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ORIGINAL ARTICLE

General practitioners' and community pharmacists' beliefs and practices on opioids for non-malignant pain

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Abstract

Background: In Europe, opioid use has surged, largely due to prescriptions for chronic non-malignant pain (CNMP). General practitioners (GPs) and community pharmacists (CPs) play a major role in opioid prescribing for non-malignant pain. Exploring their personal beliefs and practices might reveal underlying mechanisms to identify measures that could halt the further escalation of opioid use.

Methods: Guided by the health belief model, a survey was designed and distributed nationwide to examine the practices and beliefs of GPs and CPs in the domains: threats, benefits, barriers and self-efficacy. The results of GPs and CPs were compared at the statement level using chi-square analysis.

Results: Of 214 GPs and 212 CPs who completed the survey, the majority agreed that too many opioids are used in the treatment of chronic non-malignant pain (66.8% GPs and 66.5% CPs). Furthermore, they were concerned about the addictive potential of opioids (83.1% GPs and 71.7% CPs). In general, both professions have concerns about opioid use. GPs report a slightly higher degree of self-efficacy and perceive fewer benefits from opioids in treating CNMP. GPs and CPs valued the recommended measures to reduce opioid prescribing, yet less than half actively implement these strategies in their clinics.

Conclusion: GPs and CPs believe that opioids are being used too frequently to treat CNMP. However, both professions lack the actions to improve opioid-related care. GPs and CPs require education, collaboration and tools to implement guidelines on non-malignant pain and opioids.

Significance: This study, guided by the health belief model, reveals that general practitioners and community pharmacists have serious concerns about opioid use in chronic non-malignant pain. Despite shared concerns, both professions differ in their beliefs about opioid benefits and perceived self-efficacy. Both professions have in common that they value recommended measures to reduce opioid prescribing. Also, they both struggle to implement strategies, emphasizing the

urgent need for education, collaboration and tools to align practices with guidelines on non-malignant pain and opioids.

1 | INTRODUCTION

Two decades ago, evidence on undertreatment of pain was reported, and it was believed that an increase in opioid use for therapeutic purposes would not lead to an increase in opioid abuse (Joranson et al., 2000). However, the current opioid epidemic in the United States is without precedent. The use of opioids has also risen in Europe, although less dramatically than in the United States (Hamunen et al., 2009; Kalkman et al., 2019; Weesie et al., 2020; Zin et al., 2014). This upward trend has largely been caused by opioid use for chronic pain, with the vast majority of opioids being prescribed for non-malignant indications (Bedene et al., 2019; Weesie et al., 2020; Zin et al., 2014).

However, the use of opioids for chronic non-malignant pain (CNMP) is associated with multiple risks, and there is limited evidence for effectiveness in CNMP (Busse et al., 2018; Currow et al., 2016; Dowell et al., 2022; Vowles et al., 2015). Risks include well-known side effects such as sedation, constipation and respiratory depression, as well as an increased risk of myocardial infarction, falling, fractures and all-cause mortality (Chou et al., 2015). In Europe, including the Netherlands, the number of hospital admissions due to opioid intoxication, opioid addiction treatment and opioid-related death have also increased (Kalkman et al., 2019; Roberts & Richards, 2023).

General practitioners (GPs) play a major role in prescribing opioids for patients with CNMP (Breivik et al., 2006). In the Netherlands, 82% of the defined daily doses (DDD) dispensed by community pharmacists (CPs) are prescribed by GPs (Schepens et al., 2019). The Dutch general practitioners' guideline on pain was updated in 2021, and aims to reduce opioid prescriptions and high-risk opioid use for non-malignant pain (Damen et al., 2021). Appropriate prescribing and dispensing include the availability of opioids for short-term use in patients with severe acute pain and potential long-term use in cases of cancer pain or end-of-life pain, along with implementing responsible tapering for patients with chronic non-malignant pain, all aimed at reducing overall opioid consumption. However, challenges persist in implementing opioid guidelines effectively (Kennedy et al., 2016; Punwasi et al., 2022), highlighting the need to understand the beliefs of GPs and CPs regarding opioid use.

Indeed, personal beliefs significantly shape GPs' decisions to prescribe opioids for CNMP (Hutchinson et al., 2006). Therefore, understanding these beliefs among

both GPs and CPs is crucial to identifying measures to effectively influence their behaviour and halt the growth of opioid use. Research on GPs' and pharmacists' beliefs and attitudes has been performed in the United States (Ebbert et al., 2018; Hagemeier et al., 2014; Jamison, Sheehan, Matthews, et al., 2014). To our knowledge, there are no European studies that explore and compare beliefs of GPs and CPs.

In this study, we explore GPs' and CPs' beliefs regarding opioid use for CNMP; whether these beliefs differ between the two groups; and what both groups already practice to reduce opioid use.

