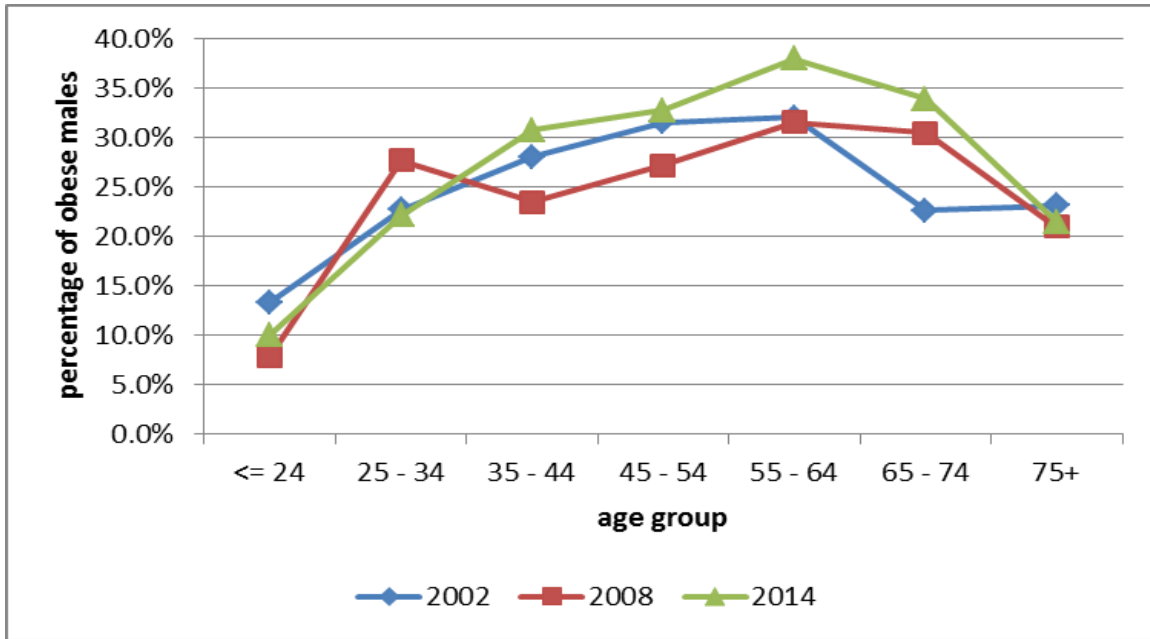


Figure 1: Trends in obesity from 2002-2014 by age group in males

Trends in prevalence of obesity by age group in females in Malta from 2002-2014

From 2002 to 2014 there was a small increase in the percentage of females who were obese (table 2). This increase was of borderline statistical significance ($p=0.07$).

females	Percentage			
	underweight	normal	overweight	obese
2002	4	45.8	29.2	21
2008	4.1	46.7	28.5	20.7
2014	3.3	42.7	30.6	23.4

Table 2: Trend in BMI from 2002 to 2014 in females

When comparing obesity rates in 2002 with 2014 in females by age group, a significant increase in obesity rate was observed only in females aged 25-34 years ($P=0.005$).

