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Incidence, prevalence, and management of plantar heel pain:

a retrospective cohort study in Dutch primary care

Abstract

Background
Plantar heel pain (PHP) is a common cause of foot complaints in general practice. However, information on the occurrence and practical management is scarce.

Aim
The aim of this study was to determine the incidence and prevalence of PHP in Dutch primary care and to gain insight into the types of treatments provided to patients with PHP in primary care.

Design and setting
A cohort study was conducted using a healthcare database containing the electronic general practice medical records of approximately 1.9 million patients throughout the Netherlands.

Method
A search algorithm was defined and used to identify cases of PHP from January 2013 to December 2016. Descriptive statistics were used to obtain the incidence and prevalence. Data on the management of PHP were manually validated in a random sample of 1000 patients.

Results
The overall incidence of PHP was 3.83 cases (95% confidence interval [CI] = 3.77 to 3.89) per 1000 patient-years, the incidence in females was 4.64 (95% CI = 4.55 to 4.72), and 2.98 (95% CI = 2.91 to 3.05) in males. The overall prevalence of PHP was 0.4374% (95% CI = 0.4369 to 0.4378%). Incidence of PHP peaked in September and October of each calendar year. The most commonly applied strategies were a wait-and-see policy (18.0%, *n* = 168), use of non-steroidal anti-inflammatory drugs (NSAIDs) (19.9%, *n* = 186), referral to a paramedical podiatric specialist (19.7%, *n* = 184), and advice to wear insoles (16.4%, *n* = 153). Treatment strategies varied greatly among GPs.

Conclusion
There was large variation in treatment strategies of GPs for patients with PHP. GPs should be aware of conflicting evidence for interventions, such as insoles, and focus more on exercises for which there is evidence for effectiveness.

Keywords
Exercise therapy; incidence; plantar fasciitis; pain; prevalence; primary health care.

INTRODUCTION

Plantar heel pain (PHP), formerly known as plantar fasciitis or fasciopathy, accounts for an estimated 11–15% of all foot complaints requiring professional care in adults.[1] Plantar heel pain affects highly physically active people, such as runners, but is also typical for middle-aged (40–60 years) females who are overweight.[2–4] The prevalence of PHP has been studied in specific sport and occupational populations, such as runners and soldiers, with varying findings (2.7–17.5%).[2,5–8] A large open-population survey study found that 0.85% of adults in the US had reported complaints of PHP in the last month.[9] Studies have estimated the incidence of PHP in the Dutch population to be 2–4 per 1000 person years.[3,10,11] These latter studies have investigated PHP in a small number of practices or in a specific age group and may not be representative of the overall population. The clinical course of PHP is considered favourable, as remission of complaints has been reported in 60–80% of patients after 12 to 24 months of diagnosis.[12,13] However, patients with PHP often report low quality of life as their heel pain complicates their every day and sports activities.[14] The most commonly prescribed treatments include footwear modification, activity modification, taping, stretching exercises, anti-inflammatory agents, extracorporeal shock wave therapy (ESWT), orthoses, and cortisone injections.[12,15,16] High-quality randomised controlled trials have shown a therapeutic effect of exercises.[13,17] However, there is insufficient evidence from high-quality randomised trials for the effectiveness of other treatments.[15,18,19] Despite the relatively favourable clinical course, multiple treatments are often applied during the course as a result of patient complaints.[12,16] The lack of evidence regarding optimal treatment combined with slow recovery may lead to physicians trying multiple treatment strategies. This is also visible in clinical guidelines, which present a variety of treatment options without clear evidence on what works best.[20–22] Data on the occurrence and management of PHP in primary care are scarce, which complicates the formulation of clinical guidelines.

The objective of this study was to determine the incidence and prevalence of PHP in Dutch general practice, and to gain insight into types of treatments provided by GPs.

