

# Assessment of obstetric and gynaecology emergency service at Mater Dei Hospital

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## INTRODUCTION

Busy and overcrowded Emergency Departments (ED) are a major concern worldwide. Their ease of access results in overutilisation and inappropriate use with patients presenting with non-urgent health problems. The aim of this study was to quantify and assess the workload on the Obstetric and Gynaecology Emergency Service at Mater Dei Hospital and, by means of this data, assess what improvements could be put forward to improve the service.

## METHOD

A retrospective analysis of patients attending Gynaecology Admission Room at Mater Dei Hospital over a period of 140 days. Patient demographics and presenting complaints were noted. Patients were divided into three main cohorts: Early Pregnancy, Advanced Pregnancy and Gynaecology cases.

## RESULTS

3357 cases seen in total over the 140 days. Therefore on average 24 cases were seen every day. 62% were gynaecology cases, 30% were early pregnancy cases and 8% were advanced pregnancy cases.

## CONCLUSION

The Gynaecology Admission Room is a very busy unit which is currently being overcrowded with non-urgent referrals. This points towards an improvement of the primary care obstetric and gynaecology service, as well as an appropriate triage system to be put in place. The establishment of an Early Pregnancy Assessment Unit may help further to streamline early obstetric care.

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## INTRODUCTION

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Busy and overcrowded Emergency Departments are a major concern worldwide. According to the Mater Dei Hospital Data Officer, the Maltese Emergency Department had 140,209 attendees in 2019. In Malta, healthcare is free of charge to all Maltese and EU nationals. The ease of access of the Emergency Department results in overutilisation and inappropriate use with patients presenting with non-urgent health problems.<sup>1</sup>

The Obstetric and Gynaecology Emergency Service at Mater Dei Hospital is carried out in a single room, away from the Accident & Emergency Department, where all obstetric cases up to 22 weeks gestation and all gynaecology cases are seen, referred to as the Gynaecology Admission Room.

The aim of this study was to quantify and assess the workload on the Gynaecology Admission Room and, by means of this data, assess what improvements could be put forward to improve the service.

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## METHOD

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This study is a retrospective analysis of all patients attending the Gynaecology Admission Room at Mater Dei Hospital over a period of 140 days from March 2019 to July 2019. Data was obtained from the Admission Book Registers after the appropriate data protection approval was acquired.

Patient demographics and the presenting complaint were noted for each patient. The patients were also divided into three main cohorts: Early Pregnancy (up to 14 completed weeks of pregnancy), Advanced Pregnancy [Early Second Trimester Pregnancy] (from 15

to 22 weeks of pregnancy) and Gynaecology cases.

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## RESULTS

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A total of 3357 admission room visits occurred over the 140 days, with 2814 patients, and 543 follow-up visits. Therefore, on average, 743 cases were seen at admission room every month, and 24 cases were seen every day.

Out of the 3357 cases seen over the 140 days, 62% were gynaecology cases, 30% were early pregnancy cases and 8% were advanced pregnancy cases. (Figure 1)

The patients in the Early Pregnancy cohort were most commonly between 31 and 35 years of age (40%; n=284), and 59% (n=490) were Maltese (Figures 2-3).

106 (12.7%) of the patients in the early pregnancy cohort presented at 6 weeks gestation. 197 (23.6%) had no gestation documented on the admission book registers. (Figure 4)

A vast majority of patients in the early pregnancy cohort presented to the admission room with bleeding (47%; n=393). Other complaints included abdominal pain (16%; n=134), miscarriage (13%; n=109) and not specified complaints (11.2%; n=94), such as urinary problems and respiratory symptoms. (Figure 5)

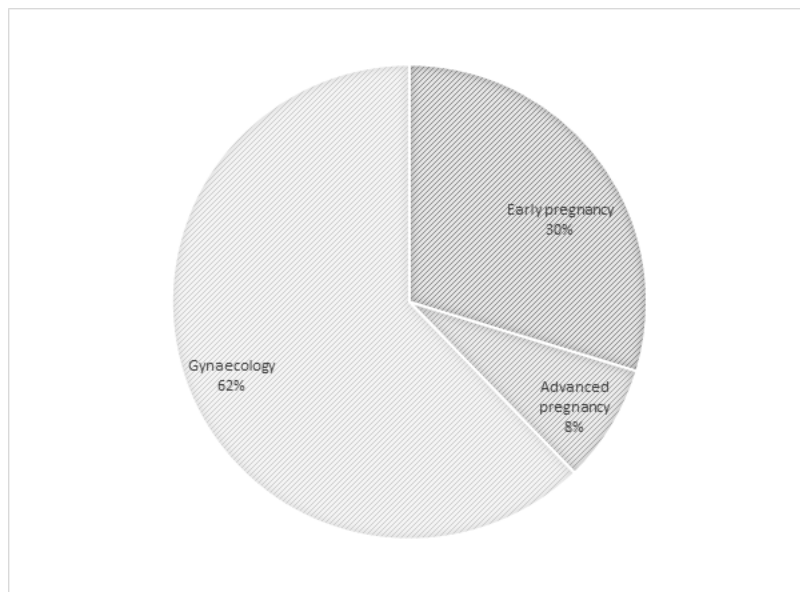
The patients in the Advanced Pregnancy cohort had an average age of 26-30 years (38.3%; n=87) (Figure 6). 65% (n=149) of this cohort were Maltese (Figure 7). 45 (19.8%) of these patients presented at 16 weeks gestation (Figure 8). The most common presenting complaint was abdominal pain (29.5%; n=67) and complaints grouped under the 'Other' category (31.3%; n=71). The 'Other' category included complaints such as dysuria

and reassurance, for example after being involved in a motor vehicle accident.