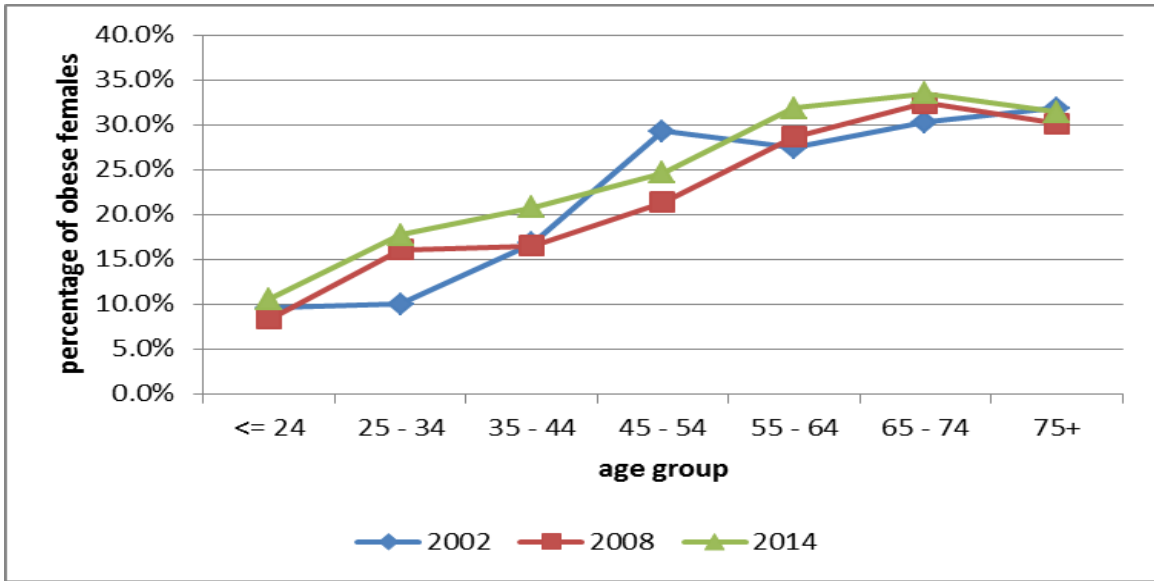


Figure 2: Trends in obesity from 2002-2014 by age group in females

Cohort effect from 2002 to 2014

When observing males of a particular age group in 2014 and what would have been the same cohort in 2002 (e.g. males aged 25-34 years in 2014 were 15-24 in 2002), all age groups except for the 75+ have seen an increase in the percentage of obese males. Though these do not refer to the same sample of males, they are from the same age cohort.

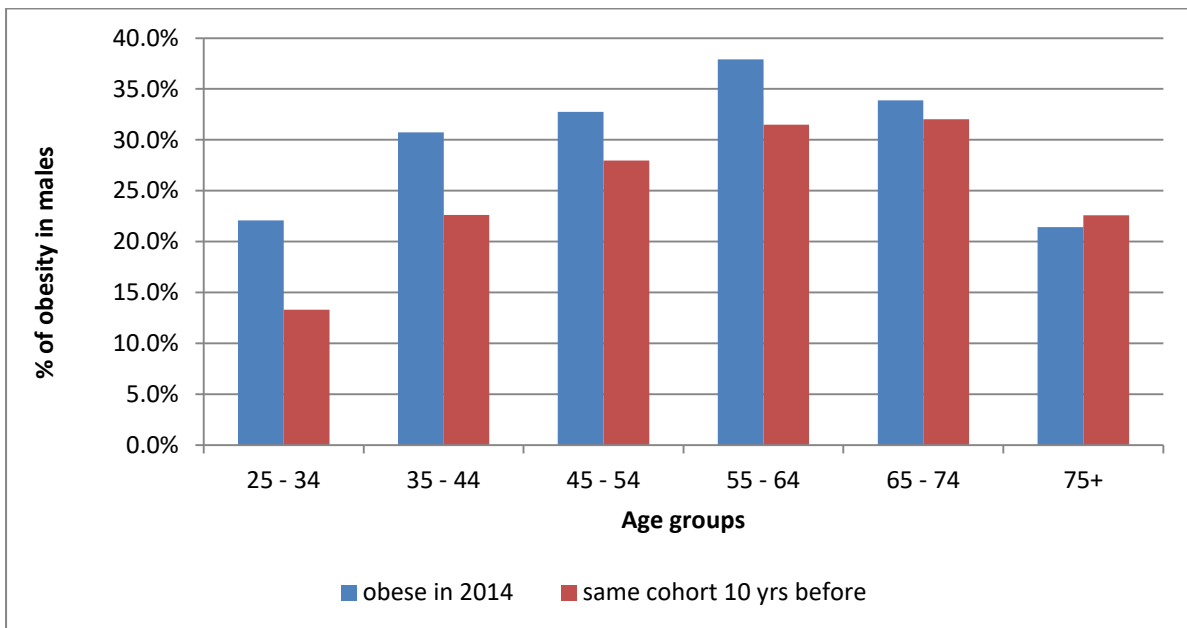


Figure 3: % of obese males in 2014 and same age cohort in 2002

Similarly in females when observing a particular age group in 2014 and what would have been the same cohort in 2002 (e.g. females aged 25-34 years in 2014 who were 15-24 in 2002), all age groups have seen an increase in the percentage of obese females. Though these do not refer to the same sample of females, they are from the same age cohort.

