



Quality of Life in Patients with Painful and Painless Diabetic Polyneuropathy correlated with Vitamin D values

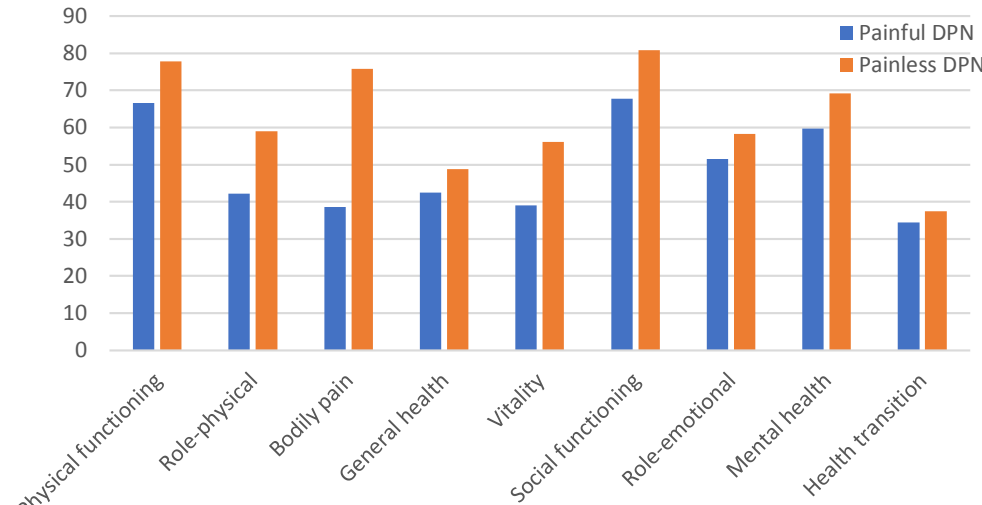


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Distal sensorimotor diabetic polyneuropathy is one of the most common complications of diabetes. It might be presented as painful (group 1) or painless (group 2). Vitamin D deficiency is a common finding in patients with diabetes, which may indicate an association between vitamin D and the development of neuropathic pain, thus affecting the quality of life in patients with diabetes.

The aim of this study was to compare the estimated, health-related quality of life and vitamin D values in patients with painful and painless diabetic polyneuropathy.

Subjects and methods: This study included a group of twenty-nine subjects (16 males and 13 females) with clinical diagnosis of painful diabetic polyneuropathy lasting at least one year, with mean age of 63.00 (± 7.87) and a group of twenty-eight subjects (16 males and 12 females) with a clinical diagnosis of painless diabetic polyneuropathy, with a mean age of 63.29 (± 8.01). The Pain Detect questionnaire was used to assess the existence of neuropathic pain. The serum values of 25-hydroxy vitamin D were measured by liquid chromatography. SF-36 questionnaire was used for assessment of health-related quality of life.



Graph 1. Graphic representation of the mean values of individual domains of the SF-36 questionnaire

					PF	RP	BP	GH	VT	SF	RE	MH	HT
Painful DPN	m	Spearman's rho	Vitamin D	Correlation Coefficient	,567*	,668**	,199	,600*	,245	-0,036	-0,042	,030	,000
				Sig. (2-tailed)	0,022	0,005	0,461	0,014	0,360	0,894	0,877	0,913	1,000
				N	16	16	16	16	16	16	16	16	16
Painless DPN	f	Spearman's rho	Vitamin D	Correlation Coefficient	-0,109	-0,337	-0,102	-0,171	-0,105	0,180	-0,152	0,055	-0,280
				Sig. (2-tailed)	0,724	0,261	0,740	0,576	0,733	0,556	0,621	0,858	0,355
				N	13	13	13	13	13	13	13	13	13
Painful DPN	m	Spearman's rho	Vitamin D	Correlation Coefficient	-0,036	-0,195	-0,369	-0,279	-0,233	-0,362	-0,433	-0,328	-0,370
				Sig. (2-tailed)	0,895	0,470	0,160	0,296	0,384	0,169	0,094	0,214	0,158
				N	16	16	16	16	16	16	16	16	16
Painless DPN	f	Spearman's rho	Vitamin D	Correlation Coefficient	0,336	0,141	0,191	-0,382	-0,046	-0,291	0,128	-0,459	-0,474
				Sig. (2-tailed)	0,286	0,662	0,552	0,221	0,887	0,359	0,691	0,133	0,120
				N	12	12	12	12	12	12	12	12	12

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 1. Spearman's coefficient of correlation of vitamin D values and individual domains of SF-36 questionnaire

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Results: The average score of the Pain Detect questionnaire for the group 1 was 23.14 (± 4.85) and for the group 2 0.79 (± 2.15). 89.66% of respondents in the group 1, as opposed to 69.00% in the group 2 have reduced values of vitamin D. The average values of vitamin D for the group 1 are 51.59 (± 19.88) and 65.98 (± 22,62) for the group 2. Both examined variables, neuropathic pain and vitamin D value, differed statistically significantly between groups.

In this study, we have not found a statistically significant association between vitamin D and neuropathic pain in individuals with painful diabetic polyneuropathy.

We found a statistically significant association between vitamin D and the SF-36 domain of physical functioning, fulfillment of physical role, and general health perceptions in the group 1 of males.

In all categories measured by the SF-36 questionnaire, the group 2 has a higher index compared to the group 1. The result in the group 2 is higher than 60% in four of the nine categories (physical functioning, physical pain, social functioning and mental health) while the group 1 exceeds the 60% limit in two categories (physical and social functioning).The quality of life of respondents in group 1 was most reduced in the categories of physical pain, vitality and changes in health.