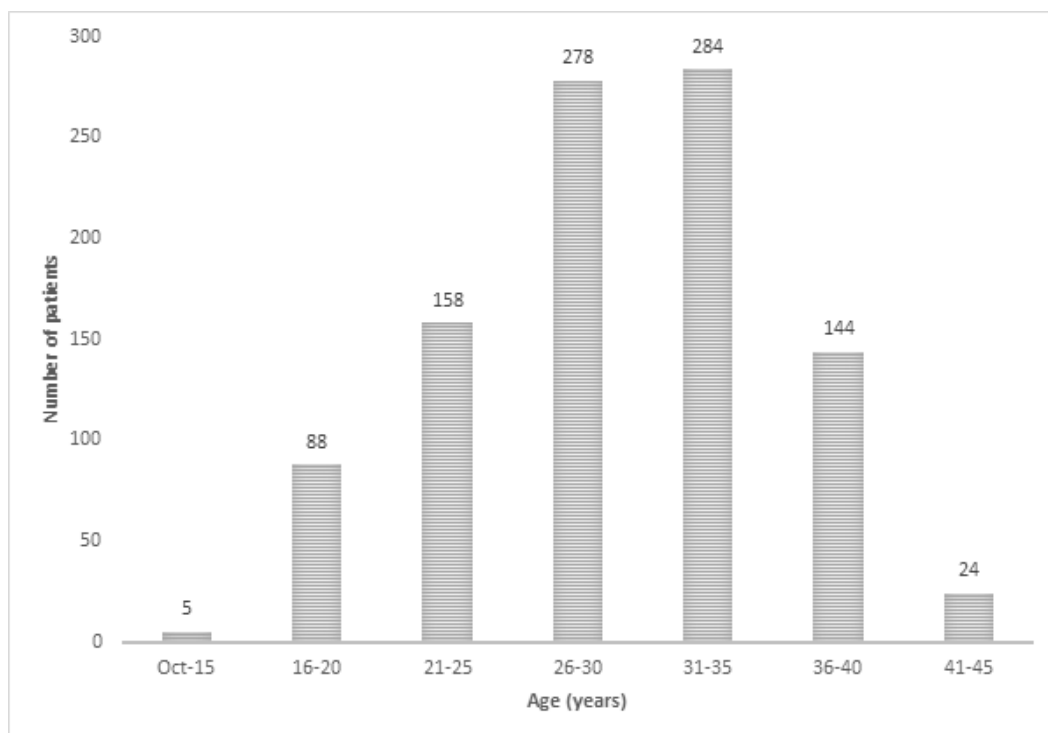
The presenting complaints for the gynaecology group were analysed. Most patients (21.3%;  $n=373$ ) presented with abdominal pain. 355 patients (19.1%) were

listed on the admission book registers as 'Gynae review', while 306 patients (17.5%) presented with abnormal bleeding. All the presenting complaints are clearly laid out in Figure 10. (Figure 10)

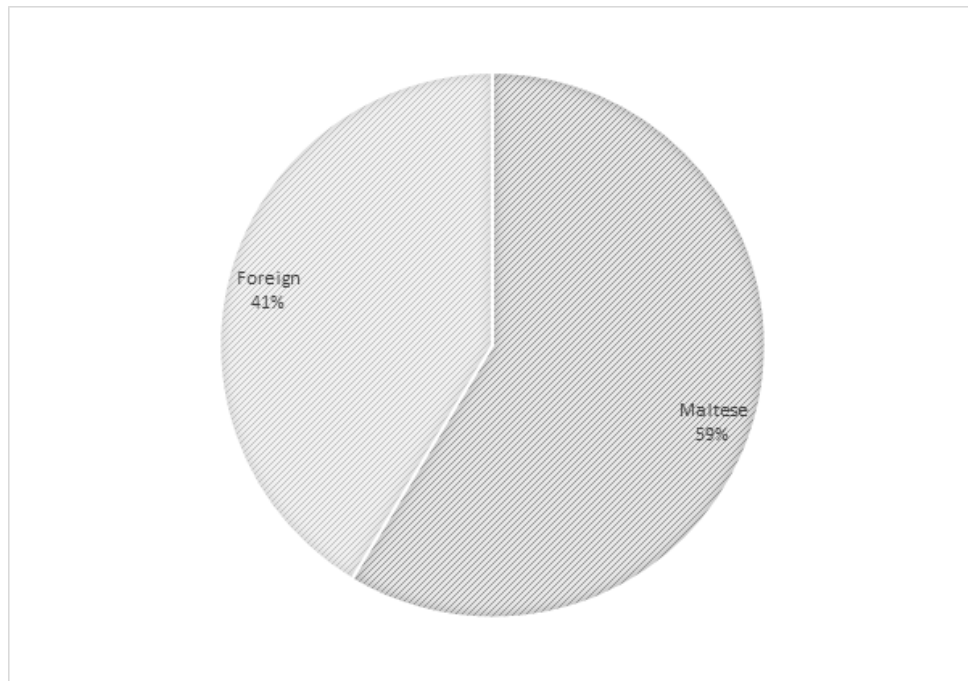
**Figure 1** Case distribution of patients presenting to Gynae Admission Room



