

Table SI. Comparison of the Neuroderm items between CP patients diagnosed with somatoform ("psychogenic") pruritus or psychological factors associated with pruritus (ICD-10: F45 or F54) and those without a psychiatric history

	Psych-CP (n=331)		Non-Psych-CP (n=3391)		Statistics			
	n	%	n	%	Chi ²	DF	p ≤	d
Clinical characteristics								
<u>Duration of itch (n=3,659)</u>								
- Days–weeks	2	0.6	31	0.9				
- Weeks–months	15	4.6	597	17.9				
- A couple of months	42	12.8	290	8.7	49.3	4	0.001	
- 1–10 years	183	55.6	1813	54.4				
- >10 years	87	26.4	599	18.0				
<u>How was your Itch in the last 4 weeks? (n=1,212)</u>								
- Worst	84	77.8	753	68.2	4.22	1	0.040	0.12
- Best	24	22.2	351	31.8				
<u>Variations of itch (n=3,084)</u>								
--- day and night	96	42.5	1029	36.0				
--- only in daytime	123	54.4	1671	58.5	5.31	2	0.070	
--- only at night	7	3.1	158	5.5				
<u>Please mark all currently itching body regions (n=296)</u>								
- Face	2	18.2	76	26.7	0.39	1	0.531	0.07
- Neck	7	63.6	136	47.7	1.08	1	0.300	0.12
- Back	6	54.5	184	64.6	0.46	1	0.497	0.08
- Chest	7	63.6	16	58.9	0.10	1	0.756	0.04
- Anal/genital region	5	45.5	83	29.1	1.35	1	0.245	0.14
- Scalp	8	72.7	134	47.0	2.81	1	0.094	0.20
- Arms	8	72.7	168	58.9	0.83	1	0.361	0.11
- Hands	4	36.4	96	33.7	0.03	1	0.854	0.02
- Legs	8	72.7	160	56.1	1.19	1	0.276	0.13
- Feet	5	45.5	93	32.6	0.79	1	0.375	0.10
- Shoulder blade (n=128)	5	45.5	123	43.2	0.02	1	0.880	0.02
<u>Please mark all body regions where your itch started (n=296)</u>								
- Face	2	18.2	42	14.7	0.10	1	0.753	0.04
- Neck	7	63.6	52	18.2	13.7	1	0.001	0.44
- Back	3	27.3	101	35.4	0.31	1	0.578	0.06
- Chest	4	36.4	81	28.4	0.33	1	0.568	0.07
- Anal/genital region	3	27.3	37	13.0	1.85	1	0.174	0.16
- Scalp	5	45.5	68	23.9	2.66	1	0.103	0.19
- Arms	5	45.5	121	42.5	0.04	1	0.844	0.02
- Hands	5	45.5	56	19.6	4.31	1	0.038	0.24
- Legs	8	72.7	141	49.5	2.29	1	0.130	0.18
- Feet	1	9.1	46	16.1	0.39	1	0.530	0.07
	Mean	SD	Mean	SD	T		p ≤	d
<u>Intensity of CP (Visual analog scales)</u>								
- Average itch (n=3,034) in the last 4 weeks	6.89	2.3	6.07	2.4	5.30		0.001	0.34
- Worst itch (n=2,699) in the last 4 weeks	8.48	1.9	7.81	2.2	5.11		0.001	0.31
- Itch in the last 24 h (n=2,572)	6.18	2.8	5.07	2.9	5.76		0.001	0.38
	n	%	n	%	Chi²	DF	p ≤	
<u>Quality of itch</u>								
- Localized deep inside (n=1,471)	33	26.0	188	14.0	13.1	1	0.001	0.19
- Like pinpricks (n=1,702)	87	56.9	703	45.4	7.38	1	0.007	0.13
- Burning (n=2,457)	135	73.8	1547	68.0	2.59	1	0.108	0.07
- Sharp (n=1,462)	12	9.4	91	6.8	1.23	1	0.268	0.06
- Painful (n=1,965)	98	57.6	727	40.5	18.7	1	0.001	0.20
- Pointed (n=1,433)	10	8.3	85	6.5	0.57	1	0.450	0.04
- Localized at the surface (n=1,436)	17	14.0	283	21.5	3.74	1	0.053	0.10