METHOD

Design and setting

A retrospective cohort study was conducted using the Integrated Primary Care Information (IPCI) database. The IPCI database contains anonymous longitudinal data on demographics, symptoms and diagnosis, correspondence to and from secondary care, and drug prescriptions of approximately 1.9 million Dutch participants. The participating practices were considered to be a representative sample, since

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How this fits in

An average GP sees about 8 new cases with plantar heel pain (PHP) per year, which makes it a common foot complaint, typically encountered in middle-aged females who are overweight. This study found a seasonal change in the incidence of PHP, since a peak in incidence of PHP was seen in September and October of each examined calendar year. The clinical course of PHP is considered favourable, though this study showed that a large variety of treatments are applied and vary greatly among GPs, with non-steroidal anti-inflammatory drugs, referral to a paramedical podiatric specialist, and insoles as the most commonly applied interventions. About one-third of patients included in the present study had multiple consultations with their GP for PHP within 12 months of the first diagnosis. More knowledge on the effectiveness of these applied treatments seems mandatory as evidence on the effectiveness is lacking.

location, type of practice, and population, were taken into account. It is obligatory for citizens to be registered with a GP in the Netherlands, and the GP is the first point of care for complaints that require medical care, as well as for referrals to secondary care. Details of the IPCI database have been described elsewhere.[23,24]

Study cohort

The study population consisted of patients with a new diagnosis of PHP, seen by the GP between 1 January 2013 and 31 December 2016. The diagnosis was considered new if the patient had not been diagnosed with PHP in the preceding 24 months. Patients could be included in the study population more than once, if there was >24 months between two diagnoses of PHP, or if the patient had moved from one practice to another practice participating in IPCI during the study period. Diagnoses of PHP were identified using the International Classification for Primary Care (ICPC) coding, and combined with supporting keywords in free text.[25] For the current study, patients were therefore considered to have PHP if they received the ICPC code L99 (musculoskeletal disease, other) or L17 (foot/toe symptom/complaint) in combination with the words 'heel spur', 'fasciitis', or 'fasciitis plantaris'; or spelling variations of these words, for example, 'fascitis' or 'planaris', in free text. The final algorithm excluded hits that were only found in correspondence from other healthcare providers and not mentioned by the GPs themselves. Hits that were combined with terms of negation, such as 'ex', 'not', or 'no', were excluded. The authors assessed the positive predictive value (PPV) of this algorithm by manually validating a random sample of 100 patients using the full medical record by one of the authors, who was a trained physician. The PPV of the algorithm was estimated to be 93% for PHP. Patient date of birth and sex were known.

Treatment strategies

The interventions applied by the GP, and the number of consultations with the GP for one episode of complaints related to PHP, were extracted from the full medical record by one of the authors in a random sample of 1000 patients generated by a computer algorithm. Interventions and consultations that took place within 12 months following the diagnosis were extracted. The date of the first consultation and the last consultation were extracted for each patient, as well as the total number of consultations. Telephone consultations were also counted as consultations, provided that the GP had contact with the patient and discussed the treatment of PHP. Type of complaints: unilateral, bilateral, or unknown, and duration of complaints at the first consultation: acute (<2 weeks), subacute (2–52 weeks), chronic (>12 months), or unknown, were also extracted from the IPCI database for each patient.

Statistics

Incidence rate was determined by dividing the number of cases by the total number of person-years of follow-up and expressed per 1000 person-years. Confidence intervals (95% CIs) were calculated using the Poisson distribution. Prevalence was calculated by dividing the number of cases of PHP during the year of investigation, by the total number of people with follow-up in the total population on 1 January of that same year. People with at least 12 months of follow-up were included in the denominator. Cases included patients with an incident or prevalent diagnosis of PHP in the 12 months before 1 January. The overall point prevalence was weighted for each calendar year specific denominator. Confidence intervals were calculated based on normal distribution. Descriptive statistics were used to describe the types of interventions applied and number of consultations of patients with PHP. χ^2-tests and one-way analysis of variance (ANOVA) were used to compare different pre-specified subgroups of patients: patients with unilateral and bilateral complaints, and patients with acute, intermediate, and chronic duration