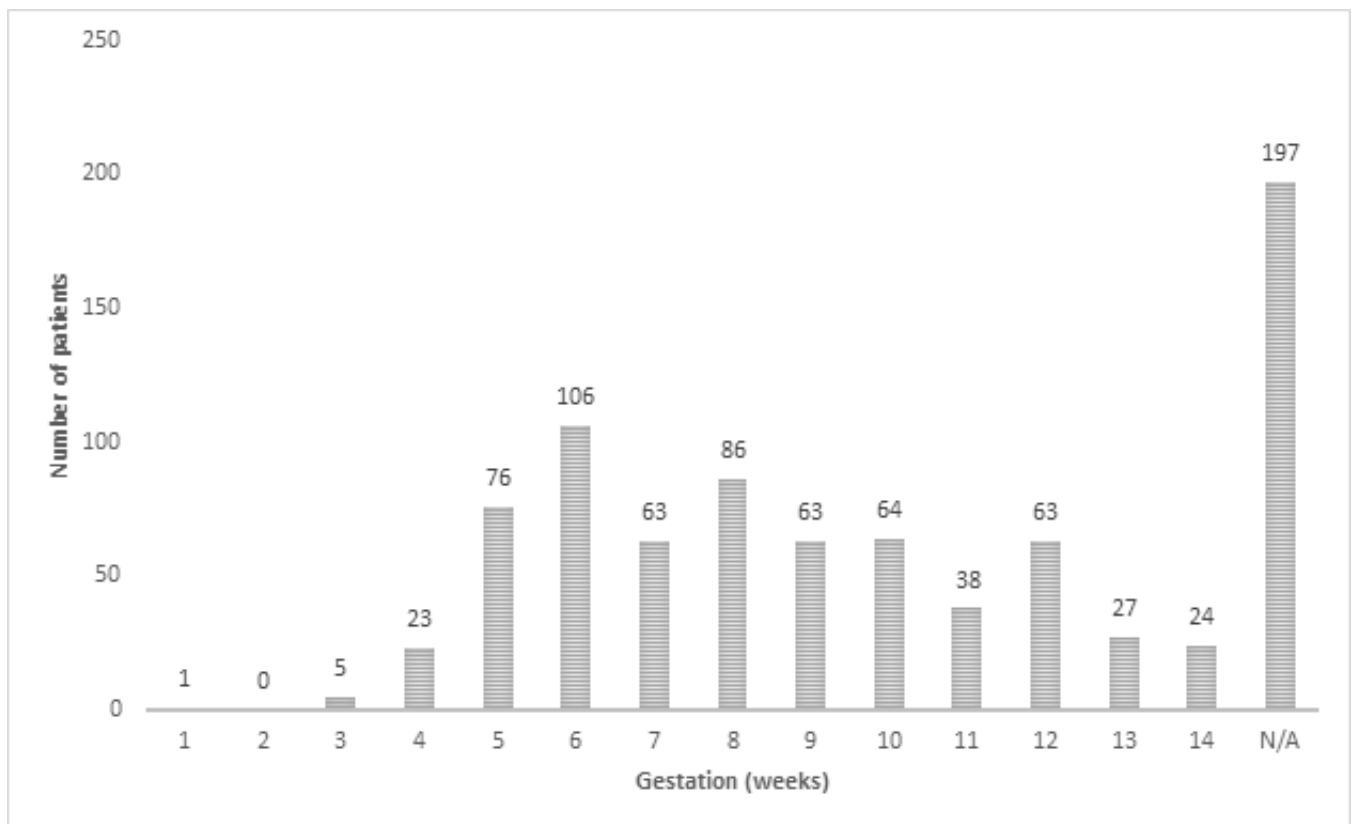
**Figure 2** Age of patients in Early Pregnancy cohort



