

# Epidemiology of Renal Failure in Malta

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## BACKGROUND

Renal services have been available in Malta since 1982.

This study represents a first attempt to assess the epidemiology of renal failure in Malta and the associated burden of co-morbidities.

The aim was to stage patients with renal failure in a single nephrology clinic in Malta, to detect the frequency of their co-morbidities, and to determine their haemoglobin status.

## METHODS

All prevalent patients attending a single nephrology clinic in Malta over a period of twelve months (September 2007 till September 2008), were included in this observational study. Demographic and biochemical parameters were obtained from the clinic database. The estimated glomerular filtration rate was determined using the 4-variable Modification of Diet in Renal Disease formula. Staging of renal failure was according to Kidney Disease Outcome Quality Initiative (KDOQI) guidelines.

The common co-morbidities studied were diabetes mellitus, hypertension, cardiovascular disease, and malignancy.

**Statistics:** Data from Microsoft Access was exported and analysed using SPSS version 15. Descriptive statistics were used to describe the demographic details of the study population, including staging and state of renal failure, as well as prevalence of co-morbid conditions, and the level of haemoglobin. Inferential statistics were used to assess whether co-morbid conditions and the level of haemoglobin was associated with renal state and stage. The Chi-squared test of association and Fisher's Exact test were employed.

