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The impact of chronic pain—European patients' perspective over 12 months

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ABSTRACT

Background and methods: Pain Study Tracking Ongoing Responses for a Year (PainSTORY) is a longitudinal study generating some quantitative and limited qualitative data concerning the experiences of individual patients with non-malignant chronic pain. Research was conducted across 13 European countries and a total of 294 patients completed the full evaluation process over 12 months. Adult patients (>18 years old) scoring >4 on an 11-point numeric pain rating scale (NRS-11) for most days during an average week were eligible. Four waves of interviews (W1–W4) were conducted over 12 months and information was recorded regarding pain levels, the impact of pain, pain treatment and treatment-associated side effects.
Results: At 3 months, 95% of respondents rated their worst pain level over the past week as ≥4. Most respondents had felt this pain level for ≥1 year, with 47% of patients reporting NRS-11 scores of 8–10 for >2 years. At 12 months, 93% of respondents still rated their worst pain level over the past week as ≥4. The overall net percentage of respondents with ≥4 pain intensity did not change substantially over 12 months of follow up. However, 40% (119/294) of patients felt their current pain level increased and 41% (121/294) felt their current pain level decreased during this time, with just 18% (53/294) of respondents reporting no change (1% of respondents not stated). At 3 months, 30% of respondents reported being managed by a pain specialist within the last 3 months, decreasing to 13% 9–12 months later. Patients were typically taking a combination of prescribed and non-prescribed medications; approximately 10% at W1 and 14% at 12 months were prescribed a strong opioid. Among those whose current pain level decreased over the year, a slightly lower proportion of patients were taking prescription medication (78%) at 12 months than in either the group with no change to their current pain level (85%), or the group whose pain level increased over the 12 month period (87%). Pain negatively affected quality of life, with respondents reporting difficulties with daily activities, including sleeping, walking, family and social interaction. Approximately half of respondents taking prescription medication reported suffering from 'constipation and associated symptoms'. In spite of no change in pain intensity, 51% of patients were happy with their pain management at W4.
Conclusions: The heavy individual and societal burden of uncontrolled chronic pain is demonstrated in this study. This silent epidemic has not attracted the focus of attention that it deserves. Despite the significant negative impact on individual quality of life, patients evolve to a position where they believe that chronic pain is inevitable and untreatable.
Implications: It is clear that there is a real need for a coordinated response by healthcare providers and planners across European countries. Minimum standards of care should be developed and implemented at national level. Healthcare professionals and students of these disciplines must be educated to recognise, assess and manage pain within a reasonable timeframe. Patients who are not responding to standard measures must have rapid and easy access to a comprehensive, inter-disciplinary pain service.

1. Introduction

Worldwide, pain is one of the most frequently occurring symptoms, with chronic pain more prevalent now than it was 40 years ago [1]. Chronic pain has a major impact on peoples' lives, reducing quality of life more than any other condition [1]. Published data show that patients with chronic non-malignant cancer pain consider their quality of life to be as poor as that reported by patients with terminal cancer [2]. Chronic pain causes sleeplessness and depression [3,4], interferes with normal physical and social functioning [3] and is often described by sufferers as 'exhausting' and 'mentally draining' [1]. In addition to the personal impact to the pain sufferer, the economic impact is significant, with healthcare

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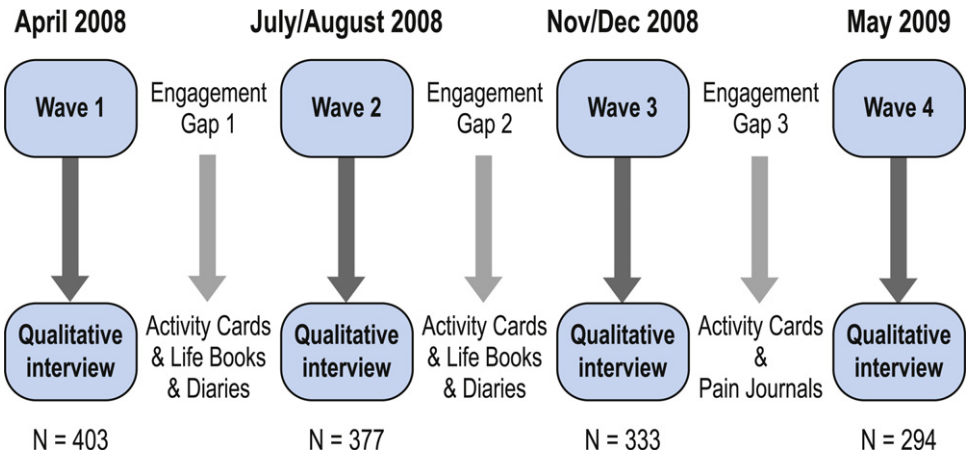

Fig. 1. Survey design.

costs due to chronic pain particularly high during the first year after pain onset [5]. Additionally, chronic pain sufferers often use and incur the cost of, often ineffective, alternative therapies [5]. Furthermore, chronic pain frequently causes reduced productivity at work [5,6]. The direct and indirect costs of chronic pain conditions are immense [7–10]; the indirect cost of sick-leave and early retirement is almost two-thirds the total cost of chronic pain conditions, while the cost of medicines is approximately 1% [8–10].