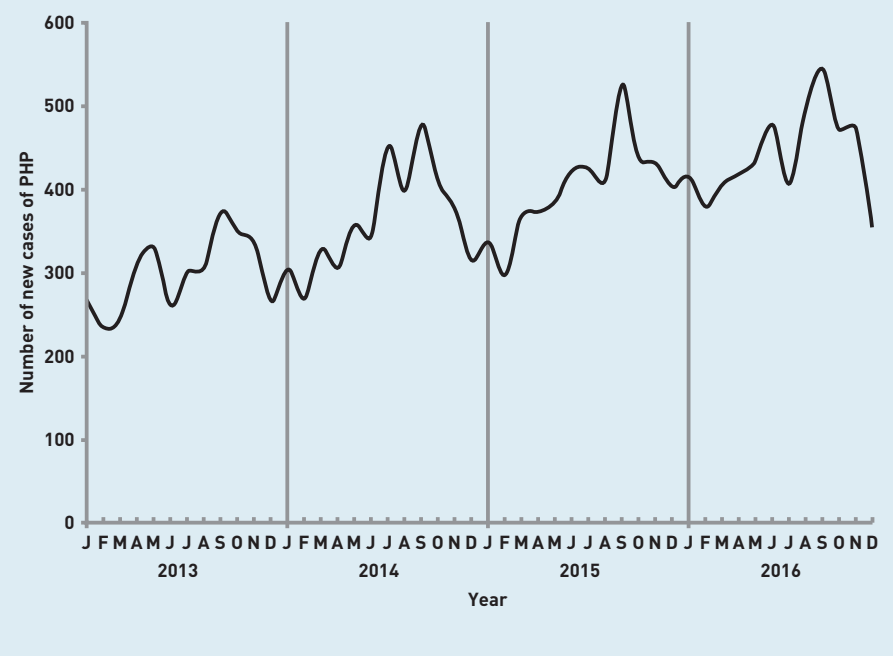


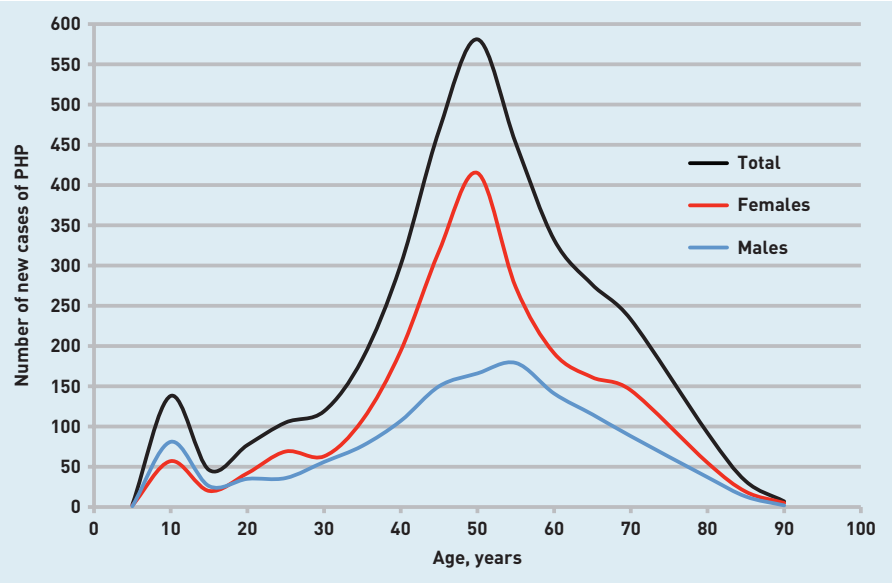
Figure 1. Incidence of plantar heel pain (PHP) during the study period (1 January 2013 – 31 December 2016).

of complaints. All analyses were performed using SPSS (version 23).

RESULTS

The search algorithm identified 18 004 patients with PHP. The overall incidence of PHP was 3.83 cases (95% CI = 3.77 to 3.89) per 1000 patient years. The incidence of PHP per year is shown in Figure 1. On inspection, a yearly peak was seen in September and October of each calendar year, which indicates that more people with PHP present themselves to the GP during these months. A total of 62% of patients with PHP were female with an incidence of PHP of 4.64 (95% CI = 4.55 to 4.72) per 1000 patient years compared to 2.98 (95% CI = 2.91 to 3.05) in males. The mean age of the incident PHP population was 50.25 years (SD 16.56); mean age was 50.44 years (SD 15.83) for females compared to 49.95 years (SD 17.67) in males. Peak incidence was 11.23 (95% CI = 10.16 to 12.31) per 1000 patient years at age 50 years for females, compared to 5.54 (95% CI = 4.73 to 6.35) at age 55 years for males, with a smaller peak at age 10 years for both sexes (Figure 2). The overall prevalence of PHP was 0.4374% (95% CI = 0.4369 to 0.4378). Further information relating to age distribution data is available from the authors' on request.

