Patient Perspectives on Pain Severity in Diabetic Peripheral Neuropathy

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BACKGROUND

- Diabetic peripheral neuropathy (DPN) is a late complication of Type 1 and Type 2 diabetes that is characterized by nerve damage
- DPN may manifest as painful symptoms that result in the condition known as painful diabetic peripheral neuropathy (pDPN)
  - Estimates suggest that the overall prevalence of pDPN in the diabetic population is 15%[1]
- pDPN is associated with a substantial patient and economic burden[2-7]
  - Reductions in patient function, quality of life, and productivity
  - Greater healthcare resource utilization and costs relative to both the general population and patients with diabetes without pDPN
- Despite the numerous studies evaluating quality of life and other patient-reported outcomes in pDPN, the severity and impact of painful DPN symptoms from the patient's perspective remains poorly characterized in the general diabetes population

OBJECTIVE

- To characterize the prevalence and impact of painful symptoms of DPN from the patient perspective based on pain severity

METHOD

- Versta Research conducted an online survey in the United States during 2012 on behalf of Pfizer and the American Chronic Pain Association
  - Patients diagnosed with Type 1 or 2 diabetes were recruited via the Survey Sampling national consumer research panel
  - For inclusion, patients were screened based on self-report for experiencing symptoms consistent with DPN in the feet, hands, legs, or arms
- The survey included questions on DPN symptoms and how patients discuss DPN symptoms with their physician
- A subpopulation of patients who reported the presence of symptoms consistent with painful DPN (pDPN) was recontacted in order to obtain additional information on pain severity and its impact
  - Pain severity was evaluated based on the question "How would you rate your pain symptoms prior to taking any medication or pain remedy?" with responses assessed using a 0-10 numerical rating scale (0 = no pain and 10 = the most pain)
- Survey results reflect an unweighted population

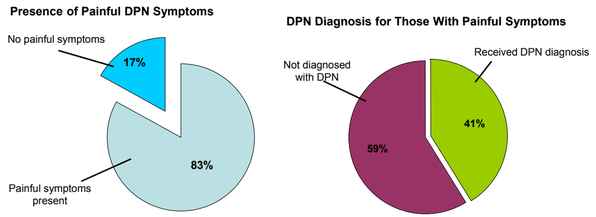
RESULTS

Table 1. Patient population

Variable	Value	
	Total population (N = 1,004)	Patients reporting pain severity (n = 393)
Gender, %		
Male	47	48
Female	53	52
Age, years, mean	55	56
Geographic region, %		
North	38	40
South	31	30
West	30	29
Duration of diabetes, years, mean	12	13

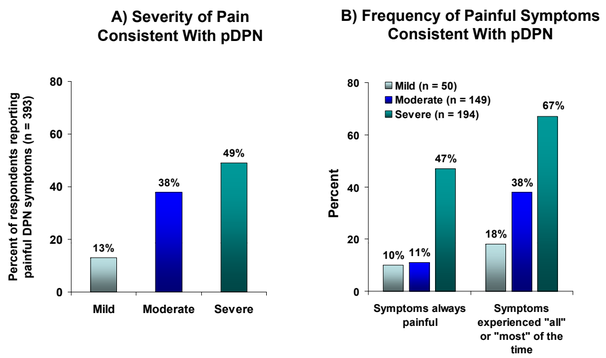
- The patient population consisted of 1,004 adults in the US diagnosed with Type 1 or Type 2 diabetes (**Table 1**)
  - Slightly more women than men (53% vs 47%)
  - Mean age was 55 years and mean time since diabetes diagnosis was 12 years
  - Similar representation of North, South, and West regions of the US
- Of the 832 patients who reported the presence of DPN-associated pain (pDPN) and were recontacted, 47% (n = 393) provided additional information on pain severity based on the question
- The characteristics of these patients (**Table 1**) were similar to the overall population

Figure 1. Discordance between presence of symptoms and diagnosis



- Although 83% of the 1,004 respondents reported symptoms consistent with pDPN, and 77% reported it impacted daily activities, only 41% of the patients with painful symptoms had even been reported being diagnosed with DPN (**Figure 1**)