2 | METHODS

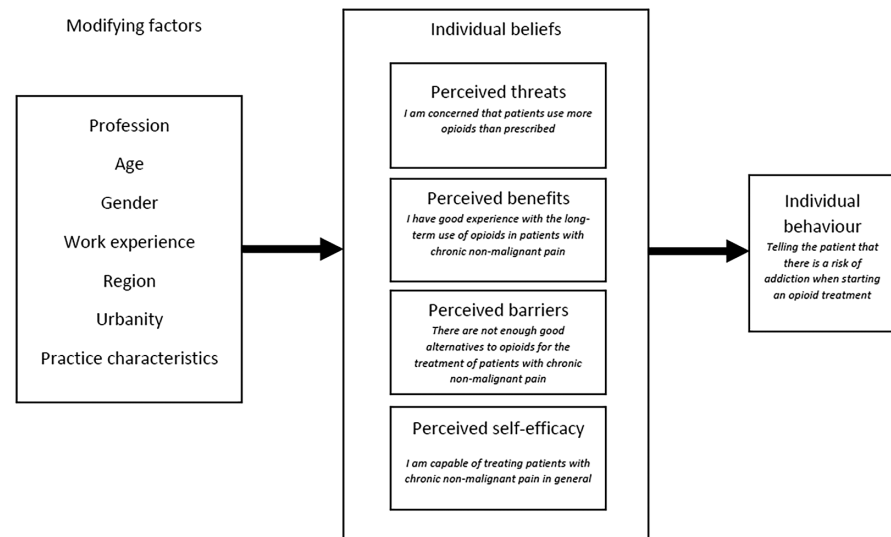
2.1 | Setting

In the Netherlands, the majority of GPs and CPs collaborate in pharmacotherapy and meet at least four times a year during pharmaceutical therapeutic audit meetings (PTAM). During these meetings, they typically make agreements regarding prescribing and dispensing. General practitioners in the Netherlands are considered health care 'gatekeepers', and patients typically are enlisted with a personal GP and a community pharmacy. Pharmacists in the Netherlands are also responsible for the pharmacotherapeutic treatment of patients and, by law, are co-practitioners. Thus, they share the responsibility for pharmacotherapy with physicians, and both groups regularly contact each other regarding individual patients.

2.2 | Study design

A survey among GPs and CPs was held. We designed a questionnaire guided by the health belief model (HBM). This model has been shown to explain and predict health-related behaviour reliably and has frequently been used to design health behavioural interventions (Brinsley et al., 2005; Krockow et al., 2019). The HBM (Figure 1) helps to understand how personal beliefs—perceived threats, benefits, barriers and self-efficacy—explain and predict health behaviour (Brinsley et al., 2005; Heid et al., 2016). In the context of this study, perceived threats included threats about the risks of opioid use including opioid abuse, while

FIGURE 1 Health belief model, including examples of statements of individual beliefs and behaviour. (adapted from (Krockow et al., 2019)).



perceived benefits include the benefits of opioids and opioid treatment. Perceived barriers can be identified as barriers to prescribing and dispensing opioids for CNMP including timely discontinuation. Finally, perceived self-efficacy is defined as beliefs about capabilities to exercise control over their own functioning and over events that affect their life (Bandura, 1977). For this survey specifically, self-efficacy refers to confidence of GPs and CPs to treat CNMP, confidence in predicting which patients taking opioids for CNMP are at risk for abusing them and confidence in standing up to demands by others (e.g. patients) to prescribe opioids for CNMP. Examples of statements are shown in Figure 1.

2.3 | Questionnaire design

We developed a concept survey that assessed general practitioners' and pharmacists' beliefs, attitudes and practices regarding opioid use, particularly prescribing and dispensing opioids for non-malignant pain. To address the domains of the HBM, we selected questions from the Opioid Therapy Survey (OTS) (Jamison, Sheehan, Scanlan, et al., 2014), Concerns About Analgesics Prescriptions (CAAP) (McCracken et al., 2008), Clinicians' Attitudes and Beliefs About Opioids Survey (CAOS) (Wilson et al., 2013), other literature (Ebbert et al., 2018; Hagemeyer et al., 2014; Jamison et al., 2016; Razouki et al., 2019; Wilson et al., 2013) and the authors' clinical experience. Questions and statements were translated into Dutch and, when necessary, adapted to the Dutch context and profession. To meet relevance and completeness, the survey was further reviewed by a panel of two GPs, two pharmacists, two

pain specialists and one addiction specialist who were considered content experts in the field of pain and opioid treatment. The survey was revised based on their feedback on content clarity. Finally, we ensured that the survey was clear and feasible to answer by conducting a pre-test with three GPs and three CPs.

The final questionnaire (Supplementary files 1 and 2) consisted of 24 statements for GPs and 23 for CPs in the four HBM domains (Figure 1). Every domain comprised four to seven statements using a 5-point Likert scale: perceived benefits (five items), perceived threats (seven items), perceived barriers (five items for GPs and four items for CPs) and perceived self-efficacy (seven items). One statement of the perceived barriers domain was omitted for CPs since it concerned prescribing.

The order of the domain statements was mixed randomly. We used the following definitions for opioids and CNMP: 'Opioids' refers to strong-acting opioids such as oxycodone, morphine and fentanyl. 'Chronic non-malignant pain' refers to pain that lasts longer than 3 months and is not related to cancer.