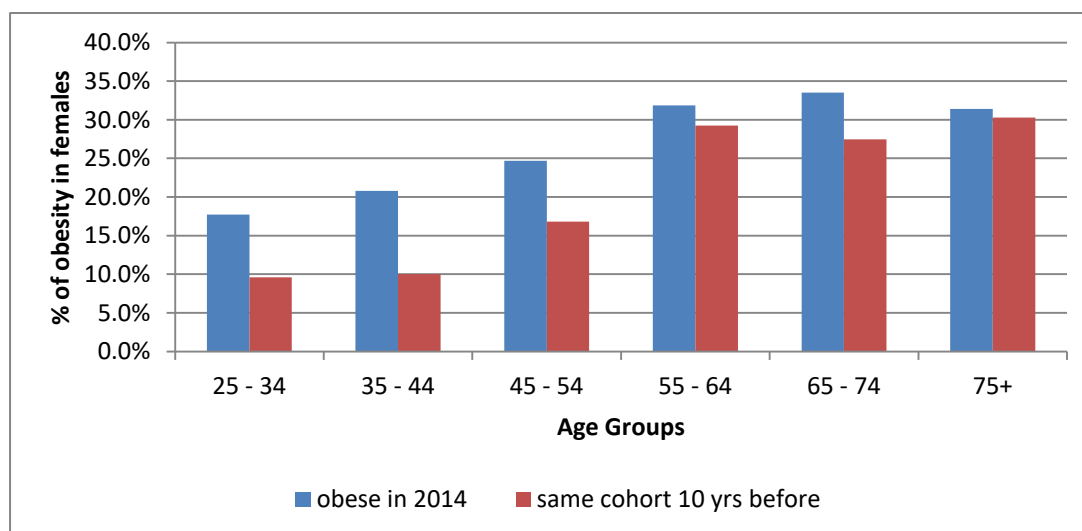


Figure 4: % of obese females in 2014 and same age cohort in 2002

Obesity in Malta compared to the EU average

When comparing Maltese males to the EU average in 2014, the prevalence of obesity is higher in all age groups in Maltese males compared to the EU average (Table 3, Figure 5) and conversely in most age groups the percentage of males with a normal weight is much lower in Maltese males compared to the EU average.

	Normal		Overweight		Obese	
	Malta	EU-28	Malta	EU-28	Malta	EU-28
males						
15-24	56.9	70.3	27.7	18.1	10	4.5
25-34	37.3	52.9	39.7	36	22	10
35-44	27.4	40.1	41	44	31.2	15.3
45-54	29	32.8	37.3	47.5	32.9	19.2
55-64	21	28.7	41.3	48.6	37.8	22.2
65-74	22.2	28.8	43.8	49.4	33.5	21.2
75+	37.2	36	38.2	47.4	23.1	15.6

Table 3: BMI by age group in Malta compared to EU-28 in males⁴

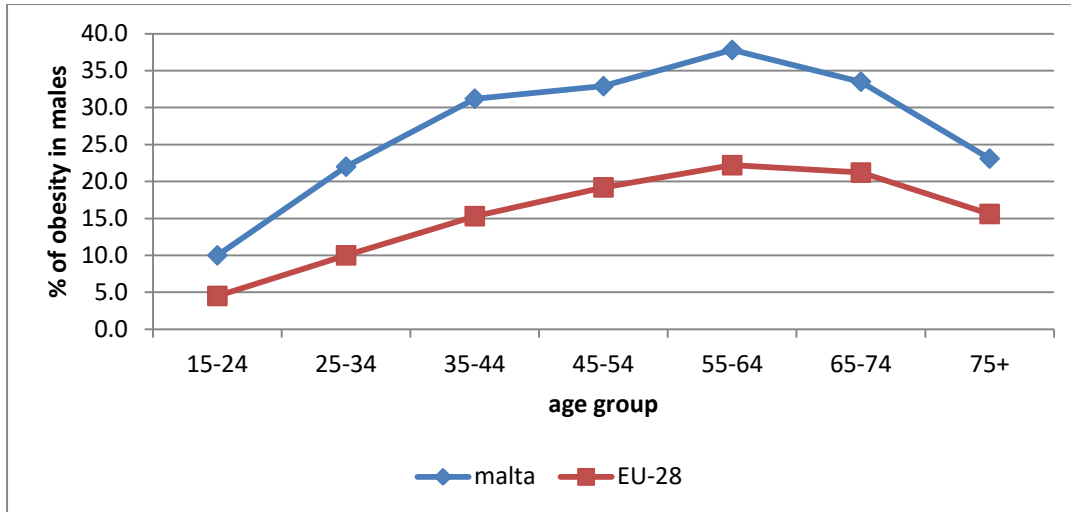


Figure 5: % of obese males in Malta and the EU average in 2014⁴

Similarly in females when comparing Maltese females to the EU average in 2014, the prevalence of obesity is higher in all age groups in Maltese females compared to the EU average, though the difference is narrower in females (Table 4, Figure 6) than in males. Conversely in all age groups the percentage of females with a normal weight is much lower in Maltese females compared to the EU average.

females	Normal		Overweight		Obese	
	Malta	EU-28	Malta	EU-28	Malta	EU-28
15-24	62.6	70.2	17.3	11.5	10.2	5.2
25-34	53.7	64.5	25.1	20.1	17.3	9.9
35-44	42.7	58.6	32.2	24.9	20.9	13.1
45-54	40	50.9	34.8	30.5	24	16.6
55-64	31.3	42.8	35.5	34.8	32.1	20.8
65-74	27.7	36.6	37.3	39.3	33.6	22.7
75+	31.8	41.4	37	37.5	31.2	18.4

