Patient attendance at a primary health care centre in Malta: a cross-sectional observational study

Dr Marilyn BALDACCHINO, Dr Jurgen ABELA, Dr Elanja Marie REIFF, Dr Julian GRIMA, Dr Lorna ATTARD, Dr Robert ELLUL

ABSTRACT

Introduction

The aim of the study was to describe the reason for consultation of patients attending the General Practitioner (GP) service at a major local health centre and also to get a clinical profile of the patients making use of such health service. This study is based in the publicly-funded primary health system in Malta and focuses on Mosta Health Centre.

Methodology

This was a cross-sectional observational study carried out in January 2017. Only the patients seen in the GP clinics were included. All six authors are practicing GPs. All the patients that the authors encountered in the GP clinics were included in the study. The fact that all authors work in different shifts and days allowed for a broad and random inclusion of patients. Patients attending out-of-hours and in weekends were also included. A pilot one-week period of data collection was carried out. Thereafter, all six authors had an Excel spreadsheet uploaded on the work computer system in the GP consulting rooms, so that patient data was inputted in real-time at the end of each consultation. Data was inputted in Excel 2010 and analysed using the Statistical Package for the Social Sciences (SPSS) 22.

Results

A total of 820 patients were included in the study. 51.8% of patients were females, whilst 74.8% of patients were born in Malta. 50.2% of patients raised more than one issue during a single consultation, whilst the most common co-morbidity noted was hypertension. The most common reasons for consultation were related to the respiratory and musculoskeletal systems. Various significant associations were observed, most importantly being between the time of attendance and number of issues brought up during a consultation; between being born in Malta and number of issues brought up during a consultation; and between age and number of issues brought up during a single consultation.

Conclusion

This study involved 820 patients attending Mosta Health Centre over a one-month period during winter 2017. During a single episode of care (visit), Maltese nationals consult for a greater number of issues. In addition, they have a greater number of co-morbidities than non-Maltese nationals. People attending between 08.00 and 17.00 hours tend to present with a greater number of issues for management. Suggestions for service development have been put forward in the discussion. Ideally, such studies should be conducted independently in different health centres given the notable differences in the catchment areas, and during different months of the year.

Key Words

Primary health care; episodes of care; co-morbidity

INTRODUCTION

Family medicine can be defined as the medical specialty which, irrespective of the health care setting in which it functions, includes the six core competencies of primary care management, person-centred approach, specific problem solving skills, community orientation, comprehensive approach and holistic care (Evans, et al., 2002). At present in Malta, primary health care is delivered via the publicly-funded health service and a parallel running private health system. There is no compulsory doctor-patient registration so far.

The publicly funded primary health system is free at the point-of-delivery and delivered through eight

health centres in Malta and one health centre in Gozo. The three main health centres are located in Floriana, Mosta and Paola and are open 24 hours a day. The satellite health centres consist of Birkirkara, Rabat, Gżira, Qormi and Cospicua. All health centres in Malta provide a routine general practitioner (GP) service, as well as a comprehensive list of ancillary services which can be viewed on the website of the Primary Health Care Department (Primary Health Care Department, 2017). This study focuses on the publicly funded health system and in particular, Mosta Health Centre.

The reason for consultation of patients attending the national primary health system has been previously studied (Cuschieri and Sammut, 2013; Agius-Muscat and Carabott, 1989; Soler, et al., 2011). However, the authors felt that a more in-depth and comprehensive study was needed, where a greater number of patients and doctors are included, in particular to better identify the profile of patients using the health service in addition to the reason for consultation.

METHODOLOGY

The study was carried out at Mosta Health Centre during the month of January 2017. Only the patients seen in the GP clinics were included. Thus, patients seen in special clinics (including diabetic, prescription and anticoagulant clinic), in the treatment room (where emergency cases are dealt with) and patients seen during house visits were excluded. All authors are practicing GPs. The patients that the authors encountered in the GP clinics were thus included. The fact that all authors work in different shifts and days allowed for a broad and random inclusion of patients. Patients attending out-of-hours and in weekends were also included.