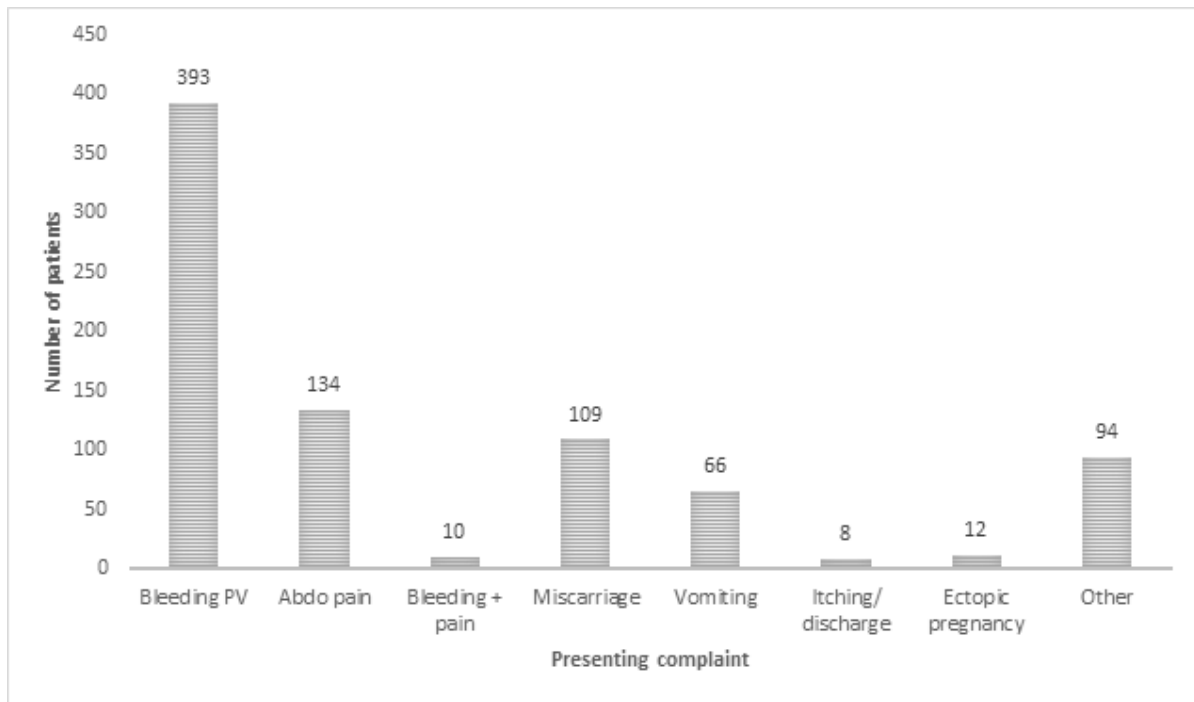
**Figure 3** Nationality of patients in Early Pregnancy cohort



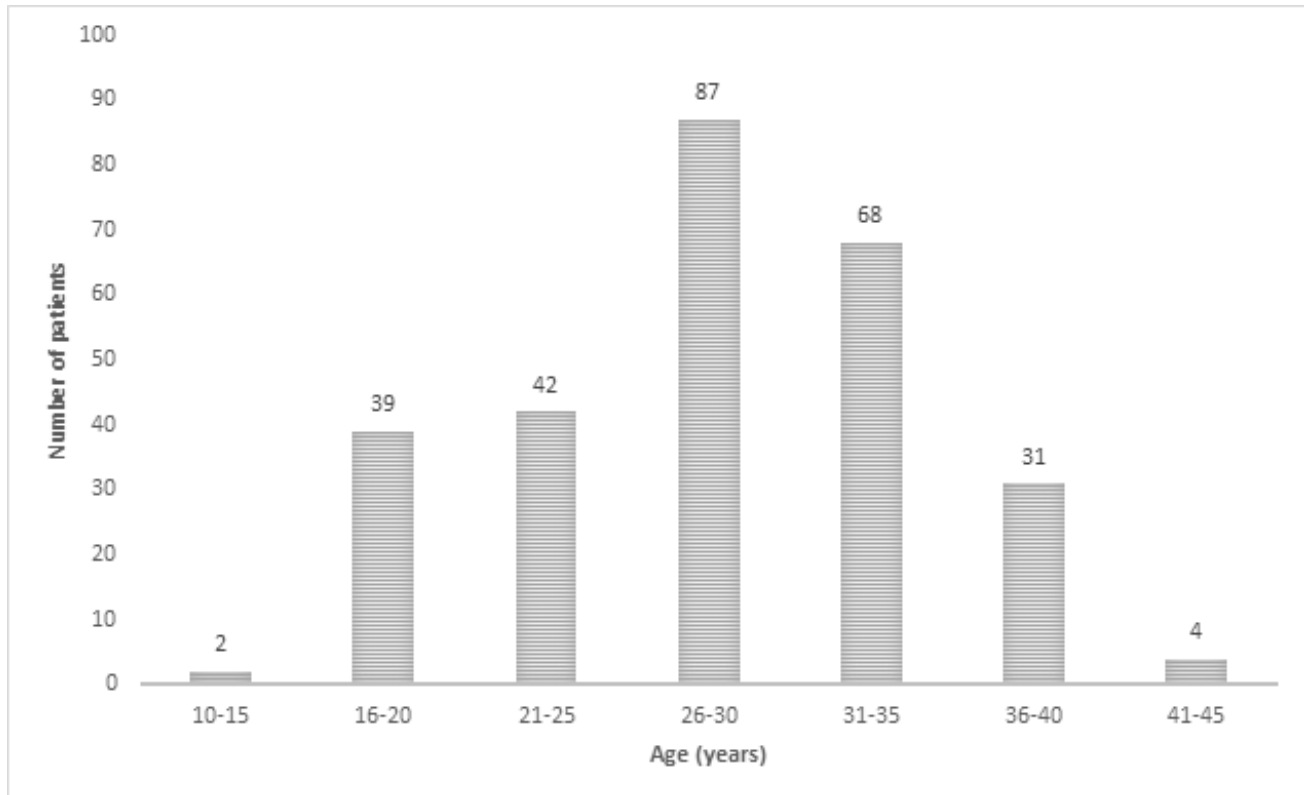
**Figure 4** Gestation at presentation of patients in Early Pregnancy cohort