The questionnaire included possible interventions for practice as an indication of the participants' behaviour (Figure 1). From the authors' clinical experience, 10 interventions were suggested on three levels: patient education, prescribing opioids and collaboration. The respondents could indicate if they thought an intervention would be useful and if they already included these interventions in their daily practice.

In addition, we collected the background characteristics including age, gender, years of experience and characteristics of the practice or pharmacy of the respondent. Furthermore, we inquired about the participants' preferences regarding the content of a training programme on opioids.

2.4 | Data collection

Professionals were asked to complete a 10-min online survey. All respondents participated voluntarily and were anonymous. Data were collected between March and June 2021.

2.4.1 | General practitioners

The GP surveys were distributed using three mailing lists: Nivel Primary Care Database (± 500 GP practices), Extramural Leids Academic Network (ELAN) (343 subscribers) and the Dutch College of General Practitioners (NHG) newsletter (10,652 subscribers). These three lists approximately include all general practitioners in the Netherlands.

2.4.2 | Pharmacists

The CP surveys were distributed via the Utrecht Pharmacy Practice Network for Education and Research Network (UPPER) (1500 pharmacies) (Koster et al., 2014), LinkedIn and the Royal Dutch Pharmacists Association newsletter (10,263 subscribers, of which 2900 are community pharmacists). These include approximately all community pharmacists in the Netherlands.

2.5 | Data analysis

Only questionnaires fully completed by GPs and CPs were included in the analysis, and IBM SPSS version 28.0 was used to prepare the data and complete all analyses. Descriptive statistics were calculated and analysed for the GPs and CPs separately, and then the results of the two groups were compared at the statement level (chi-square test $p < 0.05$).

2.6 | Ethics and confidentiality

As this study did not include patients who underwent a medical intervention, it was not subject to formal ethical approval according to current Dutch law. The study protocol was reviewed and approved by the Utrecht University Institutional Review Board (Division of Pharmacoepidemiology and Clinical Pharmacology), approval number UPF 2012. All participants gave permission for the use of the collected data for the purpose of the study. No data were collected that could link questionnaire data to individual participating GPs or CPs.

TABLE 1 Characteristics of respondents.

	General practitioners	Community pharmacists
Total number of participants	214	212
Mean age (in years $\pm$ SD)	49.2 (± 9.5) ^a	41.8 (± 11.4)
Female (%)	108 (50.5%)	141 (66.5%)
Practice holder/responsible pharmacist	182 (85%)	130 (53.3%)
Years of work experience		
0–5	20 (9.3%)	43 (20.3%)
6–10	34 (15.9%)	44 (20.8%)
11–15	36 (16.8%)	22 (10.4%)
>15	124 (57.9%)	103 (48.6%)
Urbanity of practice		
Small town (<20,000 habitants)	94 (43.9%)	67 (31.6%)
Medium town (20,000–150,000 habitants)	79 (36.9%)	102 (48.1%)
Big town (>150,000 habitants)	41 (19.2%)	43 (20.3%)
Practice characteristics		
Solo practice	53 (24.8%)	88 (41.5%)
Collaborative practices ^b	161 (75.2%)	124 (58.5%)

^aTwo missing values.

^bCollaborative practices included group practices, duo practices and practices in a health centre.

3 | RESULTS

The questionnaires were completed by 214 general practitioners and 212 community pharmacists. The GPs completed the surveys via Nivel (135), NHG (55) and ELAN (24), whereas the CPs completed the surveys via UPPER (159), KNMP (47) and LinkedIn (6). Table 1 shows the characteristics of the participating GPs and CPs.

To determine representativeness, we compared the response to national data. Compared to the national data, 10%-point more male GPs participated in this study and 17.4%-point more GPs in solo practices (Nivel, 2023). The mean age of the GP respondents (49.2 years) was fairly similar to the national data (47 years). For CPs, the proportion of male participants aligned with predicted national data (Dutch Foundation for Pharmaceutical Statistics, 2015) and mean age of respondents is 2.3% lower (The Royal Dutch Pharmacists Association, 2023).

3.1 | Beliefs regarding benefits of opioids

In general, the CPs were more positive about the benefits of opioids than GPs. As illustrated in Table 2, more GPs (65.4% [disagree and strongly disagree]) than CPs (46.7%) disagreed that long-term use of opioids for patients with non-malignant pain is necessary. Almost 81% of the GPs and 61% of the CPs did not agree that opioids are the most effective treatment for CNMP. However, more CPs (65.5%) than GPs (31.8%) agreed that opioids should be prescribed when other analgesics are not effective.

3.2 | Beliefs regarding threats of opioids

The vast majority of both GPs and CPs experienced concerns about long-term opioid use for CNMP. However, more GPs (71.5%) than CPs (63.7%) were concerned that opioids would stop working sufficiently and that opioid tolerance would occur. Both were concerned about addiction developing (GPs 83.1% and CPs 71.7%). Although more CPs (73.6%) than GPs (60.2%) were concerned that patients use more opioids than prescribed, both groups of primary care providers agreed that abuse is a real risk among opioid users and that too many opioids are used to treat CNMP. CPs more often saw an increasing number of opioid-dependent patients (22.9% GPs and 41.5% CPs).