Figure 2. Severity and frequency of painful DPN symptoms



- Among the 393 patients who provided information on pain severity, approximately half (49%) of these reported severe pain (**Figure 2A**)
  - Mild and moderate pain was reported in 13% and 38%, respectively
- Patients with severe pain also reported greater frequency of symptoms consistent with pDPN (**Figure 2B**)
  - 47% of patients with severe pain reported their symptoms as always being painful, and 67% reported experiencing them "all" or "most" of the time

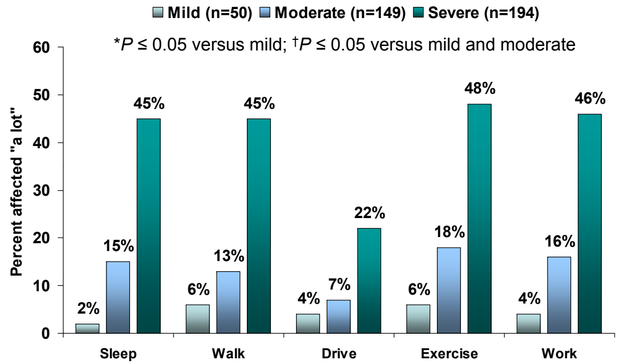
Table 2. Greater prevalence of sensory symptoms at higher pain severity levels.

Sensory Symptom	Percent		
	Mild (n = 50)	Moderate (n = 149)	Severe (n = 194)
Numbness and tingling	62	79*	87*†
Prickling or pins and needles	60	68	79*†
Shooting pain or sharp jabbing	30	53*	76*†
Burning or feelings of heat	28	46*	60*†
Stinging or throbbing	28	47*	69*†
Electric shock-like feelings	32	42	63*†
Extreme sensitivity to even light touches	18	24	41*†

*$P < 0.05$ versus mild
†$P < 0.05$ versus moderate

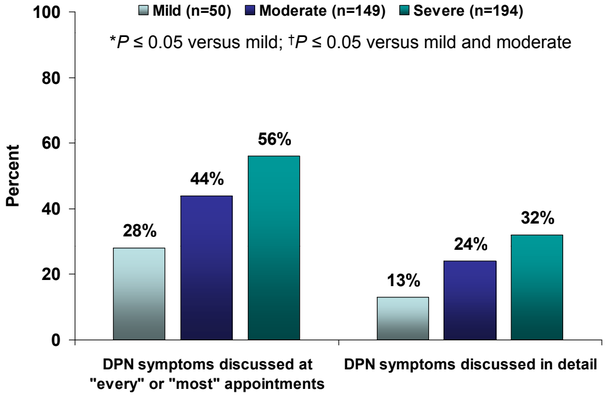
- At increasing levels of pain severity, greater proportions of patients reported symptoms typical of neuropathic pain (**Table 2**)
  - These differences were significant for severe pain relative to mild and moderate pain for all sensory symptoms
  - Numbness and tingling was the symptom reported by the most patients across all pain severity categories

Figure 3. Impact of pain on daily function among patients who reported severity of their painful symptoms.



- Significantly greater proportions of patients with severe pain reported "a lot" of impact of pain across all daily functions relative to those with mild and moderate pain ($P \leq 0.05$) (**Figure 3**)
  - The lowest impact was on driving, with all other functions generally showing a similar impact within each pain severity strata

Figure 4. Patient-reported discussions of DPN symptoms with healthcare providers



- As pain severity increased, patients reported discussing their symptoms with their healthcare provider more frequently and in greater detail (**Figure 4**)
  - However, even among those with severe pain, only 56% of patients discussed their symptoms at "every" or "most" visits, and fewer than one-third (32%) discussed their symptoms in detail

CONCLUSIONS

- Among diabetes patients with symptoms consistent with pDPN, pain was reported as moderate-to-severe in the majority of patients
  - The frequency and impact of these painful symptoms was greatest among patients who reported severe pain
- While discussion of symptoms with their healthcare provider increased with increasing levels of pain, such discussions were reported by generally low proportions of patients across pain severity categories
- These results suggests a need for:
  - Educational initiatives on pDPN that target patients and HCPs
  - Initiating improved dialogue between patients and their HCPs for discussing appropriate management of pDPN that is distinct from treatment of the underlying diabetes

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