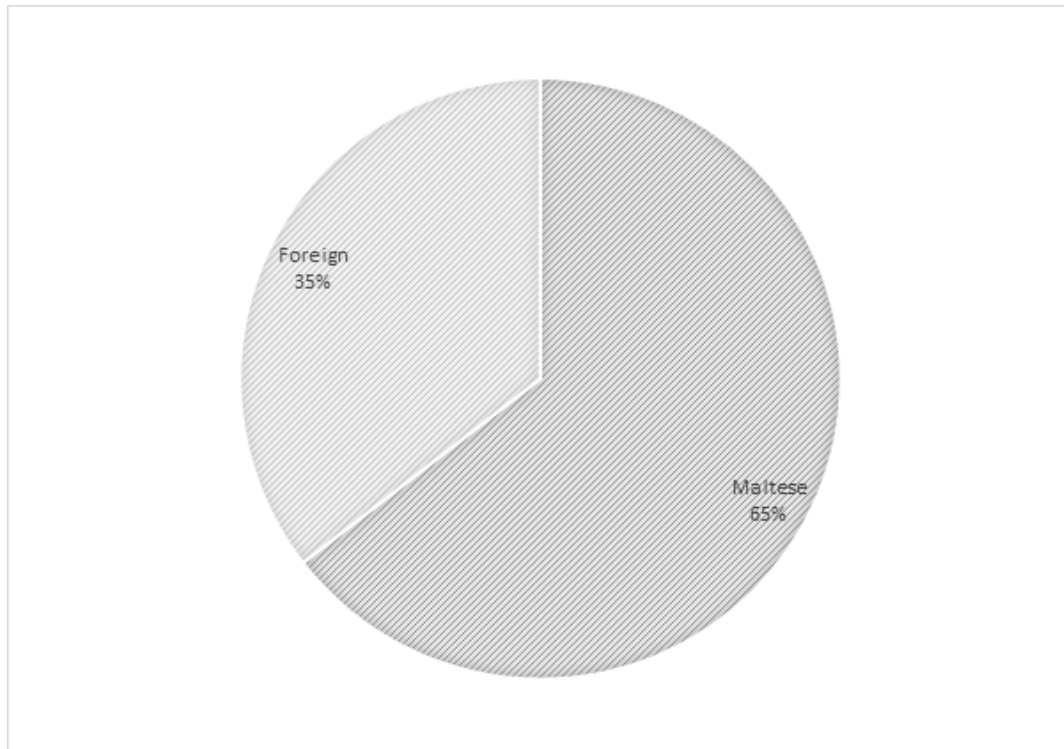
**Figure 5** Presenting complaints of patients in Early Pregnancy Cohort



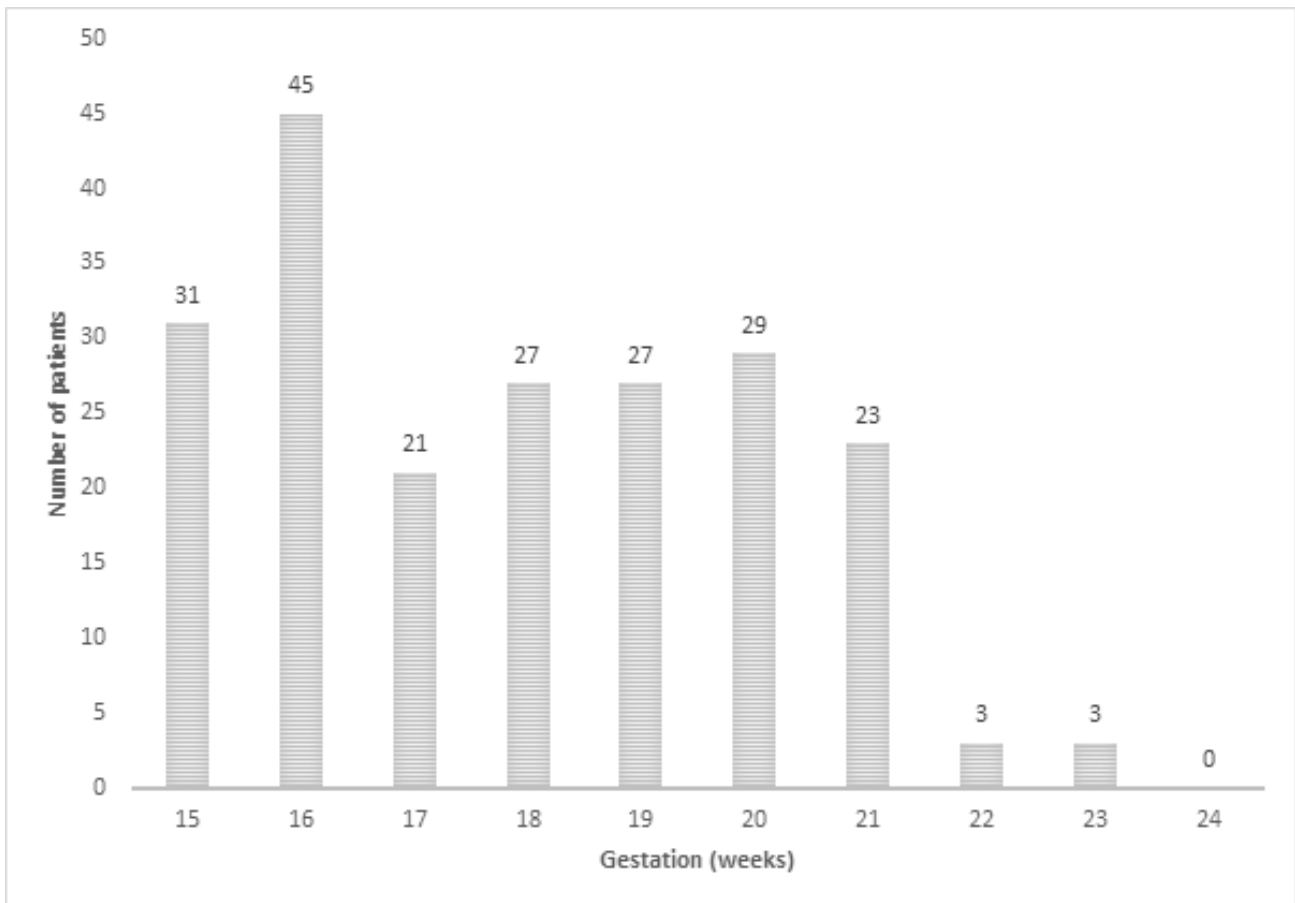
**Figure 6** Age of patients in Advanced Pregnancy cohort