A previous large-scale survey of the adult populations from 15 European countries assessed the prevalence, severity, treatment and impact of chronic pain [11]. The survey found that chronic pain of moderate-to-severe intensity occurred in 19% of adult Europeans and seriously affected the quality of their social and working lives [11]. Very few of these patients were managed by pain specialists and nearly half of them received inadequate pain management [11]. The authors concluded that chronic pain is a major healthcare problem in Europe that needs more careful consideration and concerted action [11].

The management of chronic pain presents a significant challenge to both the patient and the physician [3] and can be complex, time consuming and not always adequate or successful [12]. Good communication between patients and healthcare professionals (HCPs) is essential to ensure that realistic treatment plans and outcomes can be negotiated [12]. In Denmark, Eriksen's and Sjøgren's group documented that the healthcare costs saved by appropriate care in a multidisciplinary pain clinic was twice the cost of running the pain clinic [8].

The aims of this new survey of patients with moderate-to-severe chronic non-malignant pain were to obtain first-hand information from patients about what it is like to be a patient in chronic pain and to gain a better understanding of their pain management 'journey' over 1 year.

2. Methods

2.1. Motivation for the survey

The survey intended to follow closely a cohort of patients suffering with chronic non-malignant pain for a 12 month period. This would enable patients to describe in detail their individual experience of coping with pain and the treatment of pain over a long enough period to obtain a global impression of their situation. Patients were identified and selected from a variety of sources, having a variety of pain conditions and diagnoses. There is no "average" chronic pain patient and the patients included in this survey may well represent "typical" pain patients. Inclusion criteria for patients in the sample were age over 18 years, non-malignant chronic pain, suffering from pain for more than 3 months, visiting a doctor about their pain for the first time in the last 2 years, score of 5 or more out of 0–10 on a numeric rating pain scale for most days during an average week.

2.2. Survey design

A series of four waves of telephone or face-to-face interviews were completed over a 12 month period (Fig. 1). By means of a standardised, structured, questionnaire, each patient's current level of pain, the impact of pain on daily living, how individuals perceive their pain and how it affects their relationships with others were explored in each of the four waves of interviews. In order to gain a better insight into European pain management practices, information regarding patients' relationship with their HCP, the treatments they received for their pain, the appropriateness of treatment (as determined by the patient) and the side effects they experienced, were sought and recorded. Additional understanding of the daily realities and effects of uncontrolled pain and the use of various therapies was sought through the use of patient diaries and life books completed by respondents between interviews (not reported here due to space limitation). Qualitative and quantitative data for those respondents who were included in the survey and completed 12 months of follow-up (i.e. patients who completed all four waves of interviews) are presented here. It must be stressed that although the questionnaires used were standardised, they were not formally validated. Additionally, no formal statistical analysis of the questionnaire results was performed. However, despite these limitations, the survey does give an indication of the European 'patient perspective' regarding their pain management over 12 months.

2.3. Patient selection

The survey was performed in 13 European counties (Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Spain, Sweden, Switzerland and the United Kingdom) over a 12 month period, from April 2008 until May 2009. Patients (>18 years old) were eligible for inclusion in the 12 month programme if they had suffered with non-malignant chronic pain for more than 3 months, had visited their doctor about their pain for the first time in the last 2 years and had scored >4 on a 0–10 numeric rating pain scale (NRS-11) for most days during a typical week. A NRS is considered to be more practical than a visual analogue scale (VAS), allowing the intensity of pain to be accurately recorded using telephone interviews [13]. Patients were recruited through general practitioners, pain specialists, practice nurses, recruiters in the field, regional newspapers, patient associations and advertising.

2.4. Collection of data

The survey consisted of an initial screening questionnaire and four waves (Wave 1 [W1], Wave 2 [W2], Wave 3 [W3] and Wave 4 [W4]) of in-depth, qualitative interviews completed over 12 months (Fig. 1). The same procedure was followed at each of the four waves. Between interviews, respondents completed self-evaluation forms and diaries. Sample size determination was based on recruiting a minimum of 20 patients to finish the survey in each country. Only data provided by those respondents who completed 12 months of the survey ($N = 294$) have been included here. In order to determine what, if anything, had changed for patients over the survey period, this paper focuses on a comparative assessment of the reported changes that occurred between the first interview (W1) and the final interview (W4).