Prior to the commencement of the data collection, a pilot one-week period of data collection was carried out. This was needed to address any unidentified problems with the study process and data collection. Thereafter, all six authors had an Excel spreadsheet uploaded on the work computer system in the GP consulting rooms, so that patient data was inputted in real-time at the end of each consultation. In this manner, recall bias was minimized. In addition, the data collection was completely paperless. The literature search done prior to the start of the study identified the International Classification of Primary Care – 2nd edition (ICPC-2) as the most appropriate and popular classification of patient encounters in general practice (WONCA International Classification Committee, 1998). In addition, after due internal discussion, the authors identified a set of patient characteristics that were postulated to be relevant to the aims of the study. Finally, the list of co-morbidities included in the study was drafted from the experience of the authors who have been working in general practice for a number of years.

The study was approved by the Department of Primary Health Care and also by the Data Protection Officer of the Department. Although ethical approval was strictly-speaking not needed, this was just the same sought and obtained from the University of Malta Research Ethics Committee.

Data was inputted in Excel 2010 and analysed using the Statistical Package for the Social Sciences (SPSS) 22. Non-parametric tests (including chi-squared test) were used to analyse the data. In this study, $p<0.05$ is taken as the level for statistical significance and $p<0.001$ is taken as the level for statistical high significance.

RESULTS

Basic Demographic details

Over the one month period of data collection, 820 patient encounters were recorded. Of these patients, 51.8% were females and 48.2% were males. The age/sex distribution of the patients is reproduced in Figure 1. The numbers of patients attending from different localities are listed in Table 1, coupled with the respective population of the locality (National Statistics Office Malta, 2015).

Apart from the above mentioned information, the time of attendance of patients was also recorded. This was divided into two main classes: 08.00-17.00 hours and 17.00-08.00 hours. Out of the 820 patients recorded, 601 (73.3%) attended between 08.00 and 17.00 hours and 219 (26.7%) attended between 17.00 and 08.00 hours. Due to the particular catchment area of Mosta health centre, where a large number of foreign patients reside, the place of birth of the patients was also recorded. 613 (74.8%) were born in Malta, whilst 207 (25.2%) were born abroad.

For each patient encounter, the number of episodes of care (i.e. issues/problems raised in the consultation) was recorded and this is represented in Figure 2. A total of 1050 complaints were put forward by the 820 patients sampled. Seven episodes of care were unfortunately lost in the data collection process.

The presence of documented co-morbidities in the patients surveyed (as noted in the file, the Schedule V system of free drugs for certain diseases and/or discharge letters) was recorded, and these are listed in Figures 3

Figure 1 : Age/sex distribution of patient population

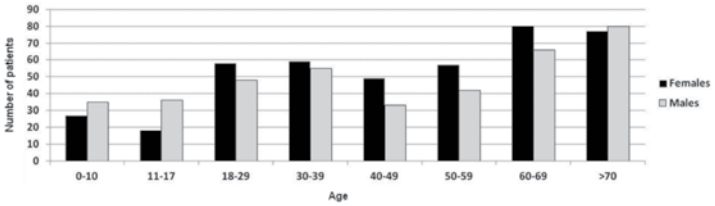
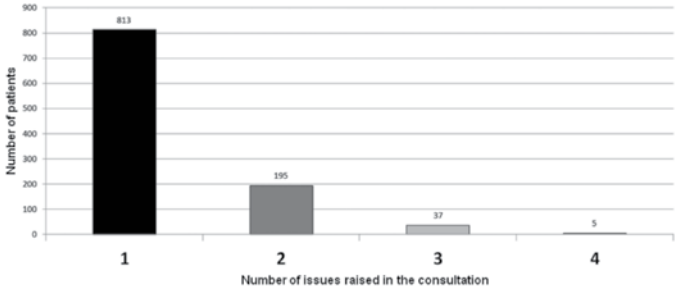


Figure 2: Episodes of care (issues rised in a consultation)



and 4. The main reasons for consultation are summarised in Figure 5. Such list is derived from ICPC-2 as stated in the methodology section. As can be seen the most common areas of complaint are related to the respiratory and musculoskeletal systems.