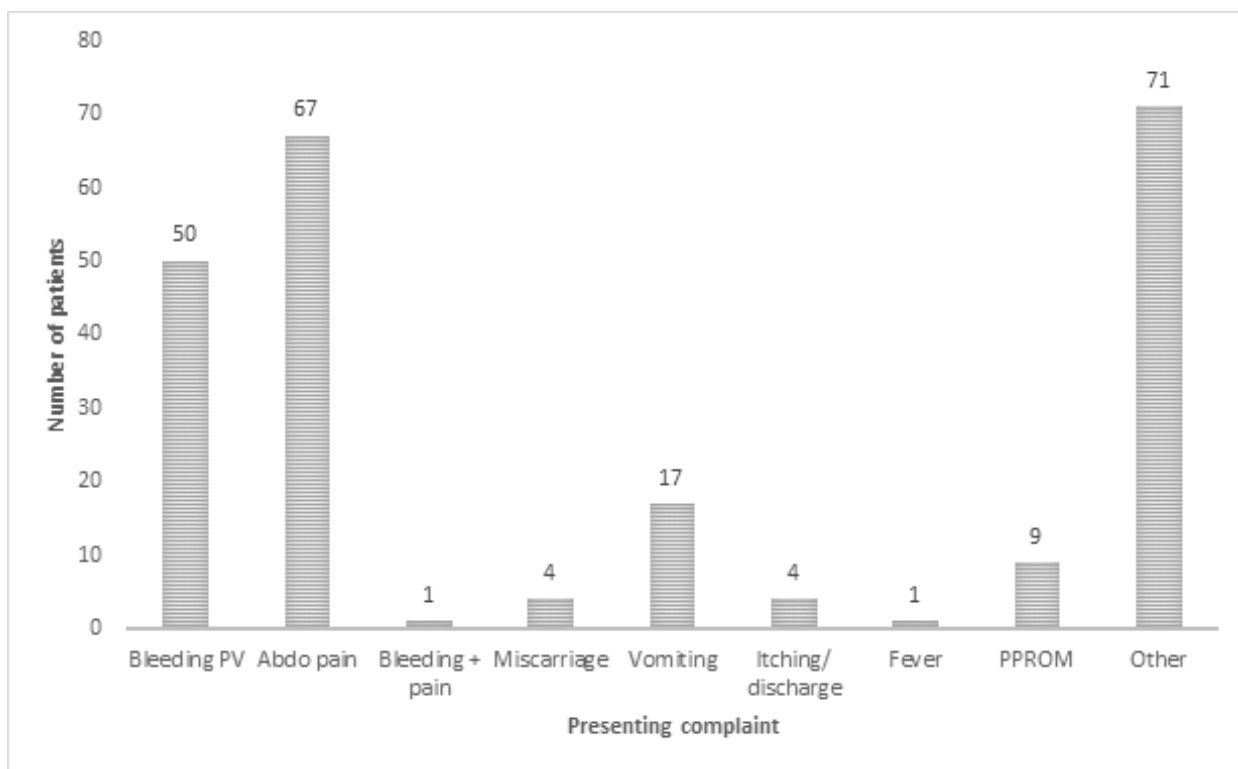
**Figure 7** Nationality of patients in Advanced Pregnancy cohort