2.5. Questionnaires

The questionnaires used in this survey were developed with the support of Ipsos MORI, a leading opinion poll organisation based in the United Kingdom and Ireland. The initial questionnaire was a screening interview that consisted of key questions to assess age and gender of respondents, country of origin, type of pain, duration of pain, pain intensity, contact with HCPs and treatments (including prescription and non-prescription medications and non-medication modalities). Respondents who fulfilled the screening criteria and who agreed to participate in the study underwent additional in-depth questioning in the form of a qualitative, standardised interview. Three further interviews were conducted over a 12 month follow-up period (over the telephone and face-to-face) to determine what, if any, changes had occurred during this timeframe. During the interviews, current pain level (measured using a NRS-11 pain intensity scale), pain experience, relationship with others (including family, friends and HCPs), most recent pain consultation, medication and side effects were assessed.

Native speaking, professional translators translated the questionnaires and associated materials from English to European language versions in each country where fieldwork took place. These versions were then back-translated to ensure accuracy in translation and nuance.

3. Results

3.1. Screening and results of Wave 1 questionnaire after 3 months

3.1.1. Participant demographics and some baseline characteristics

A total of 403 respondents were included in the survey and interviewed in-depth at W1. Of these, 294/403 respondents completed the full 12 months of follow-up (377 completed up to W2 and 333 completed up to W3). Typically, respondents did not complete the full 12 months of the survey due to holiday commitments or change of personal circumstance. Respondents were evenly distributed between the 13 European countries included in the survey. It should be noted that there were relatively few patients interviewed from each individual European country. Consequently, conclusions regarding differences in pain management across the countries in the survey cannot be made. Seventy-two percent (212/294) were female and the majority was more than 50 years of age (mean [SD] was 50.8 [±12.3] years).

3.1.2. Causes and duration of pain (self-reported)

The most frequent cause of chronic pain as identified by the 294 individual patients at W1 was back pain followed by osteoarthritis (Fig. 2). These diagnostic categories represent the patients' view of the nature of the underlying pathology and are not definitive medical diagnoses. Similar findings were observed in the European survey comprising almost 50,000 respondents [11]. Overall, the duration of pain was prolonged, with the majority of patients (84.7%) having suffered with pain for more than 1 year (Fig. 3). Of the 294 respondents, ≤5% had experienced pain for less than 6 months. This is consistent with an assessment of pain duration stratified by pain intensity (Fig. 4) and is similar to the duration of pain observed in the European survey from 2006 [11].

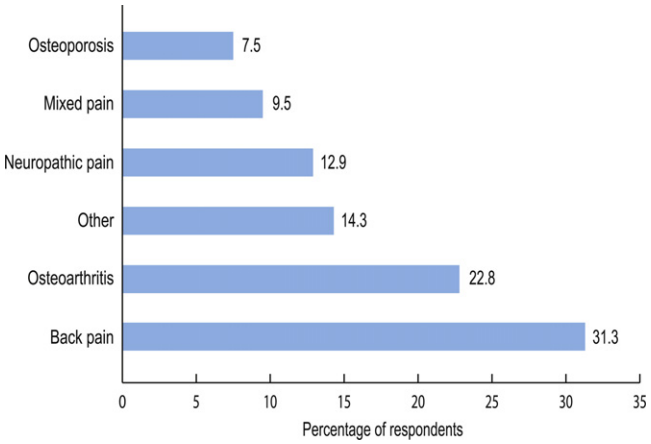

Fig. 2. The causes of pain reported by respondents during Wave 1 ($N = 294$).

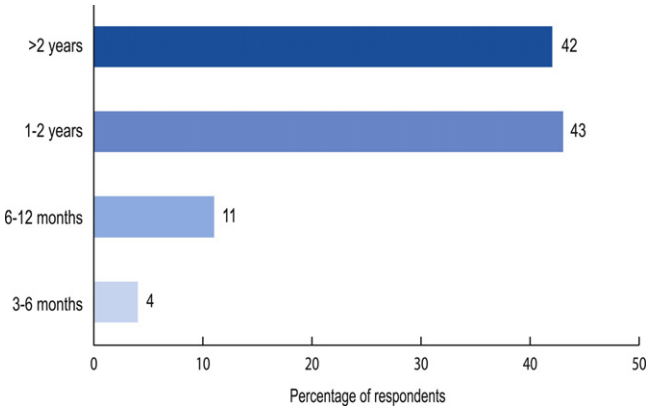

Fig. 3. Duration of chronic pain of intensity 4 or more on a 0–10 NRS pain intensity scale reported by respondents during the first interview ($N = 294$).