3.3 | Beliefs regarding barriers to prescribing or dispensing opioids

In general, the GPs experienced slightly more barriers than the CPs regarding prescribing opioids. GPs were divided about chronic pain being more of a sociopsychological problem than a medical one (34.6% disagree, 35.0% neutral and 30.4% agree), whereas CPs agreed less often (44.3% disagree, 40.1% neutral and 15.6% agree). Compared to the GPs, the CPs less frequently agreed with the statement that many patients are against the use of opioids (36.9% vs. 9.0%). Half of the participants agreed that there are not enough good alternatives for opioids for patients with non-malignant pain, although nearly a quarter disagreed.

3.4 | Beliefs regarding self-efficacy and education demands

Of the GPs, 62.1% believed themselves capable of treating patients with CNMP, while 56.6% of the CPs believed they were capable. More GPs (27.1%) than CPs (10.4%) found treating patients with CNMP to be stressful. Additionally,

both groups differed regarding their opinions on whether they could easily predict which patient was at a high risk of abuse. More CPs (39.6%) than GPs (8%) agreed that they felt like they could not reject opioid prescriptions for patients; a quarter of the CPs felt also pressured by doctors (24.1%) to dispense the prescriptions. Of the GPs, 61.2% agreed that they were adequately trained to treat patients with CNMP, slightly more than the CPs (57.5%). However, both the CPs and GPs expressed a need for further training, especially on tapering schedules (82.1% vs. 70.6%), preventing unnecessary long-term use (81.1% vs. 72.9%), dispensing opioids to risk groups (66% vs. 39.7%) and guiding addicted patients (65.1% vs. 46.7%) (see Figure 2). In the additional open-text option, 11 GPs mentioned the need for further training on alternative treatment options.

3.5 | Potential actions to improve prescribing and dispensing practices

We asked GPs and CPs to rate 10 suggested actions to improve prescribing and dispensing behaviours with respect to the extent to which each action was useful and whether they already implemented it in practice (Figure 3).

As seen in Figure 3, of the 10 suggested actions to reduce inappropriate opioid prescriptions, GPs considered 8 as useful, while CPs considered 9 to be useful (>50%). Half of the GPs and 32% of the CPs already implemented these potentially useful actions. The action 'pharmacist consultation with the patient every month after starting opioid use' was found more meaningful by the GPs than by the CPs. In contrast, the CPs (60.4%) found a GP consultation with patients before every opioid prescription more meaningful. Only 38.8% of the GPs agreed, and almost half did not agree. Regardless, both actions were barely implemented in practice by either the GPs or CPs.

Prescription quantity limitation was found useful by 85.5% of the GPs and 75.9% of the CPs, but it was only implemented by 50.5% and 20.8%, respectively. The most frequently implemented actions included informing patients of the risk of addiction when beginning opioid treatment (89.3% GPs and 55.7% CPs) and repeating opioid prescriptions (63.1% GPs and 38.2% CPs). Agreements between GPs and CPs about repeating opioid prescriptions were implemented more frequently by CPs (57.5%) than by GPs (37.4%). In the open question, multidisciplinary collaboration was mentioned most by both GPs and CPs.

4 | DISCUSSION

This study explored the beliefs and practices of GPs and CPs regarding opioid (de)prescribing. CPs more often

TABLE 2 Beliefs of GPs and CPs regarding opioids.

