

The COVID-19 pandemic in the Netherlands: Impact on primary care

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Introduction

The COVID-19 pandemic started its impact on the health system in The Netherlands end of February 2020. In Dutch health care family physicians (FPs) play a central role: All citizens are registered with an FP as the first point of access for health care, with specialist and hospital care only available after referral. More than 95% of care episodes are completely covered in primary care and FPs are involved in the management of remaining episodes.¹ This is the context in which the COVID-19 epidemic did strike: FPs had to decide which COVID-19 (suspect) patients could be managed at home, should be seen by a medical specialist, or admitted to a hospital. In this paper we present first empirical data of the impact of COVID-19 on daily practice.

We studied the changes in presented health problems and demand for primary care for March 2020 with March 2019 as a reference.

Methods

We analyzed data of 25 family practitioners in and around the city of Nijmegen, with a registered practice population of 26,225 – slightly younger than the Dutch population, but comparable in gender and social class composition.² The practices participate in the practice based research network FaMe-net (Radboud University Medical Center, Family Medicine Network Nijmegen).³ This network has been recording routine data from family practice since 1967. FPs record for every contact the reason for encounter/presented symptoms (RFEs), duration of symptoms, diagnosis, and interventions (diagnostic testing, referral prescribed medication), under regular review of reliability of coding/classification.⁴ This includes the episodes of specialist care and out-of-hours services that are reported back to the FP in almost 100 per cent of the cases. FaMe-net classifies each condition in the International Classification of Primary Care (ICPC) and the International Classification of Disease (ICD-10). On Monday 2 March, four days after the COVID-19 epidemic did strike the Netherlands, the FaMe-net started to use specific codes for COVID-19-related problems (ICPC R83 and ICD-10 u.07.1 2019-nCoV respiratory tract infection), following the ICPC-manual.⁵ If patients referred explicitly to COVID-19 as their reason to contact, COVID-19 was

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coded as the RFE. COVID-19 was coded as a diagnosis in patients (i) with a positive PCR test; or (ii) with a suspicious clinical picture.⁶

We analyzed prominent symptom features of COVID-19 (tiredness, cough, shortness of breath, sore throat, common cold, fever) in March 2019 and 2020, and for March 2020 also COVID-19 as RFE. We analyzed as well for March 2019 and 2020 the number of practice contacts and type of contact: practice visit (including home visit) vs telephone consultation (including e-mail/internet) and contacts for a number of common important health problems: hypertension, diabetes mellitus, mental health problems, otitis, fatigue, and preventive counseling.

We used Chi-square to test for significance. For RFEs we tested significance for changes in distribution for 2020 compared to 2019 (correction for population size); and for different health problems the changes in contact types.

Results

In March 2020 respiratory tract symptoms were presented more often than in March 2019, without a direct connection or attribution to COVID-19. At the same time there was a sudden upsurge in reasons for encounter (all $p < 0.001$) related to COVID-19 which became the most common respiratory tract related reason for patients to contact the practice (Figure 1). Together, this formed the burden in diagnosis and management, under the COVID-19 epidemic. At the same time, compared to March 2019, we observed a stable amount of contacts with the practices 445/1000 to 450/1000, with an increase of telephone/e-mail/internet consultations from 30.6% of the contacts in 2019 to 53.3% in March 2020 ($p < 0.001$).

Hypertension, diabetes mellitus, fatigue, otitis mental health problems and preventive counseling were common reasons to contact the practice, but from early March 2020 their frequency of contact plummeted substantially and their distribution changed significantly ($p < 0.001$) (Figure 2).

Discussion

Our data illustrate the large impact of COVID-19 on Dutch family practice from the onset of the epidemic. Patients presented a large number of yet undifferentiated respiratory symptoms and COVID-19 related questions and concerns to FPs. Quickly, COVID-19 became the single most common reason for contact. The combined high frequency of COVID-19 related, and undifferentiated respiratory symptoms illustrates the clinical challenge to family practice.