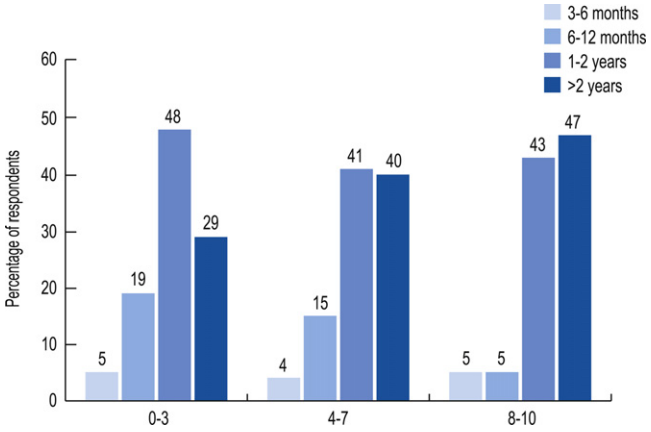

Fig. 4. Duration of worst level of pain (on an 11-point numerical rating scale) as reported by respondents during Wave 1.

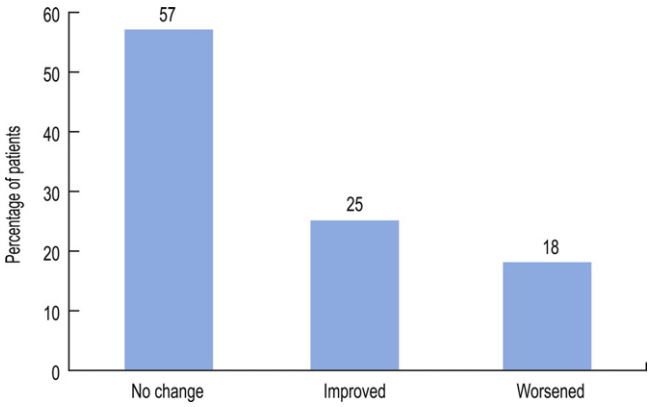

Fig. 5. Change in worst pain level from Wave 1 to Wave 4 ($N = 294$).

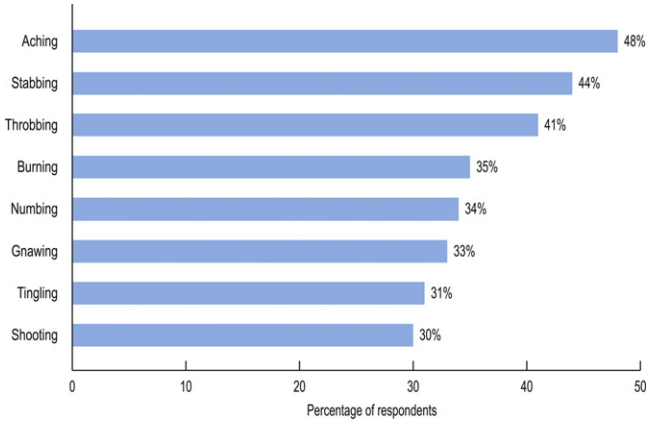

Fig. 6. Description of pain over the last 3 months at Wave 4 ($N = 294$).

3.2. *In-depth interview data at 12 months (Wave 4): comparative assessment of Wave 1 and 12 months data*

3.2.1. *Current pain level improved in two-fifths, increased in two-fifths and remained unchanged in one-fifth of respondents*

The overall net percentage of respondents with pain intensity ≥4 did not change substantially over 12 months of follow up: 67% at W1 and 65% at W4. However, 40% (119/294) of patients felt their current pain level increased and 41% (121/294) felt their current pain level decreased during this time, with just 18% (53/294) of respondents reporting no change (1% of respondents not stated).

3.2.2. *Intensity and time course of pain*

At W1, among the 294 respondents who completed 12 months of follow-up, 5% (15/294) of patients reported their worst pain level over the past week to be between 0 and 3 on a NRS-11 pain intensity scale, 44% (128/294) reported it to be between 4 and 7 and 51% (151/294) between 8 and 10. Mean level of worst pain intensity (SD) at W1 was 7.28 (±1.99). Since the initial screening interview, a small proportion of respondents reported improvements to their worst pain level and thus had scores of <4 at W1. The majority of respondents had felt this worst level of pain for more than 1 year, with 47% of patients reporting NRS scores of between 8 and 10 for >2 years (Fig. 4).