Figure 2. Age distribution in a cohort of 18 004 patients with incident plantar heel pain (PHP).



Characteristics of sample

In the random sample of 1000 patients, 933 were considered to have PHP, which was in accordance with the PPV of 93% found in the algorithm development phase. In this random sample, 60.7% was female and the mean age was 49.17 years (SD 16.70). At first presentation to the GP, 17.4% (*n* = 162) of the patients had acute complaints, 28.8% (*n* = 269) had subacute complaints, and 3.4% (*n* = 32) had chronic complaints. In 50.4% (*n* = 470) of patients the duration of complaints was unknown. Bilateral complaints were observed in 13.1% (*n* = 122), while this was unknown in 18.9% (*n* = 176). In the sample, 30.9% (*n* = 288) of patients had >1 consultation with their GP for PHP within 12 months of the first consultation (range 2–8 months), and 34.0% (*n* = 317) of patients received >1 intervention during follow-up (range 2–11 months).

Treatment strategy in first consultation

The GP performed diagnostics at the first consultation in 8.6% (*n* = 80) of patients. In most cases (7.7%, *n* = 72) an X-ray, and in other cases (0.9%, *n* = 8) an ultrasound, was performed (further information is available from the authors' on request). In 18.0% (*n* = 168) of patients the GP had a wait-and-see policy at the first consultation. Most frequently applied interventions and policies were a prescription for NSAIDs (19.9%, *n* = 186), a referral to a paramedical podiatric specialist (19.7%, *n* = 184), a wait-and-see policy (18.0%, *n* = 168), and the advice to wear insoles (16.4%, *n* = 153), (Table 1). Patients with acute complaints were less likely to receive a referral or NSAIDs during the first consultation when compared to chronic complaints, subacute complaints, or unknown duration of complaints (*P*<0.001) (Table 2). Patients with bilateral complaints were also more

Table 1. Different policies and interventions provided during the first consultation (*N* = 933)

Policy during first consultation for PHP	Number of times policy or intervention was provided to a patient[a], *n* (%) (*N* = 933)	Patients receiving the policy during a follow-up consultation per age category[a], *n* (%)			
		<18 years, *n* (%) (*N* = 62)	18–40 years, *n* (%) (*N* = 164)	41–65 years, *n* (%) (*N* = 546)	>65 years, *n* (%) (*N* = 161)
Wait-and-see	168 (18.0)	13 (21.0)	23 (14.0)	97 (17.8)	35 (21.7)
Diagnostics	80 (8.6)	3 (4.8)	10 (6.1)	51 (9.3)	16 (9.9)
Interventions					
Exercises	91 (9.8)	5 (8.1)	15 (9.1)	58 (10.6)	13 (8.1)
Shoe advice	51 (5.5)	6 (9.7)	7 (4.3)	31 (5.7)	7 (4.3)
Insoles	153 (16.4)	10 (16.1)	26 (15.9)	90 (16.5)	27 (16.8)
Other orthotic device	73 (7.8)	4 (6.5)	15 (9.1)	42 (7.7)	12 (7.5)
NSAID	186 (19.9)	1 (1.6)	50 (30.5)	116 (21.2)	19 (11.8)
Other medication	58 (6.2)	1 (1.6)	9 (5.5)	29 (5.3)	19 (11.8)
Injection with corticosteroids	13 (1.4)	0	1 (0.6)	9 (1.6)	3 (1.9)
Other intervention	4 (0.4)	0	0	3 (0.5)	1 (0.6)
Referrals					
Referral to paramedical podiatric specialist	184 (19.7)	21 (33.9)	40 (24.4)	100 (18.3)	23 (14.3)
Referral to physiotherapist	47 (5.0)	5 (8.1)	6 (3.7)	24 (4.4)	12 (7.5)
Referral to orthopaedic surgeon	17 (1.8)	0	2 (1.2)	11 (2.0)	4 (2.5)
Other referral	26 (2.8)	2 (3.2)	4 (2.4)	12 (2.2)	8 (5.0)
Referrals total	274 (29.4)	28 (45.2)	52 (31.7)	147 (26.9)	47 (29.2)

[a]*Patients could receive >1 intervention per consultation or no intervention in case of a wait-and-see policy, therefore number of patients in these cells does not total 933.*

NSAID = non-steroidal anti-inflammatory drug. PHP = plantar heel pain.

likely to receive a referral when compared to unilateral or unknown localisation of complaints ($P = 0.017$) (Table 3). A total of 18.4% ($n = 172$) of patients received >1 intervention during the first consultation; the maximum number of interventions was 4 (0.4%). The most common combination was a referral to a paramedical podiatric specialist combined with a prescription for NSAIDs (2.1%, $n = 20$). Further information is available from the authors' on request.