- Like creeping ants (<i>n</i> =1,734)	58	38.7	576	36.4	0.31	1	0.576	0.03
- Warm feeling (<i>n</i> =1,825)	68	44.7	622	37.2	3.39	1	0.066	0.09
- Cold feeling (<i>n</i> =1,550)	13	10.0	114	8.0	0.62	1	0.433	0.04
- Biting (<i>n</i> =1,858)	64	40.8	545	32.0	4.97	1	0.026	0.10
- Drilling (<i>n</i> =1,587)	24	17.5	157	10.8	5.55	1	0.019	0.12
- Like electrical shocks (<i>n</i> =1,632)	16	11.3	133	8.9	0.86	1	0.355	0.05
	Mean	SD	Mean	SD	T		<i>p</i> ≤	
<u>Number of itch qualities</u>	3.24	2.85	3.19	2.21	0.33		0.739	0.02
	n	%	n	%	Chi²	DF	<i>p</i> ≤	
<u>- If you experience burning itch, then only after scratching? (<i>n</i>=1,501)</u>								
- Yes	63	54.8	809	58.4	0.56	1	0.454	0.04
<u>I experience my itch as</u>								
- cruel (<i>n</i> =1,476)	64	50.0	369	27.4	28.9	1	0.001	0.28
- agonizing (<i>n</i> =1,484)	84	65.6	734	54.1	6.25	1	0.012	0.13
- nasty / vile (<i>n</i> =1,469)	35	27.6	280	20.9	3.09	1	0.079	0.09
- I can feel nothing else but itch (<i>n</i> =1,466)	34	26.8	289	21.6	1.82	1	0.178	0.07
- The itch makes me aggressive (<i>n</i> =1,470)	67	52.3	430	32.0	21.5	1	0.001	0.24
- agitating (<i>n</i> =1,465)	48	37.5	271	20.3	20.4	1	0.001	0.24
- persistent (<i>n</i> =1,476)	65	50.4	590	43.8	2.07	1	0.150	0.08
- terrible (<i>n</i> =1,468)	54	42.2	311	23.2	22.5	1	0.001	0.25
- The itch oppresses me (<i>n</i> =1,479)	95	74.2	714	52.8	21.6	1	0.001	0.24
	Mean	SD	Mean	SD	T		<i>p</i> ≤	
<u>Number of emotional itch descriptions</u>	1.65	2.43	1.18	1.80	3.45		0.001	0.25
	n	%	n	%	Chi²	DF	<i>p</i> ≤	
<u>What increases your itch?</u>								
- Strain (<i>n</i> =1,438)	79	57.2	271	20.8	89.8	1	0.001	0.52
- Rest (<i>n</i> =1,521)	61	45.2	527	38.0	2.66	1	0.103	0.08
- Bed warmth (<i>n</i> =1,429)	77	60.2	651	50.0	4.77	1	0.029	0.12
- Physical effort (<i>n</i> =1,773)	72	43.1	456	28.4	15.7	1	0.001	0.19
- Emotional tension (<i>n</i> =2,042)	135	68.5	785	42.5	48.5	1	0.001	0.31
- Sweating (<i>n</i> =2,108)	134	67.7	1095	57.3	7.90	1	0.005	0.12
- Touch (<i>n</i> =2,050)	61	37.0	875	46.4	5.46	1	0.019	0.10
- Pressure (<i>n</i> =2,190)	65	36.1	834	41.5	1.98	1	0.160	0.06
- Scratching (<i>n</i> =1,497)	85	65.9	828	60.5	1.43	1	0.232	0.06
- Rubbing the skin (<i>n</i> =1,722)	77	49.4	768	49.0	0.01	1	0.940	0.01
- Tight clothes (<i>n</i> =1,709)	73	47.1	648	41.7	1.68	1	0.194	0.06
	Mean	SD	Mean	SD	T		<i>p</i> ≤	
<u>Number of itch-increasing triggers</u>	2.73	2.36	2.15	1.90	4.29		0.001	0.03
	n	%	n	%	Chi²	DF	<i>p</i> ≤	0
<u>Do cold water or cold dressings improve your itch?</u>								
(<i>n</i> =296): yes	5	45.5	164	57.5	0.63	1	0.427	0.09
<u>Do hot water or hot showers improve your itch?</u>								
(<i>n</i> =296): yes	1	9.1	42	14.7	0.27	1	0.602	0.06
<u>What do you do against /in reaction to your itch?</u>								
- rubbing (<i>n</i> =1,481)	55	43.7	558	41.2	0.29	1	0.590	0.03
- scratching (<i>n</i> =1,173)	95	86.4	832	78.3	3.94	1	0.047	0.12
- pinching (<i>n</i> =1,469)	17	13.5	159	11.8	0.30	1	0.585	0.03
- kneading (<i>n</i> =1,466)	10	8.0	109	8.1	0.01	1	0.960	0.01
- scrubbing (<i>n</i> =1,479)	29	22.8	314	23.2	0.01	1	0.921	0.01
- applying cream (<i>n</i> =1,523)	96	75.6	936	67.0	3.89	1	0.049	0.10
- using objects like brushes, scraping spoons (<i>n</i> =1,477)	40	31.7	346	25.6	2.25	1	0.134	0.08
- notching the skin with my nails (<i>n</i> =1,473)	52	40.9	354	26.3	12.5	1	0.001	0.19
- heat, e.g. hot showers (<i>n</i> =1,726)	24	17.0	310	19.6	0.53	1	0.465	0.04
- cold, e.g. cold packs (<i>n</i> =2,429)	98	51.9	1215	54.2	0.40	1	0.527	0.03
- to be with others/searching company (<i>n</i> =1,464)	14	11.1	147	11.0	0.01	1	0.966	0.01
- staying alone (<i>n</i> =1,461)	30	24.0	135	10.1	22.0	1	0.001	0.25