In-Depth Analysis

The data was further analysed to elicit any statistically significant associations. The relevant associations observed include:

- A highly significant correlation ($p<0.001$) between place of birth and age of patients, with people not born in Malta being younger in age.
- A highly significant correlation ($p<0.001$) between residing in St Paul's Bay and not being born in Malta.
- A highly significant correlation between increasing age and number of co-morbidities ($p<0.001$).
- A highly significant correlation ($p<0.001$) between time of consultation and number of co-morbidities. This means that people with increasing number of co-morbidities tend to consult mostly between 08.00 and 17.00 hours.
- A highly significant correlation ($p<0.001$) between number of co-morbidities and issues brought up during the consultation.
- A significant correlation ($p=0.011$) between age and number of issues brought up during a consultation, with elderly patients bringing up more issues during a consultation.
- A significant correlation ($p=0.03$) between being born in Malta and the number of issues brought up during the consultation. This means that a Maltese-born patient tends to bring up more issues per given consultation.
- A significant correlation ($p=0.031$) between increasing number of issues per consultation and the time of consultation, with consultations during 08.00-17.00 hours being more loaded with issues.

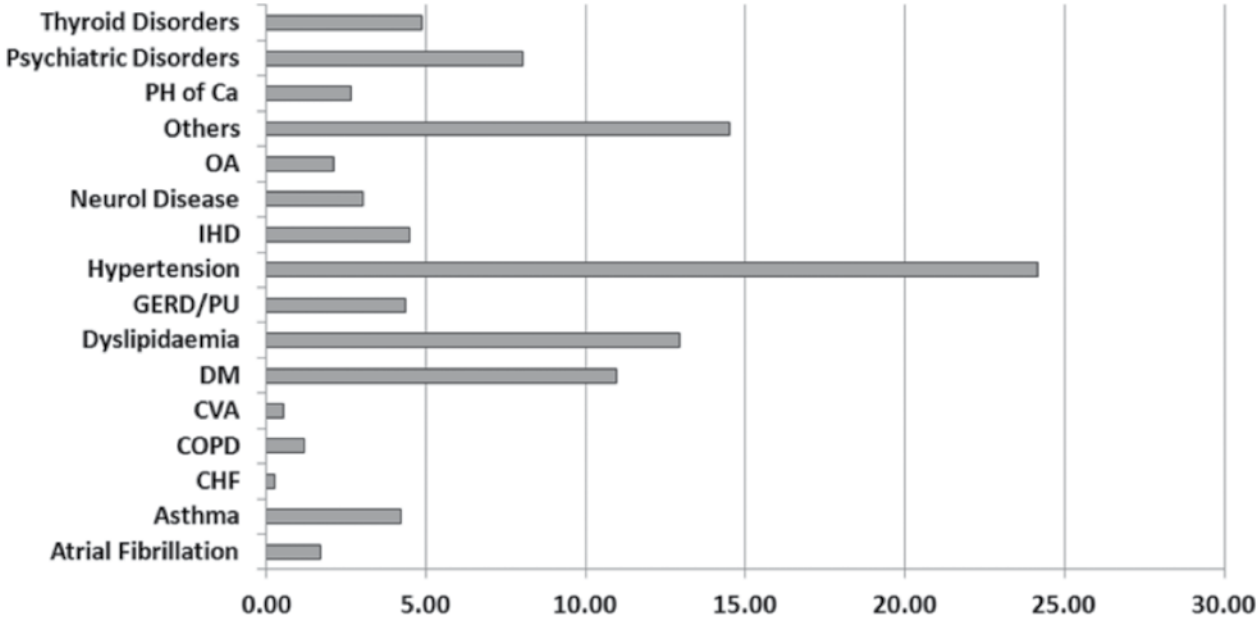
DISCUSSION

Mosta health centre is one of the busiest primary care centres in Malta, and the hub for the northern area of the island. It is thus not surprising that the amount of patients reviewed on a daily basis is high and that although 820 patients over one month might seem to be a substantial number, according to statistics provided by the Primary Health Department, it is roughly 20.5 % of the patients attending to see the GP.