Together with this challenge, a substantial change in practice organization had to be pursued. This replaced contacts in person by distanced consultations by telephone and e-

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mail. The demand for primary care changed rapidly as well: chronic health problems, mental health and prevention decreased more or less from the very moment the COVID-19 epidemic had entered the country.

Its immediate effect was helpful: postponement of regular, scheduled office contacts enabled the practice to focus on the sudden increase in COVID-19 care. This also postponed referrals to specialists and hospitals, freeing up capacity there as well. But this raised also concerns of damaging effects on the health of the vulnerable: those with chronic physical and mental health problems, frail elderly. Most patients understood and accepted the restricted access to the practice. This is in itself reassuring, emphasizing that patients are partners, also under difficult situations. In fact, our data suggest that the rapid drop in contacts for non-respiratory, non-COVID-19 health problems was patient-initiated. But this stresses the importance to secure care for all health problems in primary care's preparations for a major epidemic, to avoid the collateral damage of health systems' single-minded focus on the epidemic. Our data suggest that this has to be addressed proactively, early-on during the epidemic to secure continuity of care.

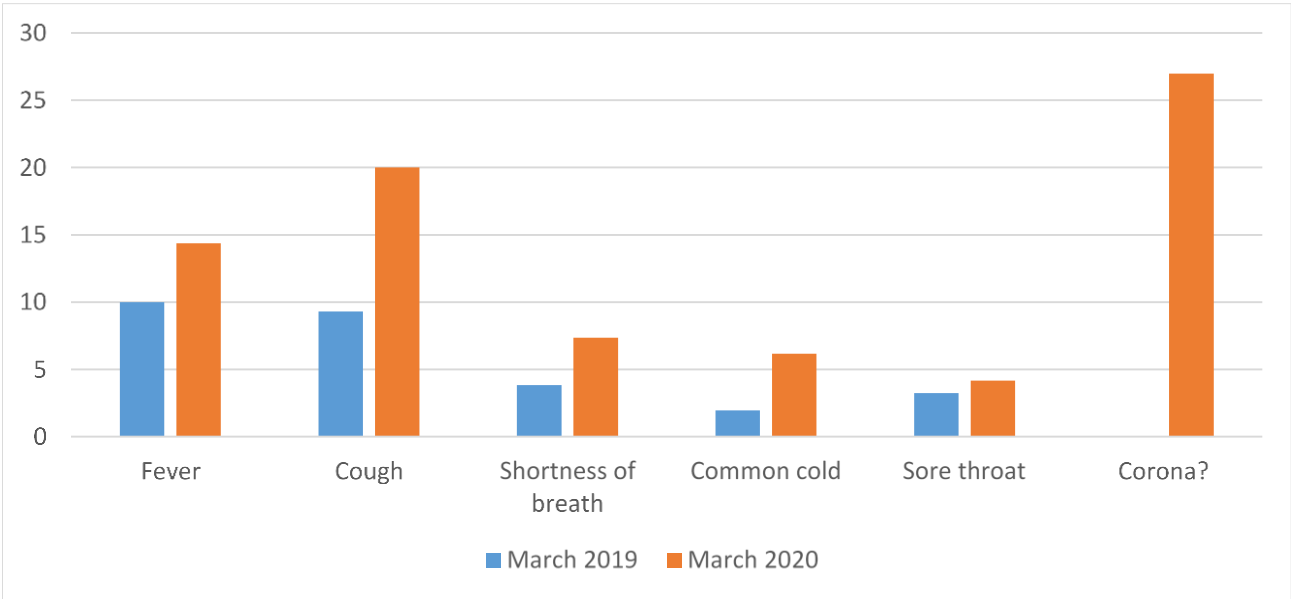
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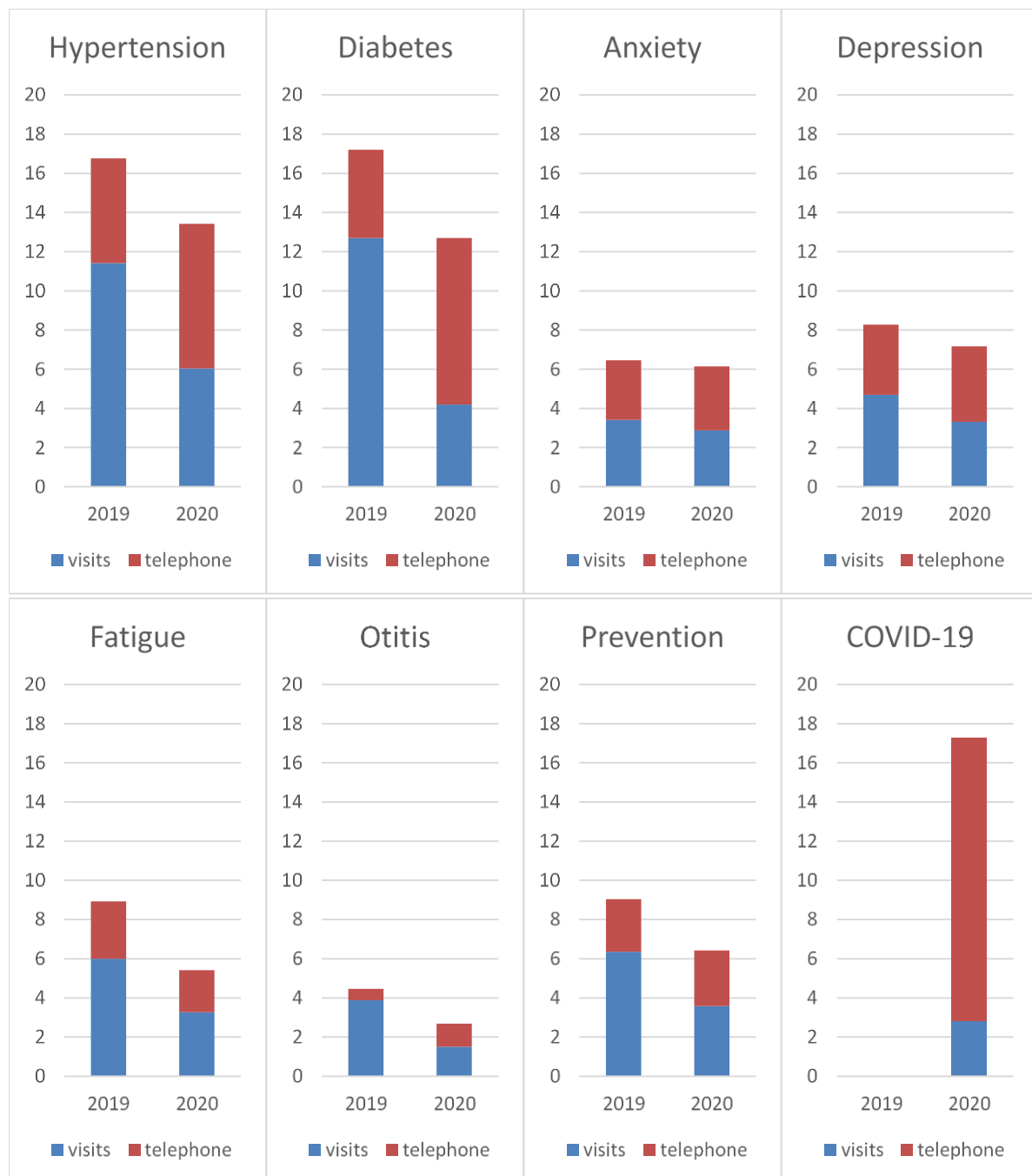
Figure 1 Figure 1 Reasons for encounter related to COVID-19 in family practice; March 2019 and 2020 (numbers/1000 patients).



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Figure 2 Contacts with family practice in March 2019 and 2020; visits and telephone/mail consultations (numbers per 1000 patients).



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