Statement	General practitioners (n = 214)					Pharmacists (n = 212)					p-value
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Benefits											
I have good experience with the long-term use of opioids in patients with chronic non-malignant pain	5 (2.3%)	66 (30.8%)	75 (35.0%)	67 (31.3%)	1 (0.5%)	4 (1.9%)	47 (22.2%)	93 (43.9%)	63 (29.7%)	5 (2.4%)	0.091
Long-term opioid use is necessary for many of my patients with chronic, non-malignant pain	18 (8.4%)	122 (57.0%)	58 (27.1%)	16 (7.5%)	0 (0.0%)	8 (3.8%)	91 (42.9%)	79 (37.3%)	31 (14.6%)	3 (1.1%)	<0.001
In general, opioids are the most effective treatment for chronic, non-malignant pain	36 (16.8%)	137 (64.0%)	31 (14.5%)	10 (4.7%)	0.0%	14 (6.6%)	116 (54.7%)	55 (25.9%)	26 (12.3%)	1 (0.5%)	<0.001
Too few opioids are used in the treatment of chronic, non-malignant pain	57 (26.6%)	120 (56.1%)	35 (16.4%)	2 (0.9%)	0 (0.0%)	33 (15.6%)	136 (64.2%)	39 (18.4%)	3 (1.4%)	1 (0.5%)	0.066
Opioids should be prescribed for chronic, non-malignant pain when other analgesics are not effective	8 (3.7%)	53 (24.8%)	85 (39.7%)	64 (29.9%)	4 (1.9%)	4 (1.9%)	33 (15.6%)	36 (17.0%)	122 (57.5%)	17 (8.0%)	<0.001
Threats											
I am concerned that after some time opioids will stop working sufficiently and that patients will need more and more opioids	1 (0.5%)	30 (14.0%)	30 (14.0%)	124 (57.9%)	29 (13.6%)	4 (1.9%)	32 (15.1%)	41 (19.3%)	90 (42.5%)	45 (21.2%)	0.014
I am concerned that my patients will develop an opioid addiction	2 (0.9%)	10 (4.7%)	24 (11.2%)	133 (62.1%)	45 (21.0%)	2 (0.9%)	20 (9.4%)	38 (17.9%)	115 (54.2%)	37 (17.5%)	0.073
I am concerned that patients use more opioids than prescribed	4 (1.9%)	27 (12.6%)	54 (25.2%)	106 (49.5%)	23 (10.7%)	3 (1.4%)	24 (11.3%)	29 (13.7%)	119 (56.1%)	37 (17.5%)	0.018
Patients have too high expectations regarding the effectiveness of opioids	2 (0.9%)	31 (14.5%)	63 (29.4%)	108 (50.5%)	10 (4.7%)	3 (1.4%)	45 (21.2%)	73 (34.4%)	74 (34.9%)	17 (8.0%)	0.020
Abuse is a real risk among opioid users	1 (0.5%)	6 (2.8%)	18 (8.4%)	146 (68.2%)	43 (20.1%)	0 (0.0%)	7 (3.3%)	28 (13.2%)	132 (62.3%)	45 (21.2%)	0.407
Too many opioids are used in the treatment of chronic, non-malignant pain	1 (0.5%)	11 (5.1%)	59 (27.6%)	113 (52.8%)	30 (14.0%)	1 (0.5%)	16 (7.5%)	54 (25.5%)	114 (53.8%)	27 (12.7%)	0.861

TABLE 2 (Continued)

Statement	General practitioners (n = 214)				Pharmacists (n = 212)				p-value		
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral		Agree	Strongly agree
An increasing number of patients in my practice are becoming dependent on opioids	9 (4.2%)	95 (44.4%)	61 (28.5%)	44 (20.6%)	5 (2.3%)	2 (0.9%)	50 (23.6%)	72 (34.0%)	73 (34.4%)	15 (7.1%)	<0.001
Barriers											
I have had patients where the use of opioid has led to health problems	4 (1.9%)	38 (17.8%)	25 (11.7%)	128 (59.8%)	19 (8.9%)	1 (0.5%)	33 (15.6%)	43 (20.3%)	101 (47.6%)	34 (16.0%)	0.006
The lack of a clear indication does not prevent me from prescribing opioids if the patient is still in pain ^{a,c}	15 (7.0%)	100 (46.7%)	50 (23.4%)	48 (22.4%)	1 (0.5%)	-	-	-	-	-	-
Chronic pain is, in my opinion, more of a sociopsychological problem than a medical one	6 (2.8%)	68 (31.8%)	75 (35.0%)	58 (27.1%)	7 (3.3%)	9 (4.2%)	85 (40.1%)	85 (40.1%)	26 (12.3%)	7 (3.3%)	0.004
Many patients in my practice are against the use of opioids	3 (1.4%)	52 (24.3%)	80 (37.4%)	77 (36.0%)	2 (0.9%)	9 (4.2%)	102 (48.1%)	82 (38.7%)	19 (9.0%)	0 (0.0%)	<0.001
There are not enough good alternatives to opioids for the treatment of patients with chronic, non-malignant pain ^c	2 (0.9%)	46 (21.5%)	55 (25.7%)	88 (41.1%)	23 (10.7%)	5 (2.4%)	43 (20.3%)	57 (26.9%)	92 (43.4%)	15 (7.1%)	0.527
Self-efficacy											
I am capable of treating patients with chronic non-malignant pain in general	0 (0.0%)	35 (16.4%)	46 (21.5%)	128 (59.8%)	5 (2.3%)	0 (0.0%)	16 (7.5%)	76 (35.8%)	113 (53.3%)	7 (3.3%)	0.001
I find it stressful to treat patients with chronic non-malignant pain ^c	17 (7.9%)	82 (38.3%)	57 (26.6%)	55 (25.7%)	3 (1.4%)	28 (13.2%)	88 (41.5%)	74 (34.9%)	22 (10.4%)	0 (0.0%)	<0.001
I have enough confidence in my skills to approach patients who use too much opioids for too long	2 (0.9%)	28 (13.1%)	42 (19.6%)	122 (57.0%)	20 (9.3%)	6 (2.8%)	44 (20.8%)	48 (22.6%)	100 (47.2%)	14 (6.6%)	0.057
I am adequately trained to treat patients with chronic non-malignant pain	1 (0.5%)	27 (12.6%)	55 (25.7%)	120 (56.1%)	11 (5.1%)	6 (2.8%)	29 (13.7%)	55 (25.9%)	113 (53.3%)	9 (4.2%)	0.400
I can easily predict which patients have higher risk for opioid abuse	4 (1.9%)	44 (20.6%)	79 (36.9%)	84 (39.3%)	3 (1.4%)	13 (6.1%)	59 (27.8%)	75 (35.4%)	59 (27.8%)	6 (2.8%)	0.015