Treatment strategy in multiple consultations

The authors found that 288 patients (30.9%) had multiple consultations with their GP for PHP within 12 months of the first diagnosis (Table 4). Of these 288 patients, 63.5% were female, and the mean age was 51.9 years (SD 14.99) — this was not significantly different from the total sample. In patients with multiple consultations, there was a median of 29.0 days (interquartile range 9.0 to 86.5) between the first and second

Table 2. Differences in policies during the first consultation for duration of complaints (*N* = 933)

Policies, consultations, and interventions	Acute (*N* = 162)	Subacute (*N* = 269)	Chronic (*N* = 32)	Unknown (*N* = 470)	χ^2/F-statistic	Post-hoc analysis *P*-value
Wait-and-see, *n* (%)	40 (24.7)	37 (13.8)	2 (6.3)	89 (18.9)	11.47 ($P = 0.009$)	acute: 0.015; subacute: 0.031
NSAID, *n* (%)	52 (32.1)	53 (19.7)	6 (18.8)	75 (16.0)	19.71 ($P<0.001$)	acute: <0.001
Referral, *n* (%)	20 (12.3)	96 (35.7)	13 (40.6)	145 (30.9)	30.26 ($P<0.001$)	acute: <0.001; subacute: 0.007
Number of interventions during first consultation, mean (SD)	1.06 (0.90)	1.04 (0.75)	0.78 (0.55)	0.90 (0.67)	3.711 ($P = 0.011$)	–
Number of total consultations for PHP in 12 months, mean (SD)	1.56 (1.11)	1.56 (0.93)	1.78 (1.36)	1.47 (1.03)	1.258 ($P = 0.287$)	–
Total number of interventions for PHP in 12 months, mean (SD)	1.50 (1.39)	1.49 (1.03)	1.25 (0.88)	1.28 (1.06)	2.822 ($P = 0.38$)	–

NSAID = non-steroidal anti-inflammatory drug. PHP = plantar heel pain. SD = standard deviation.

Table 3. Differences in policies during the first consultation for localisation of complaints (*N* = 933)

Policies, consultations, and interventions	Unilateral (*N* = 635)	Bilateral (*N* = 122)	Unknown (*N* = 176)	χ^2/F-statistic	Post-hoc analysis *P*-value
Wait-and-see, *n* (%)	111 (17.5)	13 (10.7)	44 (25.0)	10.41 (*P* = 0.005)	bilateral: 0.023
NSAID, *n* (%)	137 (21.6)	12 (9.8)	37 (21.0)	9.00 (*P* = 0.011)	bilateral: 0.003
Referral, *n* (%)	174 (27.4)	47 (38.5)	53 (30.1)	6.16 (*P* = 0.046)	bilateral: 0.017
Number of interventions during first consultation, mean (SD)	1.00 (0.77)	0.93 (0.62)	0.88 (0.71)	2.023 (*P* = 0.133)	–
Number of total consultations for PHP in 12 months, mean (SD)	1.51 (1.02)	1.64 (1.04)	1.49 (1.08)	0.935 (*P* = 0.393)	–
Total number of interventions for PHP in 12 months, mean (SD)	1.40 (1.10)	1.40 (0.96)	1.31 (1.24)	0.477 (*P* = 0.621)	–

NSAID = non-steroidal anti-inflammatory drug. SD = standard deviation. PHP = plantar heel pain.

consultation. Table 4 provides an overview of GP policy and interventions provided during the follow-up consultations.

Table 5 provides an overview of the policy and interventions during multiple consultations depending on what happened during the first consultation. Significantly more patients that had received a wait-and-see policy during the first consultation returned for a second consultation (32.1%, *n* = 54), compared to patients with an intervention (referral, exercises, NSAIDs) during the first consultation (23.0%, *n* = 117) (mean difference 9.1; 95% CI = 1.47 to 17.27). Of the patients that received diagnostics during the first consultation, 91.3% (*n* = 73) returned for a second consultation, which was likely due to returning to receive the results of the diagnostic test.