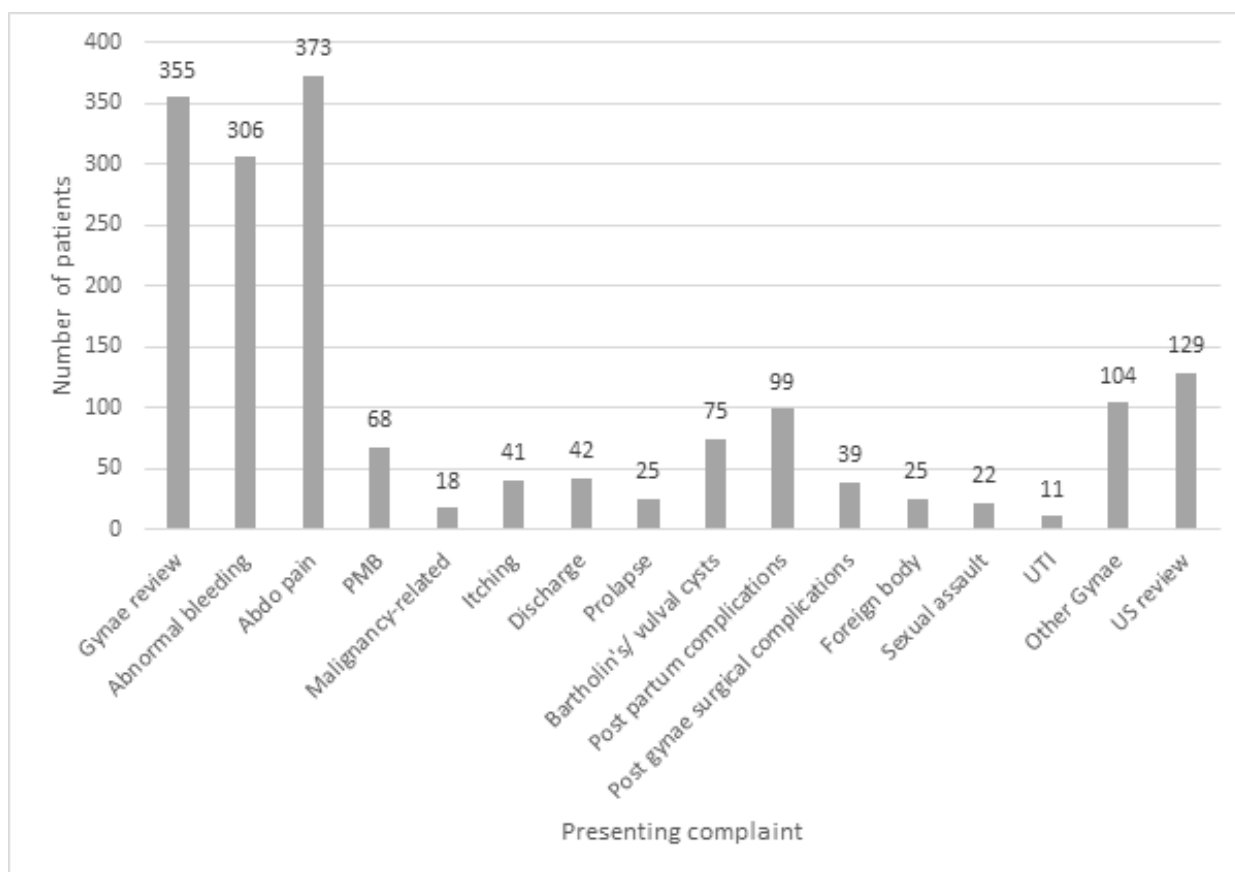
**Figure 8** Gestation at presentation of patients in Advanced Pregnancy cohort



**Figure 9** Presenting complaint of patients in Advanced Pregnancy cohort



**Figure 10** Presenting complaints of patients in Gynaecology cohort



***Large case load and non-urgent referrals***

An Emergency Department is designed to provide “rapid, high-quality, continuously accessible, unscheduled care” for a wide range of acute conditions.<sup>2</sup> It is evident from our dataset that multiple patients present with non-urgent problems that may be dealt with in a primary care setting rather than an emergency room. The fact that the Emergency Department in Malta is easily accessible and free could contribute to this phenomenon. It does not, however, explain how a proportion of patients preferentially attend the ED to the more appropriate primary health care facilities.

Taking into consideration the total number of attendees to Mater Dei Hospital’s Emergency Department in 2019 (140,209 attendees), we can deduce that around 10% of these patients are being referred and seen at the Gynaecology Admission Room.

The large number of cases identified in this study stresses the busy workload faced daily at the Gynaecology Admission Room. Presenting complaints such as urinary tract infections, vaginal discharge and itching in pregnancy inundate a supposed emergency room with these non-urgent health problems. Unfortunately, the rate of non-urgent visits attending our Gynaecology Admission Room could not be identified in this study, since the patient register does not include such detailed information. It is very difficult to assess and dictate the urgency of a problem purely from registers noting down basic information on a patient attending the ED. However, we can infer that a good proportion of patient contacts were non-urgent from the nature of the referrals. This assumption is congruent with several international studies.

In the United States, the proportion of patients presenting with non-urgent health problems was 37%.<sup>3</sup> In a paediatric Emergency Department (ED), 28 to 76% of attendees were reported to have non-urgent problems.<sup>4</sup> A rate of 31% of non-urgent visits was identified in a Turkish obstetric and gynaecology ED. Inappropriate ED use for non-urgent problems is thought to be the primary contributor to ED overcrowding. Inappropriate attendance makes it difficult for real emergency cases to be seen readily, resulting in a negative spill-over effect on the quality of care, and also raises costs.<sup>1</sup>

Non-urgent early obstetric and gynaecology problems should be dealt with in primary care. This would offload the Gynaecology Admission Room to deal with the “true” emergency cases and improve care. Increased obstetric and gynaecology training for GPs as well as increased education to the primary care sector will help in aiding this shift. Other proposals include increasing the number of ‘ASAP slots’ in Gynaecology clinics conducted at Health Centres.