(Continues)

TABLE 2 (Continued)

Statement	General practitioners (n = 214)				Pharmacists (n = 212)				p-value
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree
I repeat the opioid prescriptions of a specialist, even if I do not see the need to do so myself ^{a,b,c}	18 (8.4%)	120 (56.1%)	52 (24.3%)	24 (11.2%)	0 (0.0%)	37 (17.5%)	71 (33.5%)	53 (25.0%)	36 (17.0%)
I feel pressured by doctors to dispense prescriptions for opioids ^{b,c}	23 (10.7%)	137 (64.0%)	37 (17.3%)	16 (7.5%)	1 (0.5%)	13 (6.1%)	73 (34.4%)	42 (19.8%)	68 (32.1%)
I feel like I can't reject opioid prescriptions for patients ^c									

Note: Statistical significance of differences for GPs and CPs tested by Chi-square test; Bold refers to the difference for GPs and CPs significant if $p < 0.05$.

^aOnly asked in GPs' survey.

^bOnly asked in CPs' survey.

^cIntentionally presented in opposite direction compared to other statements.

agreed with statements regarding opioid benefits, while GPs more often agreed with statements regarding barriers. However, both professions express concerns regarding opioid use. The GPs scored slightly higher on self-efficacy than the CPs. Furthermore, potentially useful actions to reduce inappropriate opioid prescriptions are only partially implemented in current practice, indicating room for improvement.

Regarding the benefits, threats and barriers domains of the HBM, the GPs and CPs recognized the lack of benefits, and both were concerned that an increasing number of patients are becoming opioid dependent within their practices. Similar results have been found in the United States (Hagemeyer et al., 2013). Additionally, the majority of both groups agreed that opioids are not the most effective treatment for CNMP. As in the United States, Dutch primary care respondents are concerned that patients use more opioids than prescribed and that their patients will become addicted (Ebbert et al., 2018; Jamison et al., 2016).

However, GPs might not always be aware of opioid abuse, as less than 8% of the responding GPs consulted the patient before every opioid prescription. In the Netherlands, patients can ask for a refill from the GP's assistant, sometimes even through an answering machine or website, without personal contact. Thus, GPs may be less informed about abuse than CPs. Additionally, pharmacists might be more aware of abuse since they receive prescriptions from multiple prescribers: GPs, hospital specialists and pain and addiction specialists, and they see more patients since more patients are registered at the pharmacy than at the GP (ratio 1:5).

While GPs and CPs are not supportive of opioid use for CNMP, they experience challenges in appropriate (de) prescribing, such as the lack of effective alternatives. GPs indicated that they need further training on alternatives. Alternatives to alleviate pain without prescribing opioids could also be sought in nonpharmacological therapies. Although more research is needed, there are known effective therapies, such as cognitive behavioural therapy- or group-based interventions, with a sociopsychological focus (Damen et al., 2021; Mehl-Madrona et al., 2016; Sandhu et al., 2023). GPs were divided on whether chronic pain is more of a sociopsychological problem than a strictly medical one, while CPs tended to agree less frequently. This perspective could impact health care providers' inclination towards psychological interventions for CNMP.

Self-efficacy theory suggests that positive self-efficacy beliefs increase the likelihood that the individual will engage in and persist with an action or task (Bandura, 1977). A small-scale study in the United States demonstrated low self-efficacy for both prescribers and pharmacists. It also showed that prescribers and pharmacists believe that improved communication

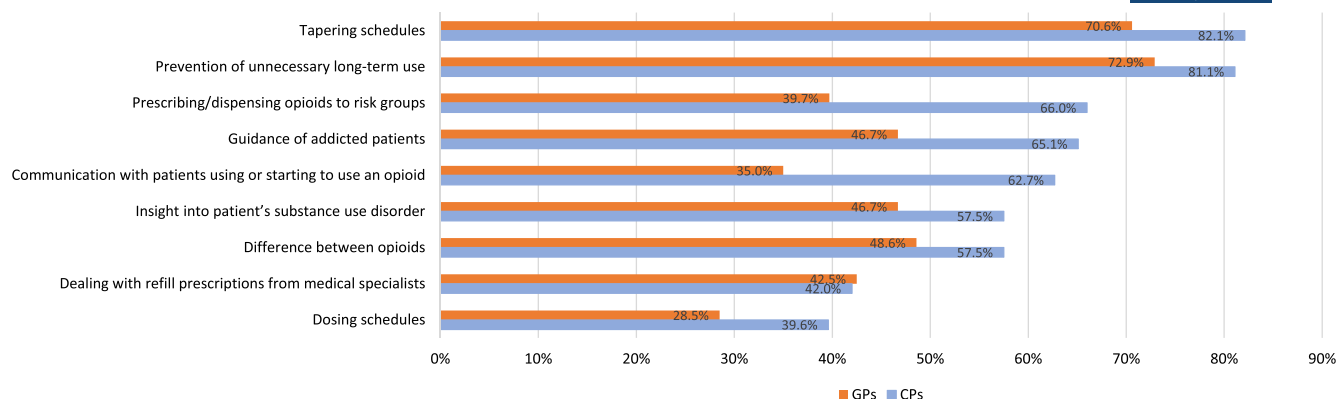


FIGURE 2 Need for education. (1) Orange = GPs need for education. (2) Blue = CPs need for education.