The results clearly show that the majority of patients attending were females, though this is not consistent throughout all age groups (Figure 1). However, this gender difference in attendance reflects a known fact supported by the literature (Hunt et al, 2011). This refers to the fact that women, on average, consult their general practitioner more than men, especially in the peak reproductive years. In this study, 55% of the patients aged between 18 and 49 years (i.e. the reproductive years) were females. In view of this gender difference in health seeking behaviour, it can be argued that GPs should be more proactive during consultations with male patients, therefore taking the opportunity to address certain issues, including health promotion and disease prevention.

Most of the patients visiting the clinic were residents of Mosta (34.1%), followed closely by St Paul's Bay (31.1%). Further to this, when one considers the population of the areas involved (vide Table 1), the rate of usage of the GP service is roughly proportional to the population of the localities listed. In addition, most of the foreign patients consulting were also found to be more likely to be living in St Paul's Bay and to be of a younger age group than those born in Malta. It can be argued that these patients represent a population of young people who are residing in Malta possibly mainly for occupational reasons. Indeed, the significant association observed between being born in Malta and the number of issues brought up during a consultation might imply that these younger foreign nationals might have different health beliefs and would be more interested in a 'fix and

Figure 3: Comorbidities(percentage)



Key:PH of Ca:past history of cancer; **OA**: osteoarthritis; **GERD/PU**:gastro-esophageal reflux/pepticulcer; **DM:** diabetes mellitus; **CVA**: past history of stroke; **COPD**: chronic obstructive pulmonary disease; **CHF**: congestive heart failure; **Neurol Disease**: neurological disease e.g. Parkinson"s Disease; **IHD**: Ischaemic Heart Disease.

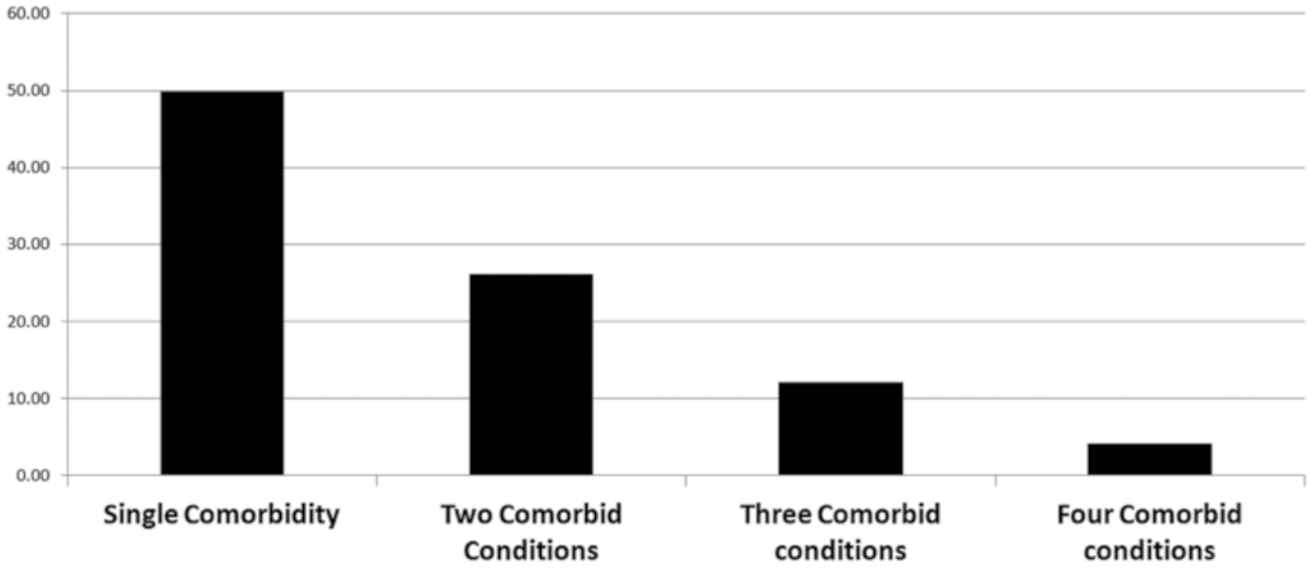
forget' type of service for their particular ailment and possibly less concerned with long term health care and prevention (Madden, et al., 2014). Alternatively it may be argued that this subset of foreign nationals might be 'healthier' than the general Maltese population. Certainly this is an area which needs to be studied further.