After 12 months at W4, 93% (273/294) of respondents rated their worst pain level over the past week as ≥4 on a NRS-11 pain intensity scale. The mean (SD) level of worst pain had decreased slightly to 6.86 (±2.08). For the majority of respondents, 57% (169/294), there was no change to their pain level over the 12 month period (Fig. 5). Over one year, 18% of respondents felt their pain had worsened, with 14% (42/294) moving from a pain intensity of between 4 and 7 to an intensity of between 8 and 10, 3% (9/294) moving from a pain intensity of between 0 and 3 to an intensity of between 4 and 7 and one respondent moving from a pain intensity of between 0 and 3 to an intensity of between 8 and 10. Conversely, 25% of respondents felt their pain intensity had improved over the year; 19% (57/294) moved from between 8 and 10 to 4 and 7, 4% (11/294) moved from 4–7 to 0–3 and 2% (5/294) moved from 8–10 to 0–3.

3.2.3. *Patients' pain descriptions*

At 12 months, respondents were asked to select the word they felt best described their pain. Descriptions varied with respondents describing their pain as: aching, stabbing, throbbing, burning, piercing, numbing, gnawing, tingling, shooting or stinging (Fig. 6).

3.2.4. *First contact with a healthcare professional*

At W1, 83% (244/294) of respondents had consulted their family doctor or general practitioner about their pain within the last 3 months. Fig. 7 provides a breakdown of HCPs previously consulted within the last 3 months, as reported at W1 and W4. While no formal analysis was done to compare patient proportions, there was a trend towards fewer patients reporting having seen a HCP within the last 3 months at the end of the 12 month survey than at the start. At W1 30% and at W4 13% reported visiting a pain specialist about their pain.

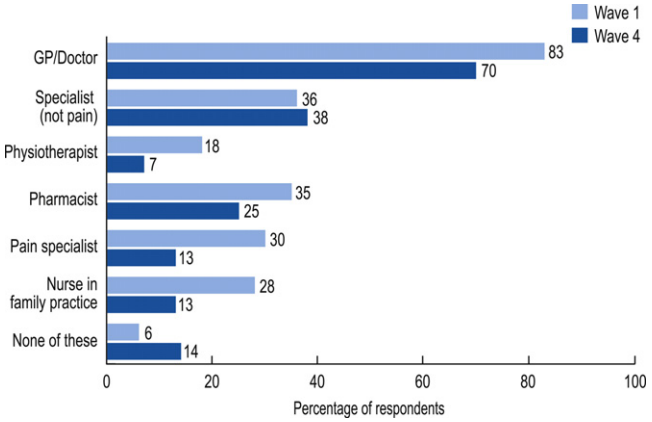

Fig. 7. The proportion of respondents (incidence > 5%) in contact with healthcare professionals during Wave 1 and Wave 4 ($N = 294$).

3.2.5. *Satisfaction with current pain management*

Patients were asked to rate on a scale of 1–10 (where 1 was "not at all happy" and 10 was "very happy") their level of happiness with their current pain management. At W1, 12% of patients rated their level of happiness between 1 and 3, 39% between 4 and 7, and 47% between 8 and 10. Similarly, at W4, 12% rated their level of happiness between 1 and 3, 36% between 4 and 6, and 51% between 7 and 10. As such the level of happiness over 12 months showed no net overall change among these respondents. Of those patients who were least happy with their current pain management at W4 (between 1 and 3), the majority had indicated no change in their current pain level over the 12 month period (67%), whereas 11% had indicated an increase and 22% had indicated a decrease in current pain level over 12 months. Similarly, of those patients who were most happy with their current pain management at W4 (between 7 and 10), the majority had indicated no change in their current pain level over the 12 month period (45%), with the same proportion of patients (27%) indicating either an increase or a decrease in current pain level (1% did not respond).

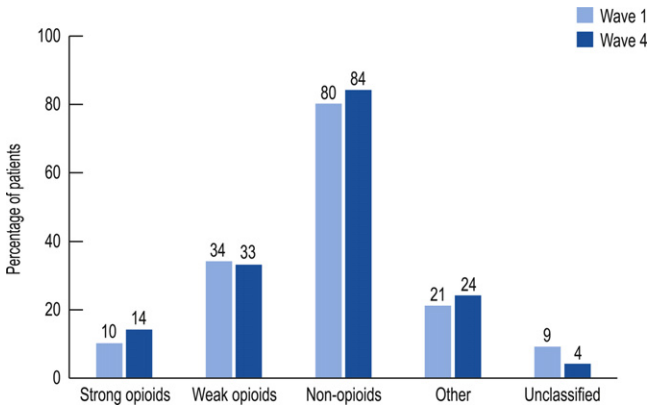

Fig. 8. Comparative opioid and non-opioid analgesics use at Wave 1 and Wave 4, as reported by respondents ($N = 294$).