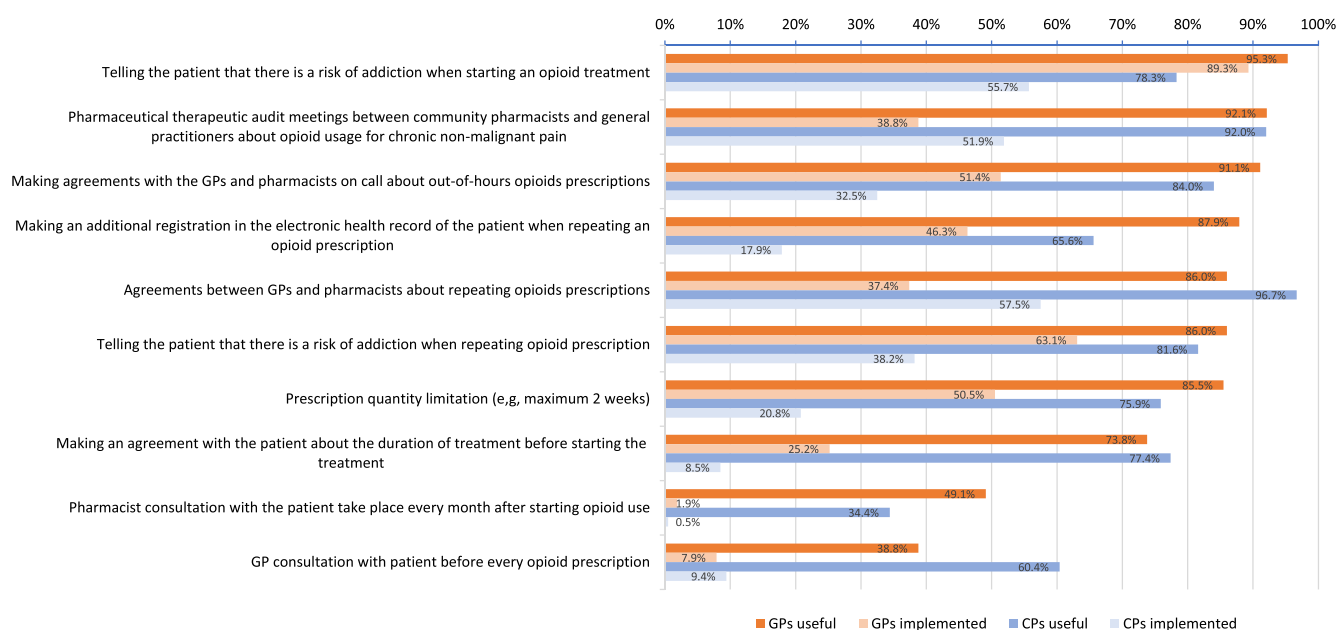


FIGURE 3 Meaningful and implemented actions in practice. (1) Orange = GPs. (a) Dark-orange = actions considered useful by GPs; (b) Light-orange = actions implemented by GPs. (2) Blue = CPs. (a) Dark-blue = actions considered useful by CPs; (b) Light-blue = actions implemented by CPs.

among prescribers, pharmacists and patients would deter prescription drug abuse (Hagemeier et al., 2013). In our study, CPs scored slightly lower on self-efficacy than GPs, revealing that CPs feel less prepared to aid patients with chronic pain compared to GPs. It could be that CPs may not feel like co-practitioners who treat people. Although a pharmacist cannot prescribe opioids in the Netherlands, they share responsibility with the prescriber for the medical treatment of CNMP. In contrast, the GPs were more confident that they could predict potential abuse of opioids than the CPs, perhaps because they know patients better and therefore have better insight into risk factors, such as previous abuse or psychiatric history. Nevertheless, CPs play a vital role in preventing opioid misuse and abuse due to their frequent patient interactions, larger practice scope

and increased likelihood of observing drug-seeking behaviours compared to GPs as they often interact with patients receiving opioids from multiple prescribers (Gregory & Gregory, 2020). Potential CP roles could include patient counselling on appropriate use of opioids and other analgesics, use of prescription drug monitoring programmes, early identification of development of opioid use disorder, tapering and medication reviews (Chisholm-Burns et al., 2019).

A substantial number of CPs feel pressured by doctors and patients to dispense opioids. Although pharmacists may refuse to dispense any prescription if they are concerned about the medical legitimacy or patients' safety, this can affect their relationships with prescribers and patients (The Royal Dutch Pharmacists Association, 2018). It can be more difficult for a CP to decline a prescription

since the prescriber already agreed with it. Furthermore, refusing to dispense prescriptions may prompt patients to seek alternative options including illegal use, potentially leading to a situation where the patient no longer receives adequate care from their primary health care provider.