Not surprisingly, increasing age was found to be associated with a greater number of co-morbidities and issues brought up during the consultation, which indicates a higher number of health problems requiring attention in older patients. The highest percentage of the total number of patients consulting were those older than 70 years, followed closely by those aged 60-69 years, as can be visually appreciated in Figure 1. The global phenomenon of population ageing is becoming more and more evident (Global Health and Aging, 2011), and the burden that an increase in age-related chronic conditions (with associated social problems) will have on the health system should be taken into consideration by policy-makers. Patterns of health care investment will most likely be influenced in the wake of this reality, with a particular emphasis on long-term care, community care and support, to ensure the well-being of this older generation (Global Health and Aging, 2011).

Patient co-morbidities were also recorded in this study, and half of the total number of patients attending had a single co-morbidity (Figure 4), with the commonest being hypertension. The commonest co-morbidities (hypertension, dyslipidaemia, diabetes mellitus) found in this study (see Figure 3) are a strong reminder of the obesity epidemic, for which Malta has been found to have the highest prevalence in Europe (Mendis, 2014). A local study published in 2016 showed that 69.75% of the Maltese population are either overweight or obese (Cuschieri, et al., 2016). This is a reminder of the important roles that general practitioners have, both in prevention of obesity as well as in harm reduction, by effectively managing chronic conditions resulting from obesity. In addition, the recent empowerment of GPs to be able to apply for free drugs for hypertension and dyslipidaemia on the national Schedule V service is indeed an important step in the right direction. However, consistent with this line of thought, GPs should also be empowered to apply for Schedule V free drugs for diabetes.

The majority (73.3%) of the patients sampled in this study attended Mosta Health Centre between 08.00-17.00 hours. However, even when this is accounted for, patients attending during this time were (highly significantly) more likely to bring up multiple issues during the consultation and have more co-morbidities. This shows that most of those attending out-of-hours were more likely to be consulting about a single (possibly acute) problem requiring immediate attention. Certainly,

Figure 4: Comorbidities in the studied population (percentage)



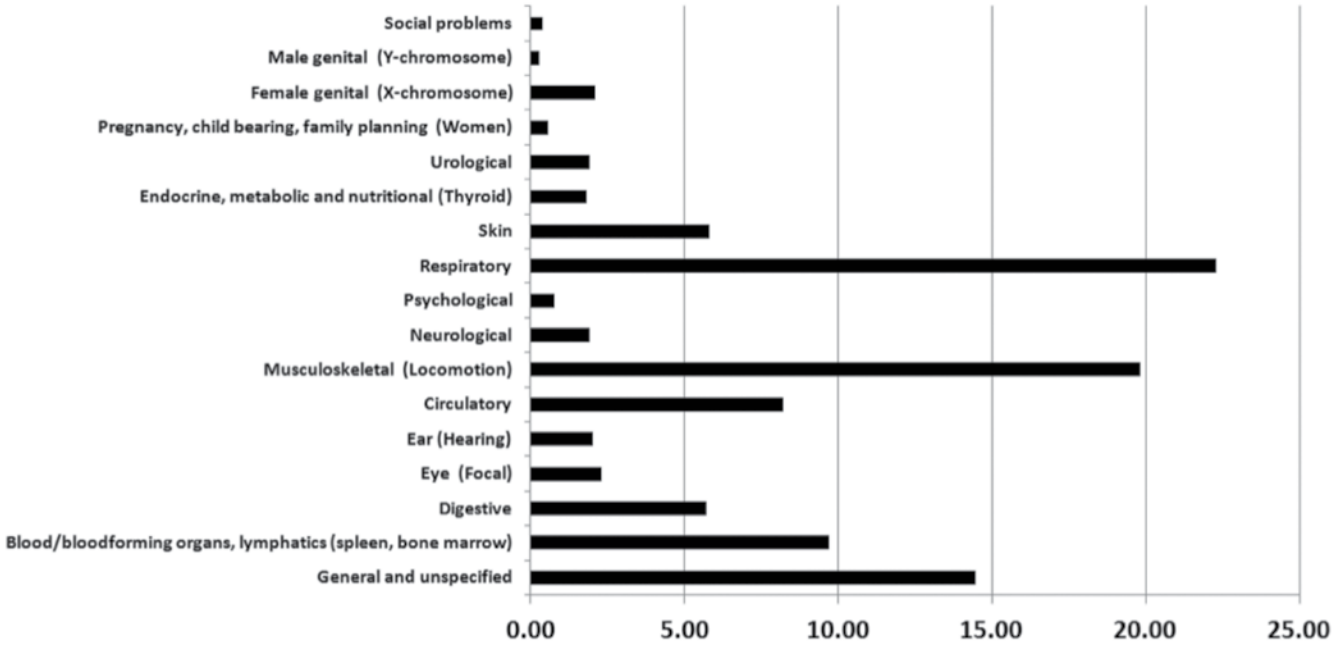
from a service provision point of view, the fact that most patients attending between 08.00-17.00 hours bring up more issues and have more co-morbidities must be taken on board and considered accordingly.