Fig 1. CO-MORBIDITIES ACCORDING TO RENAL STAGE

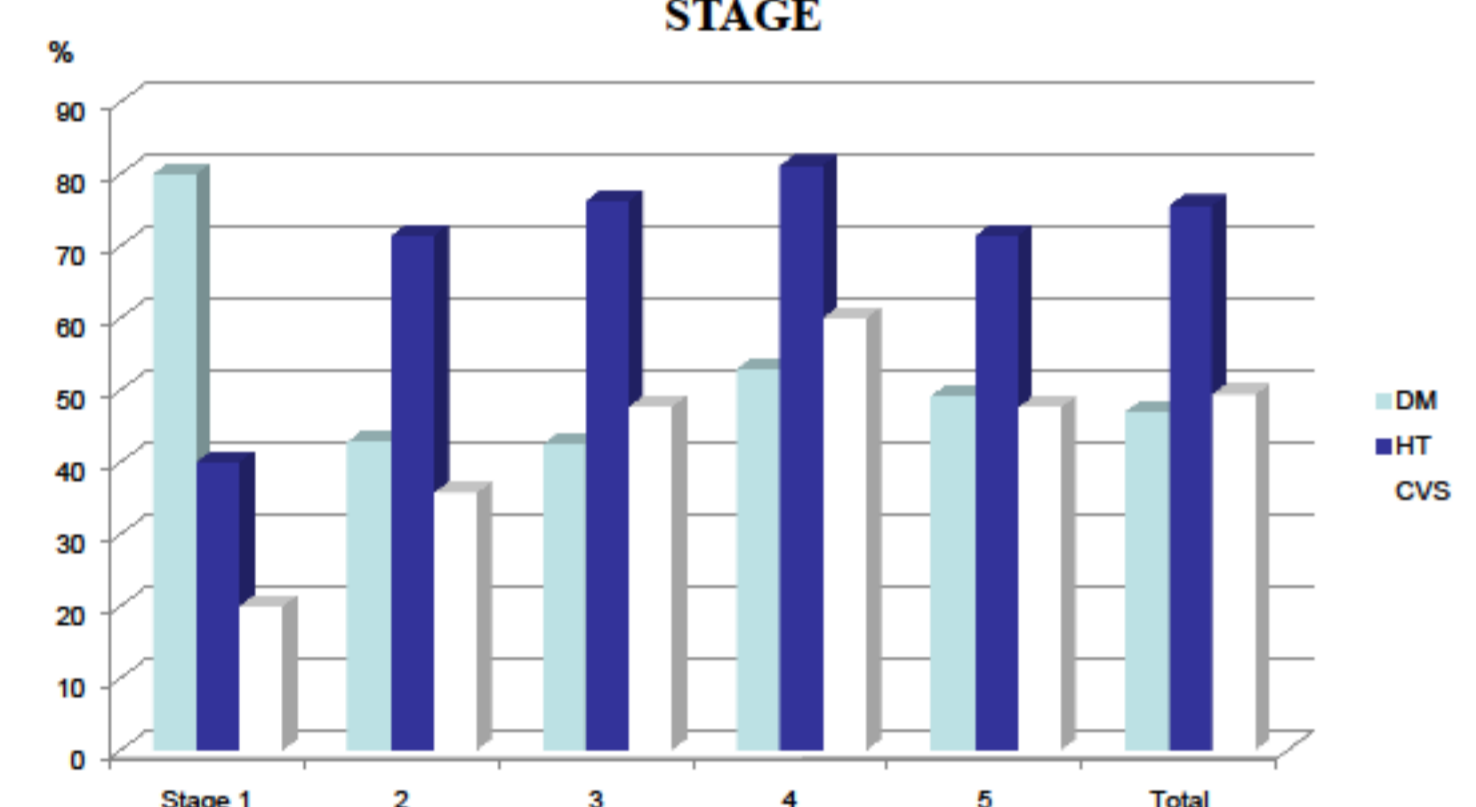


Fig 2. CO-MORBIDITIES ACCORDING TO RENAL STATE



Fig 3. COMPARISON OF PREVALENCES OF CO-MORBIDITIES IN RRT POPULATIONS IN DIFFERENT EUROPEAN COUNTRIES(1) AND IN MALTA

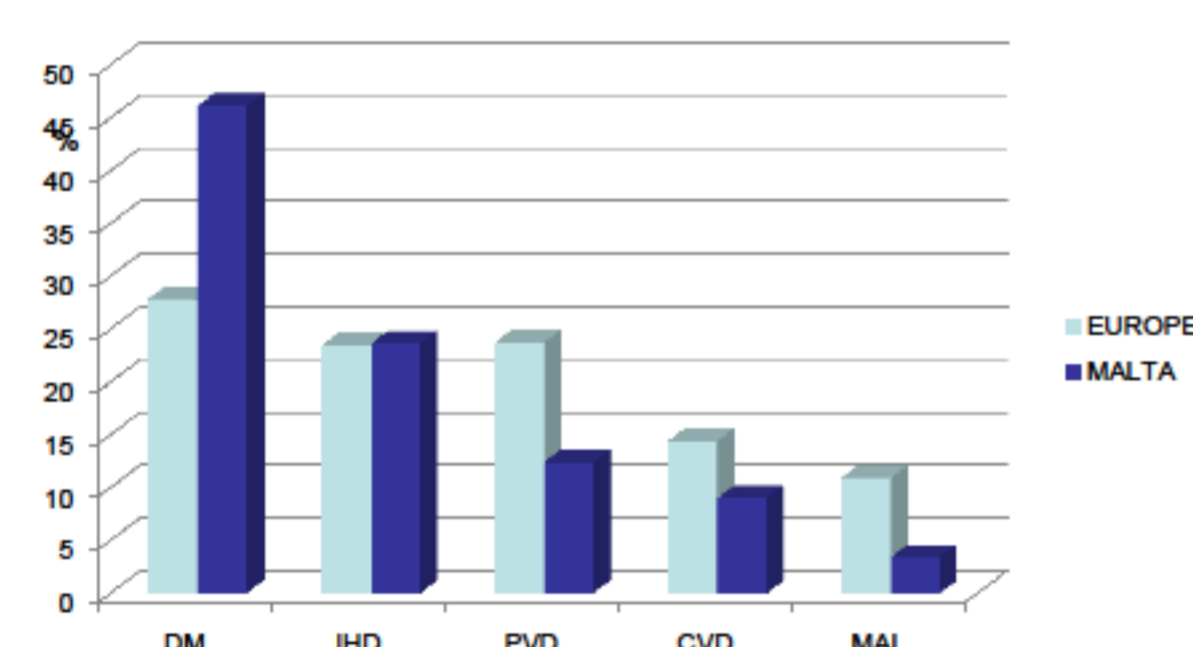


Fig 4. HAEMOGLOBIN ACCORDING TO RENAL STAGE

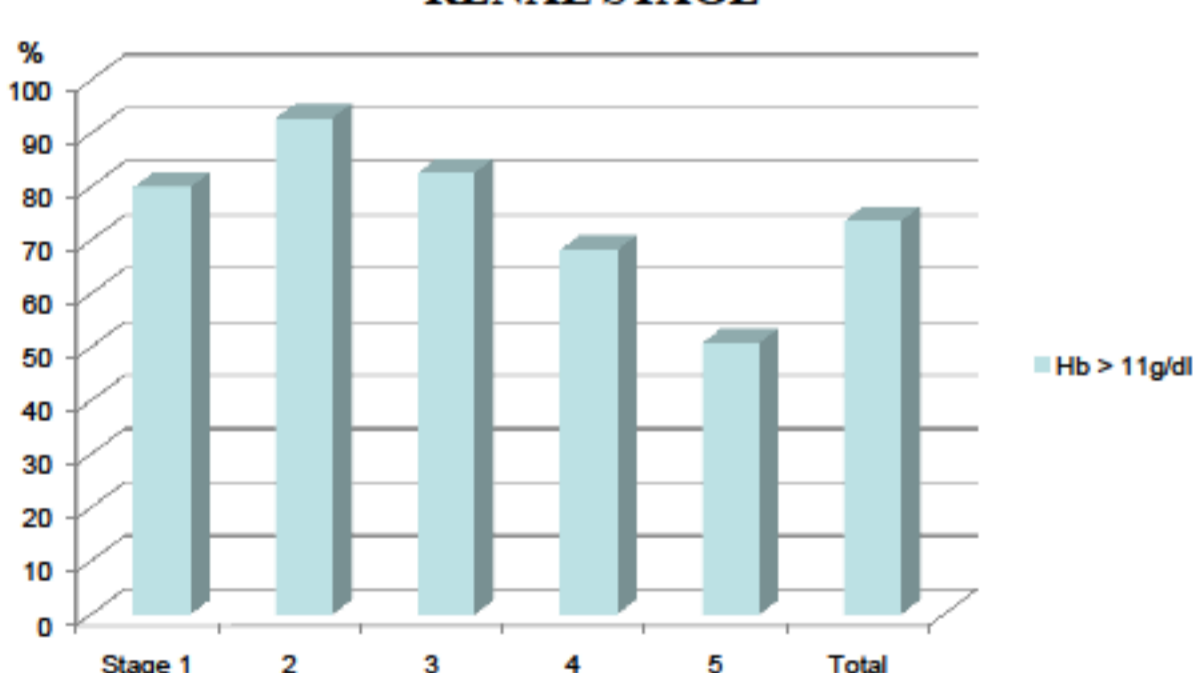
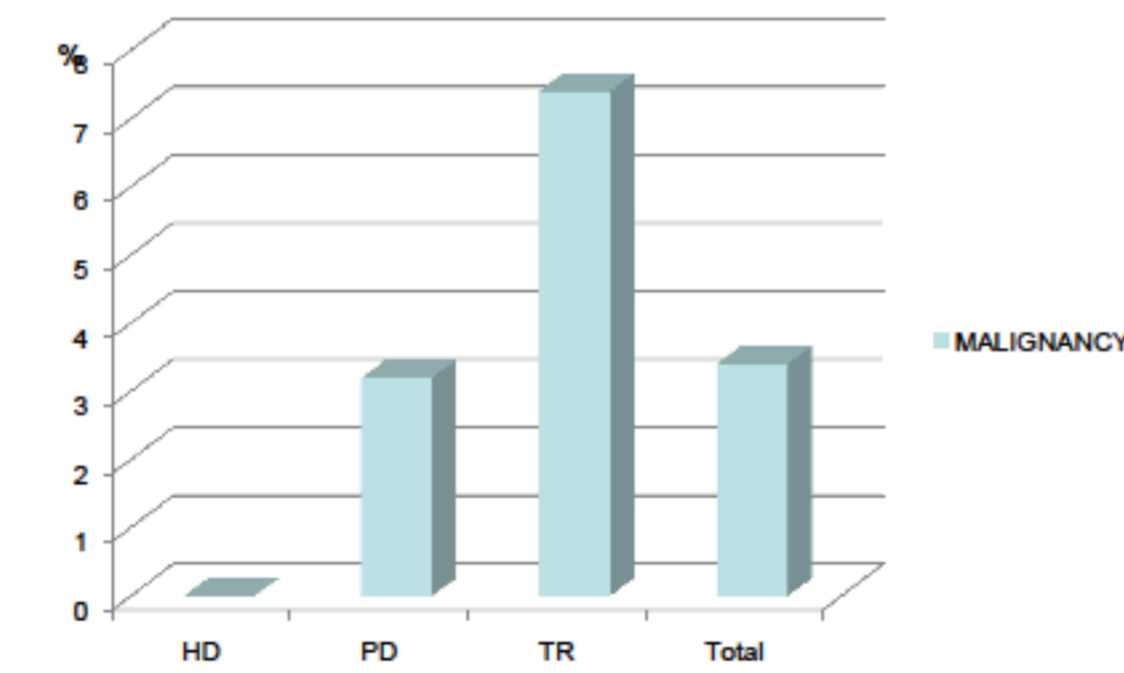


Fig 5. RATE OF MALIGNANCY ACCORDING TO RENAL REPLACEMENT THERAPY



## RESULTS

The incident number of patients studied was  $n=333$ , 33.3% female, 100% Caucasian, 47.7% >70years.

In the categories of renal failure, 45.5% were in Stage 3, 25.6% in Stage 4, and 19.0% in Stage 5.

The frequency of patients in the different categories included 73.3% chronic kidney disease, 9.3% haemodialysis (HD), 9.3% peritoneal dialysis (PD), and 8.1% renal transplants (TR). The frequency of renal replacement therapy (RRT) was 34.8% for both PD and HD, and 30.3% for TR. Regarding co-morbidities, 46.8% ( $n=156$ ) had diabetes, 75.7% ( $n=252$ ) hypertension, 36.0% ( $n=120$ ) ischaemic heart disease, 23.5% ( $n=78$ ) congestive cardiac failure, 9.6% ( $n=32$ ) peripheral vascular disease, 4.8% ( $n=16$ ) cerebrovascular disease, 4.8% ( $n=16$ ) malignancy.

Overall, 73.8% of patients had a haemoglobin level above 11.0g/dL

## CONCLUSIONS

The prevalence rates of most co-morbidities coincide with those of other countries in Europe and USA. However, the prevalence rate of diabetes mellitus is higher than in most countries and that of diabetes in the RRT group is even higher.

The use of PD in the dialysis population in Malta is high at 50%.

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