The varied case load referred to the Gynaecology Admission Room, requires an appropriate risk stratification system, to prioritise patients appropriately, and separate the urgent from the non-urgent problems. To date, there is no formal early obstetric and gynaecology triage system in place and only one assessment room available. Nurses staffing the Gynaecology Admission Room would perform triage merely based on clinical impression. Attempts at using a triaging patient-filled questionnaire proved cumbersome, time consuming and hence ineffective. The heavy workload as well as presenting complaints lying on a wide urgency scale require a formal triaging system to be performed by an appropriately trained



individual. Triage systems are able to accurately distinguish between high and low-urgency patients, which is important in terms of patient safety and emergency room efficiency. The most common of these triage systems is the Canadian Triage and Acuity Scale (CTAS), the Manchester Triage System (MTS) and the Emergency Severity Index (ESI), the latter being the system used at the Mater Dei Hospital Emergency Department.<sup>8</sup>

Another change that could significantly decrease the unscheduled Gynaecology Admission Room attendance would be the introduction of an Early Pregnancy Assessment Unit (EPAU). Such services, initially established in the United Kingdom<sup>9</sup> have now spread to European countries such as Denmark<sup>10</sup> as well as Canada<sup>11</sup> and the United States<sup>12</sup>. They provide individualised care to clinically stable patients suffering complications of early pregnancy and have proven to be cost-effective<sup>13</sup> and to reduce emergency visits.<sup>14,11</sup> It is a specialist service typically run during office hours affording appropriate stream-lined management to these women. It also affords ample time to discuss very sensitive topics, unlike the Gynaecology Admission Room which is always on the go, in view of the full waiting room.

### ***Non- Maltese Nationals***

According to the NOIS Annual report in 2018, 27.6% of the births in the Maltese Islands were non-Maltese nationals.<sup>5</sup> In the Early Pregnancy cohort and the Advanced Pregnancy cohort an attendance of 41% and 35% respectively of non-Maltese nationals was recorded. There is over-representation of non-Maltese nationals attending the Gynaecology Admission Room, therefore listing nationality as a potential confounding factor of non-urgent ED use. Unfortunately demographic data such as

nationality was not collected for the patients presenting with gynaecology problems. This is a limitation of the study, and it can only be assumed that there is an over-representation of non-Maltese nationals in this group, as an extrapolation from the obstetric group.

This over-representation of non-Maltese nationals in the Gynaecology Admission Room may be due to a number of factors. It is hypothesised that there is a decreased awareness and access to primary care in this cohort of women. Another possible reason could be a relative preference for public health care by non-Maltese nationals, or a relative preference for private health care by the Maltese women. More importantly, this raises the question of whether there is a discrepancy between Maltese and non-Maltese patients in terms of outcomes. The phenomenon of disparity in maternal and perinatal mortality related to ethnicity is well documented. No local data is available to date. Increasing awareness of health care services via social media outlets, leaflets, etc, may aid and stratify patients presenting to our ED.

Disparity in maternal deaths because of ethnicity is “unacceptable”.<sup>6</sup> Further analysis on patient demographics and patient characteristics is recommended. This should include, for example, preferred language, health insurance, regular antenatal care visits and prenatal care attendance. In an observational study performed by Kilfoyle et al, these characteristics were all found to be associated with non-urgent ED use in the obstetric and gynaecology department.<sup>7</sup>

A limitation of this study was poor documentation. “Gynae review” encompasses internal consultations from other medical specialties or from the emergency

department. The manual documentation precludes any further detail.

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### CONCLUSIONS AND RECOMMENDATIONS

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The Gynaecology Admission Room at Mater Dei Hospital is staffed by dedicated doctors, nurses and midwives. However, the study has highlighted how this busy unit is challenged by overcrowding and non-urgent referrals. It also drew attention to the over-representation of non-Maltese nationals in the attendees. An overhaul of the early pregnancy and acute gynaecology emergency service is due.

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### WE RECOMMEND

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1. A triage system for appropriate prioritisation of patients with addition of a second clinic room.
2. A digitalised and coded admission process. This would facilitate auditing data in the future to improve the service and enhance patient safety.
3. The establishment of a dedicated Early Pregnancy Assessment Unit to help

streamline early obstetric care and reduce unscheduled emergency visits.

4. The involvement and enhanced training of primary health care doctors to deal with non-urgent and/or non-complicated cases.

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### FURTHER RESEARCH

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The study suggests that patients with a non-Maltese nationality were more likely to access the ED, therefore questioning whether a discrepancy of care or outcomes exists between Maltese and non-Maltese nationals. Further study in this area is recommended.

Further evaluation of the precise rate of avoidable visits to the ED as well as a more in-depth analysis of the individual patient characteristics resulting in non-urgent attendance to the Gynaecology Admission Room is required. This may elucidate ways to deal with this problem and to improve the obstetric and gynaecology emergency service at Mater Dei Hospital.

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