The reasons why patients seek medical care are usually a reflection of their personal needs and expectations, and this parameter is therefore an essential part of analysing the outcome of care. A patient-centred approach should be the aim of every consultation and understanding the patients' expectations will help to improve the personalised service provided, thus resulting in more effective management and improved patient satisfaction (olde Hartman, et al, 2011). As can be seen in Figure 5, the three commonest areas of patient complaints were respiratory, musculoskeletal and general complaints. Indeed this resonates very much with the findings from previous similar studies, both locally and abroad (Cuschieri and Sammut, 2013; Agius-Muscat and Carabott, 1989; Soler, et al., 2011; Nylenna and Bruusgaard, 1987; Moth, Olesen and Vedsted, 2012). Indeed, the most recent study by Cuschieri & Sammut (2013) reports the same top three conditions. The slight differences noted between the latter and our study might be attributed to the timing of data collection – the Cuschieri & Sammut (2013) study was carried out during the period of July to October 2013, whilst our present study was carried out during the month of January 2017. Consequently, the amount of respiratory complaints might have been somewhat over-represented, given that respiratory infections tend to be commoner in cold weather (Eccles, 2015).

Mosta Health Centre provides a GP service which is free at the point-of-care. This fact, coupled with the above findings, does indeed raise some questions related to the type of care provided and requested by patients – do GPs provide episodic care or anticipatory care? A study of a free clinic in Dunedin, New Zealand showed that most patients attending the free clinic have a tendency to episodic care involving administrative tasks, rather that actively engaging in anticipatory and preventive care. Sickness benefit and prescription renewals were two of the most frequent triggers for a consultation (Loh, Jaye and Dovey, 2015). This was also reflected in this study, with most complaints being either episodic or administrative in nature. This pattern of consulting (also known as health seeking behaviour) might indeed reflect a population which is not particular resonant with preventive care. As a consequence, health outcomes tend to be worse (Swerissen, Duckett and Wright, 2016). In this regard initiatives like the chronic disease management clinic might address such issues. A more practical proposal might be that a named-doctor clinic is regularly run so that patients can be followed up by the same doctor, thereby enhancing continuity of care and also affording more preventive care.

It is important to keep in mind the difference in the agenda and goals or values of patients and doctors, as this might lead to poor uptake of services or poor adherence to recommended treatments (Loh, Jaye and Dovey, 2015). Outreach campaigns are required to enhance engagement in preventive services, keeping in mind certain patients that might still not be engaged by these efforts. Such

Figure 5: Areas of complaints (percentage of total population in this study)



*The list of areas of complaints/reasons for encounters was obtained from the International Classification of disease in Primary Care-2 (Wonca Interantional Classification Commitee, 1998).