DISCUSSION

Summary

In this retrospective cohort study, the authors examined the incidence and prevalence of PHP in Dutch general practice as well as the treatment strategies of GPs applied in this population. This study found an incidence of PHP of 3.83 cases per 1000 patient years

Table 4. Different policies and interventions provided during follow-up consultations (*N* = 288)

Policy during follow-up consultations for PHP	Patients receiving policy during a follow-up consultation[a], *n* (%) (*N* = 288)	Patients receiving policy during a follow-up consultation per age group,[a] *n* (%)			
		<18 years (*N* = 12)	18–40 years (*N* = 34)	40–65 years (*N* = 191)	>65 years (*N* = 51)
Wait-and-see	85 (29.5)	6 (50.0)	10 (29.4)	53 (27.7)	16 (31.4)
Diagnostics	34 (11.8)	1 (8.3)	3 (8.8)	32 (16.8)	7 (13.7)
Interventions					
Exercises	15 (5.2)	0	3 (8.8)	11 (5.8)	1 (2.0)
Shoe advice	6 (2.1)	0	0	6 (3.1)	0
Insoles	23 (8.0)	1 (8.3)	1 (2.9)	13 (6.8)	8 (15.7)
Other orthotic device	14 (4.9)	0	0	12 (6.3)	2 (3.9)
NSAID	70 (24.3)	0	7 (20.6)	49 (25.7)	14 (27.5)
Other medication	19 (6.6)	1 (8.3)	3 (8.8)	11 (5.8)	4 (7.8)
Injection with corticosteroids	26 (9.0)	0	3 (8.8)	19 (9.9)	4 (7.8)
Referrals					
Referral to paramedical podiatric specialist	74 (25.7)	3 (25.0)	11 (32.4)	46 (24.1)	14 (27.5)
Referral to physiotherapist	32 (11.1)	0	2 (5.9)	25 (13.1)	5 (9.8)
Referral to orthopaedic surgeon	55 (19.1)	2 (16.7)	7 (20.6)	38 (19.9)	8 (15.7)
Other referral	16 (5.6)	0	3 (8.8)	11 (5.8)	2 (3.9)
>1 referral	18 (6.3)	0	1 (2.9)	12 (6.3)	5 (9.8)

[a]*Patients could receive >1 intervention per consultation or no intervention in case of a wait-and-see policy, therefore number of patients in these cells does not total 288.*

NSAID = non-steroidal anti-inflammatory drug. PHP = plantar heel pain.

Table 5. Policies and interventions provided during subsequent consultations for PHP (within 12 months) depending on what happened during the first consultation (*N* = 933)

Policy or intervention during first consultation[a]	Patients returning for multiple consultations, *n* (%)	Patients with wait-and-see policy during follow-up consultation, *n* (%)	Patients receiving a referral during follow-up consultation, *n* (%)	Total interventions provided, mean (SD)	Total consultations with GP in 12 months, mean (SD)
Any (*n* = 933)	288 (30.9)	85 (9.1)	160 (17.1)	1.38 (1.11)	1.52 (1.03)
Diagnostics (*n* = 80)	73 (91.3)	33 (41.3)	33 (41.3)	1.09 (1.07)	2.28 (1.04)
Wait-and-see (*n* = 168)	54 (32.1)	13 (7.7)	31 (18.5)	0.48 (0.99)	1.60 (1.21)
Referral to paramedical podiatric specialist (*n* = 184)	31 (16.8)	8 (4.3)	19 (10.3)	1.48 (0.78)	1.32 (0.83)
Referral to physiotherapist (*n* = 47)	7 (14.9)	4 (8.5)	4 (8.5)	1.38 (0.77)	1.28 (0.85)
Exercises (*n* = 91)	19 (20.9)	5 (5.5)	9 (9.9)	2.16 (1.07)	1.34 (0.87)
NSAID (*n* = 186)	60 (32.3)	19 (10.2)	33 (17.7)	2.06 (1.33)	1.58 (1.12)

NSAID = non-steroidal anti-inflammatory drug. PHP = plantar heel pain. SD = standard deviation. aPatients could receive multiple interventions/diagnostics/policies, therefore number of patients in these cells does not total 933.

and a prevalence of 0.4374%. This study found large variation in treatment strategies of GPs for patients with PHP; with advice to wear insoles, and referral to a paramedical podiatric specialist, being among the most common interventions.

