

**MEETING ABSTRACT**

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# Sensitivity and specificity of neuropathy diabetes score, neuropathy symptoms score, diabetic neuropathy score and esthesiometry compared with the gold standards Michigan neuropathy screening instrument (MNSI) and Beck depression inventory (BDI)

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## Background

In a previous study, we observed that the Results of an organized questionnaire to assess the presence of diabetic neuropathy (Diabetic Neuropathy Symptoms-DNS) were associated with the presence of scores of depressive symptoms (BDI  $\geq 10$ ).

## Objective

To evaluate how different scores for the presence of symptoms/signs of neuropathy (Neuropathy Diabetes Score-NDS; Neuropathy Symptoms Score-NSS; DNS and esthesiometry) had sensitivity and specificity, compared to the gold standard score of Michigan (MNSI

( $\geq 2,5$ ) and the gold standard score of Beck depressive symptoms (BDI).

## Materials and methods

207 patients with Diabetes type 2 were evaluated with MNSI, BDI, NDS, esthesiometry, NSS and DNS.

## Results

Questionnaires used to define the presence of polyneuropathy have a similar sensitivity for the detection of symptoms of depression (70 to 80%), while the physical examination for the presence of polyneuropathy (NDS) and esthesiometry has a sensitivity of  $\pm 50\%$  and specificity

	NDS ( $\geq 3,0$ ) (n=305)	Esthesiometry ( $\geq 3,0$ ) (n=301)	NSS ( $\geq 3,0$ ) (n=304)	DNS ( $\geq 1,0$ ) (n=205)
Sensitivity (MNSI)	50%	47%	69%	79%
Specificity (MNSI)	93%	75%	39%	28%
	(n=207)	(n=204)	(n=205)	(n=206)
Sensitivity (Beck)	21%	26%	75%	79%
Specificity (Beck)	84%	87%	48%	31%

**Figure 1** Sensitivity and specificity of NDS, esthesiometry NSS and DNS, compared to MNSI and BDI.

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of  $\pm 85\%$  compared to MNSI and a sensitivity of  $\pm 23\%$  and specificity of  $\pm 85\%$  when compared to BDI (Figure 1). The symptom questionnaires have sensitivity and specificity of  $\pm 75\%$  and  $\pm 35\%$ , respectively, for both MNSI and BDI.

## Conclusions

We suggest not to use only questionnaires to define the presence of neuropathy in diabetic patients-in daily practice, physical examination (MNSI or NDS) must be used.

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