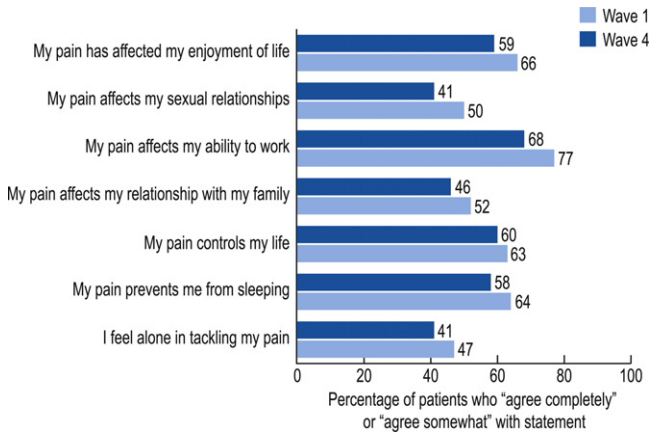

Fig. 9. The comparative impact of pain on certain aspects of daily life between Wave 1 and Wave 4 ($N = 294$).

3.2.6. *Treatment for pain*

At W1, 82% (241/294) of respondents reported that they were taking prescription medication to treat their pain. Among these, 10% (23/241) were taking strong opioids, 34% (81/241) were taking weak opioids, 80% (193/241) non-opioid analgesics, 21% (51/241) 'other' and 9% (21/241) either unclassified or unsure (Fig. 8). Therefore, most patients were taking some form of prescription medication combination.

After 12 months, there was no meaningful change in the number of respondents who reported that they were taking a prescription medication (83% [243/294]). Among those patients whose current pain level decreased over the 12 month period, a slightly lower proportion of patients were taking prescription medication (78%) at W4 than in either the group with no change to their current pain level (85%), or the group whose pain level increased over the 12 month period (87%).

Among those respondents taking prescription medication, 14% (34/243) were taking strong opioids, 33% (79/243) were taking weak opioids, 84% (205/243) non-opioid analgesics, 24% (58/243) 'other' and 4% (10/243) either unclassified or not sure (Fig. 8).

Interestingly, no substantial change in the proportions of patients using either strong, weak or non-opioids was observed at 12 months, nor was there any change in the percentage of patients reporting a worst pain level over the past week of ≥4 on the NRS-11 pain intensity scale.

In addition to the more traditional pain therapies, respondents also looked to non-medical treatments to provide pain relief. At W1, 38% of the 294 respondents had tried heat therapy, 35% gentle physical activity, 30% physiotherapy, 24% massage, 14% acupuncture and 7% a Transcutaneous Electrical Nerve Stimulator (TENS) machine.

3.2.7. *The physical and emotional impact of pain*

Respondents were asked to rate the impact pain has on their daily lives on a scale from 1 to 10, where 1 was "no impact" and 10 was a "huge impact". At W1, 8% of patients rated the impact of pain on their lives as between 1 and 3, 36% between 4 and 6 and 56% between 7 and 10, with a mean (SD) score of 6.7 (±2.18). At W4, little had changed, with 11% reporting the impact of pain to be between 1 and 3, 34% between 4 and 6 and 55% between 7 and 10, with a mean score of 6.43 (2.24 SD).

Patients were asked a series of questions to assess the impact of pain on certain aspects of daily life, such as sleeping and working over the 12 month period. Fig. 9 provides the comparative W1 and W4 data for those patients that 'agreed completely or somewhat' with each statement. In general, the proportion of patients agreeing with each statement was similar at the start of the survey and after 12 months.

3.2.8. *Side effects of prescription medication*

Patients receiving prescription medication and who reported having adverse effects, were asked about the frequency of these over 12 months. Fig. 10 shows the comparative frequency of treatment-related side effects at W1 and W4 (incidence >15% of respondents at W4). In general, more side effects were noted by respondents during the W4 interview than during the W1 interview. The most frequently occurring adverse effect, reported at W1 and W4, was 'constipation and associated symptoms' (defined as including the descriptive terms constipation, bloating, stomach ache and cramps). During the in-depth interviews, it was noted that patients frequently explained the effects of constipation using different terms due to different cultural factors, translations and terminology within the individual countries. As such, these were all grouped together and termed 'constipation and associated symptoms'.