	Mean	SD	Mean	SD	T		$p \leq$	
	n	%	n	%	Chi ²	DF	$p \leq$	
<u>Number of measures in reaction to itch</u>	1.79	2.20	1.70	1.92	0.72		0.471	0.05
<u>Scratching: Answer "yes"</u>								
- I scratch myself only when I experience itch (n=1,447)	95	76.0	1052	79.6	0.89	1	0.346	0.05
- Scratching alleviates itch (n=2,312)	133	71.5	1379	64.9	3.34	1	0.068	0.08
- Scratching enhances itch (n=20,131)	86	52.8	973	52.1	0.03	1	0.869	0.01
- I scratch myself even when I don't experience itch (n=1,412)	13	10.5	73	5.7	4.59	1	0.032	0.11
- Scratching leads to satisfaction (n=1,416)	34	27.4	276	21.4	2.43	1	0.119	0.08
- Scratching leads to excoriations (n=1,415)	67	54.5	506	39.2	10.9	1	0.001	0.18
- I scratch automatically (n=2,375)	83	43.7	803	36.8	3.59	1	0.058	0.10
How often? (n=589)								
---Often	49	79.0	353	67.0				
---Rarely	11	17.7	135	25.6	4.57	3	0.206	
---For hours	1	1.6	7	1.3				
---For minutes	1	1.6	32	6.1				
<u>How does your itch impair your quality of life?</u>								
- no impairment (n=296)	0	0.0	20	7.0	0.83	1	0.363	0.11
- impairment in LQ (n=296)	11	100	213	74.7	3.67	1	<u>0.055</u>	0.22
- sleep disturbances (n=296)	10	90.9	182	63.9	3.40	1	<u>0.065</u>	0.22
	Mean	SD	Mean	SD	T		$p \leq$	
How many hours less do you sleep because of your itch? (n=223)	3.78	2.17	2.64	4.10	0.83		0.410	0.28
<u>How often do the following thoughts arise in relation to your itch? (0=never, 4=always)</u>								
1. The itch will never stop (n=276)	2.20	0.63	1.88	1.20	0.83		0.164	0.27
2. I cannot do anything against it (n=262)	2.00	0.71	2.00	1.22	0.02		0.988	0.00
3. I will scratch myself again until I am disfigured (n=260)	1.36	1.03	0.97	1.18	1.09		0.277	0.33
4. The itch will get worse and worse (n=269)	1.80	0.79	1.69	1.13	0.41		0.693	0.10
5. I cannot tolerate it (n=274)	2.09	1.04	1.75	1.12	0.99		0.322	0.30
6. I am sure, I won't have a quiet minute today/tonight (n=273)	1.55	0.93	1.23	1.16	0.90		0.368	0.28
7. These perpetual pieces of advice make me desperate (n=265)	1.20	1.23	1.18	1.23	0.06		0.953	0.02
8. The itch is driving me crazy (n=268)	2.00	1.00	1.73	1.22	0.66		0.513	0.22
9. I'll scratch myself bloody again (n=274)	1.50	0.97	1.16	1.25	0.85		0.395	0.27
10. I am sure, my skin will look terrible again tomorrow (n=271)	1.00	0.94	1.15	1.25	0.38		0.702	0.12
<u>Sum of negative thoughts (n=219)</u>	16.88	5.44	14.53	8.69	0.76		0.449	0.27
<u>DLQI -Score (n=2,465)</u>	14.00	6.93	8.80	6.34	10.6		0.001	0.81
<u>HADS-Anxiety Score (n=1,714)</u>	10.27	4.12	6.40	3.92	11.6		0.001	0.98
<u>HADS-Depression Score (n=1,722)</u>	8.92	4.16	5.25	4.06	10.6		0.001	0.90

Complete Neuroderm item report. (The numbers given within brackets in the first column refer to the number of patients who answered this question).

CP: Chronic Pruritus; Psych-CP: CP patients with somatoform itch or psychological factors associated with pruritus diagnosed by a specialist; Non- Psych-CP: CP patients without psychiatric diagnosis/history; DLQI: Dermatological Life Quality Index; HADS: Hospital Anxiety and Depression Scale.