Table 4: BMI by age group in Malta compared to EU-28 in females⁴

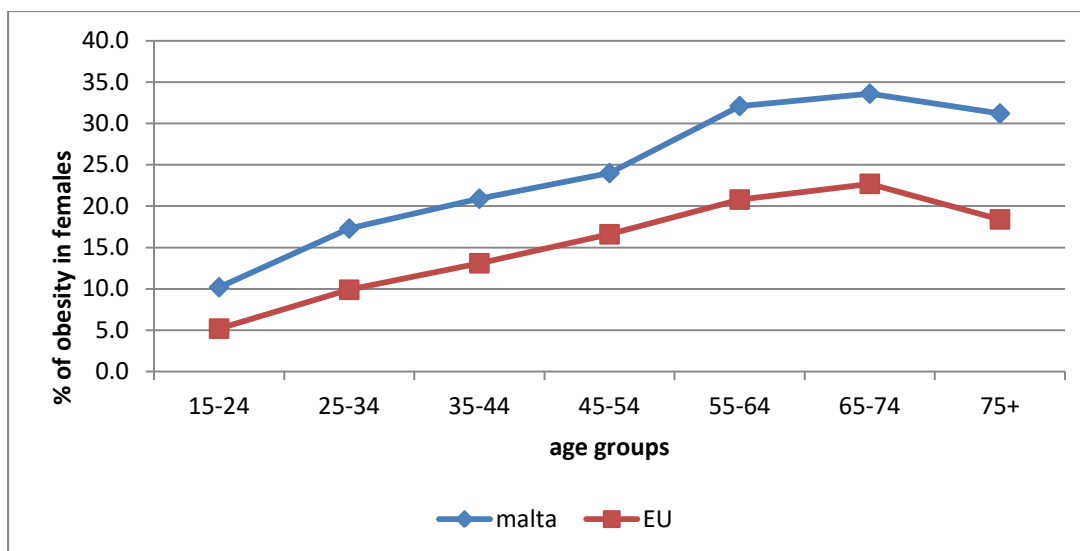


Figure 6: % of obese females in Malta and the EU average in 2014⁴

Obesity and Educational level

In both males and females obesity rates are highest in those with the lowest level of education. From 2002 to 2014, obesity rates have remained relatively stable in those with the lowest level of education in males, whilst an increase in obesity rates was observed in males of tertiary level education which was of borderline significance ($p=0.06$).

In females, whilst obesity levels increased in all levels of education from 2002 to 2014, the greatest increase was in those of tertiary level education and this increase was of statistical significance ($p=0.005$).

males	Normal weight			Overweight			Obese		
	up to Sec	Pre-Tertiary	Tertiary	up to Sec	Pre-Tertiary	Tertiary	up to Sec	Pre-Tertiary	Tertiary
2002	31.20%	40.70%	43.20%	40.60%	40.90%	39.10%	28.30%	18.40%	17.70%
2014	31.90%	36.60%	40.50%	38.20%	41.70%	35.10%	29.90%	21.70%	24.40%

Table 5: BMI in 2002 and 2014 by educational level in males

females	Normal weight			Overweight			Obese		
	up to Sec	Pre-Tertiary	Tertiary	up to Sec	Pre-Tertiary	Tertiary	up to Sec	Pre-Tertiary	Tertiary
2002	45.40%	63.50%	67.80%	30.00%	26.70%	24.40%	24.60%	9.70%	7.80%
2014	39.50%	60.90%	55.00%	32.50%	24.60%	28.50%	28.00%	14.50%	16.50%

Table 6: BMI in 2002 and 2014 by educational level in females

References

1. World Health Organisation. Obesity.
<http://www.euro.who.int/en/health-topics/noncommunicable-diseases/obesity/obesity> Accessed on the 9th September 2018
2. World health Organisation 2016. Obesity and over-weight,
<http://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>. WHO, 18th February 2018
3. Eurostat 2016. European Health Interview Survey Almost 1 adult in 6 in the EU is considered obese, News release 203/2016.
<https://ec.europa.eu/eurostat/documents/2995521/7700898/3-20102016-BP-EN.pdf/c26b037b-d5f3-4c05-89c1-00bf0b98d646>
4. Eurostat Database: <https://ec.europa.eu/eurostat/data/database>
Accessed on the 15th of September 2018
5. Cuschieri, S. et al., 2016. The Prevalence of Obesity in Malta.
<https://onlinelibrary.wiley.com/doi/full/10.1002/osp4.77>