Fatigue, dry mouth, drowsiness, stomach ache, dizziness, heartburn and nausea were reported by ≥20% of patients at W4. At 12 months, respondents were asked whether they were taking any specific remedies to treat the side effects associated with their current pain therapy. Thirty-three percent of respondents (97/294) were taking multivitamins, 10% (29/294) iron supplements, 14% (42/294) laxatives, 2% (6/294) rehydration drinks, 21% (62/294)

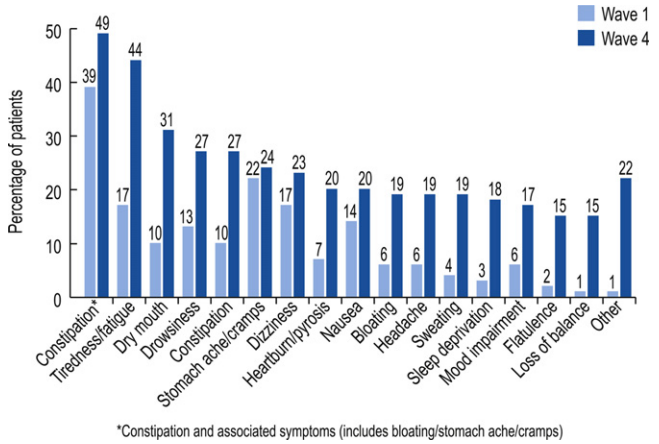

Fig. 10. The frequency of treatment-related side effects (incidence > 15%), as reported by all respondents (taking prescription medication and suffering from side effects) during Wave 1 and Wave 4 ($N = 294$).

sleeping pills and 50% (147/294) none of these. Interestingly, while 49% of respondents reported to be suffering from 'constipation and associated symptoms', only 14% reported taking laxatives. Of these respondents, 50% (21/42) had been taking laxatives for more than 2 years. Similarly, between 58 and 64% of respondents reported having problems sleeping, but only 21% were taking sleeping pills.

3.2.9. Appropriateness of treatment

At W4, respondents were asked to what extent they agreed or disagreed with the statement "I feel that everything possible is being done to help me with my pain". Fifty-eight percent of patients 'agreed somewhat' or 'agreed completely' with the statement and 27% of patients 'disagreed somewhat' or 'disagreed completely'. Fifteen percent of patients neither agreed nor disagreed.

4. Discussion

This population based study performed across 13 European countries identifies pain as a significant burden for study participants. The sampling method employed does not allow us to reach any definite conclusions regarding the prevalence of chronic pain in these countries. However, results of an earlier large-scale European survey conducted in approximately 50,000 patients concluded that there is an ongoing burden of pain for a large proportion of patients across Europe [11].

This current survey was designed to generate additional qualitative and quantitative data from the patients' perspective, which would provide new insights and understanding of the experience of individual patients as they cope with the effects of chronic pain and its management. The sample size was kept relatively small to ensure qualitative insights were generated over a period of 18 months. The selection methods and design of the study will have introduced a certain bias, such that patients with more severe symptoms and burden are more likely to be recruited and to complete the study protocol.

A cohort of 294 patients suffering from chronic pain and with a score of >4 on a 0–10 numeric rating pain scale (NRS-11) for most days during a typical week, were followed for a period of 1 year.

One of the most important survey findings was that, despite the majority of respondents consulting an HCP about their pain, after 12 months one-fifth reported no change and two-fifths reported an increase and two-fifths a decrease, respectively, in current pain level compared with Wave 1. This would indicate that, for the majority of chronic pain sufferers included in this survey, the severity of their pain is not constant but variable. Additionally, there was very little documented net change in treatment type, attitudes and beliefs in this cohort of chronic pain sufferers over 12 months.

Respondents reported their pain as having a huge impact on their lives and the ability to perform everyday activities. Pain affected their sexual relationships, ability to work, relationships with family and sleeping. Some participants described everyday activities, such as putting on socks, lifting shopping bags, doing paperwork or holding a baby, as a challenge.

Interestingly, while 58% of patients felt that "everything possible is being done to help me with my pain" 55% of patients rated high scores for the impact that chronic pain had on their daily lives (between 7 and 10, where 1 was "no impact" and 10 was a "huge impact"). No net change in happiness levels with their pain management was observed over the 12 month period, and this may be related to the fact that a majority (58%) felt that everything possible was done to help them. Despite the fact that there was no overall change in happiness with their pain management, the survey found that two-fifths of respondents reported an increase and two-fifths of respondents reported a decrease in their current pain level over 1 year.

These survey findings are in accordance with currently published literature; it is well documented that chronic pain has an adverse effect on all aspects of a patients' life, including overall health-related quality of life [14], physical, daily and social activities [3,4,14,15] and mental health, where patients with chronic pain are more likely to suffer from anxiety and depression [3,4,16].