Table 1: The attendance of patients according to locality

	Frequency	Precent	Population*	Total Population of Malta
Għargħur	22	2.7	2727	
Mellieħa	37	4.5	9126	
Mġarr	20	2.4	3572	
Mosta	280	34.1	19865	
Naxxar	97	11.8	13607	
Other	74	9.0	61499	
Other-outside	35	4.3	305450	
San Pawl il-Baħar	255	31.2	18557	434403

Għargħur (Xwieki); Mellieħa (Selmun, Għadira, Marfa, Ċirkewwa); Mġarr (Żebbiegħ); Mosta (Bidnija); Naxxar (Birguma, Magħtab, Salina, Baħar iċ-Ċagħaq); San Pawl il-Baħar (Buġibba, Qawra, Xemxija, Għajn Tuffieħa,Wardija, Pwales); Other (any area under Rabat and Birkirkara health centres); Other-outside (any other area of Malta)
(*National Satistics Office, 2015)

campaigns should not only be physically conceived outside of the health centres, but innovative approaches might be considered within the health centre and possibly even as routine practices during consultations. In fact, this should not be seen to be a "one-off" initiative but more of an approach that should be taken over multiple episodes of care, ideally also in conjunction with a policy and service delivery environment that facilitates behaviour change (Loh, Jaye and Dovey, 2015).

Strengths and Limitations

The sample of 820 consultations recorded over a month period represents roughly 20.5% of the total GP consultations done at Mosta Health Centre and should be very much reflective of the activity at this health centre. On the other hand the results might have influenced by the fact that a substantial majority of recorded consultations occurred during weekdays. The fact that 6 GPs of varying backgrounds and experience,

and working different shifts including night duties, were involved further reduced any individual observer bias which might have been an issue if the number of GPs involved was much smaller.

The fact that the data was collected and recorded in real time (at the end of each consultation) was very important both to reduce (and possibly eliminate) recall bias, but also for complete collation of the results. In fact out of the data collected, only 7 issues for consultation were unaccounted for.

Despite a pooled effort (by the 6 authors) in drafting a list of potential co-morbidities, it is very unfortunate that the second most common co-morbidity recorded falls in the 'others' category. Indeed, on further reflection, notable omissions from the list include kidney disease and gastroenterological conditions (including inflammatory bowel disease and liver disease).

A particular limitation of this study is that only GP consultations were included. Indeed this was the plan from the start. However, the fact that house visits, special clinics and the treatment room were omitted from the study detracts from the potential generalisability of findings. Although the findings of this study might be used to inform practice in other health centres, it should be noted that the catchment area of each health centre in Malta has certain distinctive and individual characteristics with respect to patient population and health seeking behaviours.

CONCLUSION

This study was conducted at Mosta Health Centre. Over a one month period, 820 patient encounters were studied. During a single visit, Maltese nationals consult for a greater number of issues and have a greater number of co-morbidities than non-Maltese nationals. People attending between 08.00 and 17.00 hours tend to present with a greater number of issues for management. Amongst other issues, very significant relations were observed between age and number of co-morbidities; time of attendance and number of co-morbidities; and also between number of co-morbidities and issues brought up during a consultation. Suggestions for service development have been put forward in the discussion. Ideally, such studies should be conducted independently in different health centres given the notable differences in the catchment areas and during different months of the year.

Dr Marilyn BALDACCHINO
MD, MMCFD
Mosta Health Centre, Primary Health Care Department, Malta
E-mail: marbaldacchino@gmail.com

Dr Jurgen ABELA
MD, DCH (Lond.), MSc (Warw.), FMCFD, FLCM, FRCGP(UK)
Mosta Health Centre, Primary Health Care Department, Malta

Dr Elanja Marie REIFF
MD, ALCM, MMCFD
Mosta Health Centre, Primary Health Care Department, Malta

Dr Julian GRIMA
MD, MMCFD
Mosta Health Centre, Primary Health Care Department, Malta

Dr Lorna ATTARD
MD, MRCS (Edin.), MMCFD
Gozo Health Centre, Victoria, Gozo, Malta

Dr Robert ELLUL
MD, PG Cert Diabetes (Wales), MMCFD
Mosta Health Centre, Primary Health Care Department, Malta

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