Strengths and limitations

To the authors' knowledge, the present study is the first study of its size to examine the incidence and prevalence of PHP in general practice. According to the way healthcare is organised in the Netherlands, the incidence and prevalence of PHP in general practice should be close to the incidence and prevalence in the general population. One weakness of this study was the dependence on the recording carried out by the GP. The GP medical record is not primarily meant for data collection and the limitations in extracting data from this source have been described elsewhere.[26] In the present case, underestimation of the overall incidence and prevalence is possible owing to limited recording, and the difference in terminology used over the years by GPs.[27] In the Netherlands, both the physiotherapist and paramedical podiatric specialist are directly accessible to patients with PHP, so it is possible for a patient to visit these therapists without visiting the GP first. This can also lead to an underestimation of the incidence and prevalence of PHP in the present study.

A strength of this study is that it is the first to examine PHP in such a large group of patients in primary care. Since it is obligatory for people in the Netherlands to be registered with a GP, the use of GP records gives a representative overview of the interventions provided by GPs. Another strength is that this is the first study to take into account the possibility that GPs do not use one uniform ICPC code when registering these complaints. Multiple ICPC codes and free-text terms were used to identify cases. The addition of other free-text terms added between 2800 and 7700 more cases, but also lowered the PPV of the search algorithm to between 68% and 80% (data available from the authors on request). Therefore, adding these terms would lead to an overestimation of the incidence and prevalence of PHP.

Comparison with existing literature

The incidence and prevalence found in the present study were in accordance with previous studies.[3,10] This study found a small peak in the incidence of PHP around the age of 10 years (Figure 2). In children, PHP is actually considered a rare diagnosis.[28] Children were considered to have PHP in this study if the GP recorded PHP as a diagnosis in the medical record. This was the case for many patients who were young in this study, as the PPV for PHP in a random sample of 100 patients aged <14 years was still 89% (further information is available from the authors' on request). It is likely that some GPs are unfamiliar with more common causes of heel pain in children (such as Sever's disease), and had mistakenly labelled the complaints of some children as PHP.[28]

An increase of PHP incidence was consistently observed in the months September and October of each study year. This phenomenon may be related to the fact that more patients present themselves with PHP after the summer months, when patients are more likely to have an increased

activity level and a change in footwear. Another hypothesis is that an increase of work-related activities after the summer months may play a role, as both activity level (recreational and occupational) and footwear have been linked to PHP.[4]

The present study shows there is great variation in treatment strategies applied by GPs. Since available guidelines and evidence also give a variety of recommendations, this may not be unexpected.[20–22,29,30] The GP made a note of advising exercises to the patient in only 9.8% ($n = 91$) of cases, even though stretching and strengthening exercises have been found to be effective for PHP in randomised controlled trials.[13,17] It is possible that these exercises are relatively unknown among GPs, or that GPs do not always make a note of all of the advice they give to patients. Orthotic devices, such as insoles, and referrals to a paramedical podiatric specialist, were among the most commonly applied interventions, even though two recent systematic reviews have found conflicting evidence regarding the effectiveness of orthotic devices on pain in PHP.[29,30] There seems to be more focus among GPs on orthotic devices rather than exercises in the treatment of PHP.

Implications for practice

In Dutch general practice, PHP is a common complaint, with an incidence of PHP of 3.83 cases per 1000 patient years, an average GP will see approximately eight new cases per year. Peak incidence was at age 50 and 55 years for females and males respectively, though a smaller peak at around age 10 years for both sexes was also found. Since PHP is considered to be rare in children, GPs should be more aware of other causes of heel pain in children, such as Sever's disease.

There is large variation in treatment strategies by GPs for patients with PHP, with advice to wear insoles, and referral to a paramedical podiatric specialist, being among the most common interventions, despite a lack of evidence. It seems that exercises for PHP deserve more attention in the treatment of PHP in general practice.

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Ethical approval

This study was approved by the Governance Board of the IPCI (Integrated Primary Care Information) database. Medical ethical approval was not necessary since all patient data were anonymised.

Provenance

Freely submitted; externally peer reviewed.

Competing interests

The authors have declared no competing interests.

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