Furthermore, chronic pain has enormous economic implications for the patient, healthcare providers, governments and society in general [10]. A recently published paper estimates the economic impact of chronic pain in terms of labour force and employee absenteeism and presenteeism (actually being able to be productive once at work), in the five largest European countries (United Kingdom, France, Spain, Germany and Italy) [6]. This research found that the negative impact of pain is far greater than other health status measures (e.g. chronic diseases and body mass index). It also questioned whether 'chronic pain' should be considered a disease in its own right and, unsurprisingly, concluded that concerted healthcare programmes are needed to improve management of pain [6].

'Constipation and associated symptoms' was the most frequently occurring adverse effect associated with prescription analgesic use, with 49% of survey respondents taking prescription medications reporting constipation at W4. The reporting of constipation and associated symptoms as the most common side effect is consistent with other published data, however, the rate observed in this survey is actually lower than what has been reported elsewhere, with some sources stating that up to 90% of patients treated with opioids experience opioid-induced constipation [17]. The lower level of reported constipation and associated symptoms in this survey may be related to the relatively low use of strong opioids (14%) in our study population. But weak opioids (prescribed to 33% of patients in this study), especially codeine, can also induce obstinate constipation [20].

Opioid induced constipation and bowel dysfunction is one of the most common and distressing side effects associated with opioid administration [18–20] and, while prevalence rates vary, constipation is consistently one of the most frequently reported adverse events in trials of opioid analgesics [19]. In many patients, constipation can develop at opioid doses much lower than those needed to produce effective analgesia [19]. As such, dose reduction is not an effective therapeutic solution for managing opioid induced constipation, with prevention considered to be a more effective strategy than treating constipation when it occurs [18]. Pharmacological agents available for treating opioid induced constipation include stool softeners, bowel stimulants, and bulk laxatives [18]. However, laxatives do not address the opioid-receptor-mediated mechanism of bowel dysfunction, and constipation as well as symptoms from the upper gastrointestinal tract (nausea, regurgitation, pyrosis and bloating) often persist in patients despite laxative use [18]. Some patients may benefit more from an opioid agonist combined with an opioid antagonist that has clinically insignificant systemic availability, for example oral naloxone [18]. Parenteral administration of methylnaltrexone is another effective remedy when ordinary bowel regimens fail to prevent or relieve severe opioid induced constipation [21].

It is important to balance the benefits of pain relief with the burden of side effects when prescribing opioids to treat chronic pain. As previously mentioned, the majority of patients felt "everything possible" was being done to manage their pain. More needs to be done to provide patients with effective pain relief by:

i) Considering alternative therapeutic options, which more effectively address the issues of opioid-induced side effects,
ii) Referring patients to comprehensive multi-disciplinary pain clinics and
iii) Pain centres where research must focus on increasing our understanding of mechanisms behind chronic pain and how to

interfere with such mechanisms to the benefit of patients suffering from chronic pain and the heavy burden of consequences of persistent pain.

5. Conclusions and implications

Based on these survey findings, the burden of chronic pain in terms of its personal and societal consequences is extremely evident. Almost 60% of patients in this 12 month survey did not receive adequate management of their chronic pain. In order to establish shared treatment goals, redefine patient expectations of pain management and provide knowledge of the various types of pain treatments available, more frequent and open dialogue between patients and HCPs is strongly encouraged. During pain management, there is a real need to determine whether any notable improvements in pain intensity have occurred and, if not, to adapt treatment appropriately in a timely fashion, as is now the standard of care in patients with other chronic diseases, such as those with diabetes and those with elevated risk factors for chronic heart disease. This is in accordance with the 2008 Chief Medical Officer in the UK annual review, published in 2009. In this, Sir Liam Donaldson highlighted the importance of pain and the issues associated with its management in the United Kingdom [1]. Several recommendations to improve pain management are made, including better co-ordination of services to meet patient needs [1]. Patients with moderate-to-severe chronic pain deserve more prompt and efficient care at a conveniently located, comprehensive, multidisciplinary pain clinic with access to necessary expertise, including imaging, interventional anaesthesia, psychology and rehabilitation. We must not forget, however, that the ultimate goal for more successful treatment of pain is obtaining a better understanding of the mechanisms that generate and maintain chronic pain [22].

Conflict of interest statement

Tony O'Brien has been a consultant on advisory boards for a number of companies, has received honoraria for lectures and advisory board participation as well as participated in the clinical trials of several pharmaceutical companies.

Harald Breivik has been a consultant on advisory boards for a number of companies, has received honoraria for lectures and advisory board participation as well as participated in the clinical trials of several pharmaceutical and equipment companies.

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