In contrast, 75% of the GPs felt confident in declining an opioid prescription request. However, a quarter found treating patients with CNMP stressful. A systematic review of GPs' attitudes suggested that jeopardizing the doctor–patient relationship is a major concern for GPs when refusing a prescription for an opioid (Punwasi et al., 2022). This study emphasized the importance of educating GPs, not only on effective strategies for relieving pain but also on conversation techniques to engage in difficult conversations with patients about pain and acceptance of pain (Punwasi et al., 2022). In the current study, one-third of the GPs and almost two-thirds of the CPs desired training on communication with opioid users. Education on prevention of unnecessary long-term use and tapering schedules was most desired by GPs and CPs. CPs expressed a higher need for education on nearly all proposed themes.

Remarkable in this study is that CPs see a potentially bigger role for GPs, and GPs see a potentially bigger role for the CPs. It indicates that more intensive cooperation between the two professional groups might foster care related to non-malignant pain and opioid therapy. Collaboration between GPs, as the most important practitioners and prescribers of opioids, and CPs, as dispensers and counsellors, is important for improving patient outcomes (Davies et al., 2024; Gregory & Gregory, 2020; Hagemeyer et al., 2013).

In 2018, the Dutch government instituted a task force to promote appropriate opioid use in the Netherlands. In response, numbers of prescriptions decreased, and the Dutch GPs' guideline on pain was updated in 2021, aiming to reduce opioid prescriptions and high-risk opioid use for non-malignant pain (Damen et al., 2021). The guideline includes legitimate use of opioids for cancer pain and pain in the palliative and terminal phases. Also, it includes a policy for tapering after long-term use of opioids and recommendations in case of failed attempts. The guideline, however, lacks practical measures for implementation. In our study, we found that actions that were considered useful were only partially implemented in practice. Moreover, after the decrease in the number of opioid users in the Netherlands in 2019 and 2020, an increase was seen in 2021 and 2022 (Dutch Foundation for Pharmaceutical Statistics, 2023). Therefore, it is important to focus on tools for GPs and CPs to adequately implement the guidelines in practice.

4.1 | Strengths and limitations

One strength of this study was the broad sample of Dutch GPs and CPs with fairly similar group size, representative age, work experience and type of practice. Another strength was the geographic distribution of practices across the Netherlands. Additionally, the use of the HBM helped us to structure the GPs' and CPs' beliefs regarding opioids and deduce potential measures to control prescribing and dispensing behaviours. Furthermore, we developed a questionnaire based on previous research, which was reviewed by an expert group of primary care providers and several medical specialists to improve its relevance and clarity. The first limitation was the nature of sampling through multiple, overlapping newsletters and open invitations on social media. In the newsletters, this survey was one of multiple items, and the extent to which primary care providers read the newsletters is unknown. This resulted in the inability to derive a realistic response rate. Second, the participants were volunteers, so those with an interest in pain and opioid management may have been overrepresented. While the distribution does not suggest selection, we achieved limited knowledge about respondent characteristics. Finally, while GPs and CPs play central roles in treating patients with CNMP, understanding and supporting the full supply chain of care for CNMP require investigating the beliefs and practices of other providers, including pain specialists, addiction specialists, physician assistants and hospital pharmacists.

4.2 | Implications

Preliminary results contributed to the development of tools, including agreements in and between GP and CP practices, and education (Jansen-Groot Koerkamp et al., 2023) to halt the increase in opioid prescriptions in the Netherlands. More extensive cooperation and agreements between GPs and CPs might improve therapy for CNMP (Davies et al., 2024; Gregory & Gregory, 2020; Hagemeyer et al., 2013). Enhanced communication and exchange of patient information may improve insights into opioid abuse, since GPs have more information about the patient's personal situation, while CPs receive prescriptions from multiple prescribers, have frequent patient interactions at the counter and have more insight into the patients' stock and potential overuse. Agreements between GPs and CPs about the treatment of CNMP without opioids, maximum amounts of opioids per prescription and the duration of treatment are considered useful, although they have only been partially implemented. GPs

and CPs need education about opioids in CNMP, particularly the use of tapering schedules and the prevention of long-term use. Research into mechanisms of CNMP and alternatives for opioids, including non-pharmacological interventions, is necessary.

5 | CONCLUSION

This study showed that among the survey respondents, GPs compared to CPs (1) perceive fewer benefits from opioids in treating CNMP, and (2) experienced a slightly higher degree of self-efficacy in the management of patients with CNMP. Both professions have concerns about opioid use. Potentially useful actions to reduce inappropriate opioid prescriptions are generally embraced but only partially implemented in current practice, indicating opportunities for improvement. Interprofessional collaboration and agreements between GPs and CPs will benefit patients with CNMP.

AUTHOR CONTRIBUTIONS

All authors were involved in the study concept and design. EJ and YW performed the data preparation, and EJ and MH conducted the statistical analysis. All authors discussed the results. EJ wrote the original draft. All authors critically revised the manuscript and approved the final version.

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CONFLICT OF INTEREST STATEMENT

None declared.

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