

Table S1 Correlations between the factors of SMA children and their parents and the factor “somatization” in the SCL-90

Factors	Negative	Positive	r	P value
Parent's gender			-0.012	0.876
Male	22 (15.2)	6 (16.2)		
Female	123 (84.8)	31 (83.8)		
Household area			-0.087	0.240
East China	58 (40.0)	17 (45.9)		
South China	8 (5.5)	5 (13.5)		
Central China	19 (13.1)	6 (16.2)		
North China	17 (11.7)	1 (2.7)		
Northwest China	10 (6.9)	1 (2.7)		
Southwest China	15 (10.3)	3 (8.1)		
Northeast China	18 (12.4)	4 (10.8)		
Place of residence			0.067	0.366
Urban area	94 (64.8)	21 (56.8)		
Non-urban area	51 (35.2)	16 (43.2)		
Education background			0.057	0.446
High school or below	69 (47.6)	15 (40.5)		
College or higher	76 (52.4)	22 (59.5)		
Employment			0.009	0.909
Unemployed	76 (52.4)	19 (51.4)		
Employed	69 (47.6)	18 (48.6)		
Monthly family income			0.006	0.941
<10,000 yuan	95 (65.5)	24 (64.9)		
≥10,000 yuan	50 (34.5)	13 (35.1)		
Physical condition			-0.083	0.264
Healthy	128 (88.3)	35 (94.6)		
Diseased (not mentally)	17 (11.7)	2 (5.4)		
Children's gender			0.063	0.396
Male	78 (53.8)	17 (45.9)		
Female	67 (46.2)	20 (54.1)		
Age of SMA children (months)	24 [24, 115]	23 [23, 57]	-0.024	0.746
Living status of SMA children			-0.046	0.536
Home-living	94 (64.8)	26 (70.3)		
Enrolled in nursery or school	51 (35.2)	11 (29.7)		
Disease course			0.095	0.201
≤1 year	72 (49.7)	14 (37.8)		
>1 year	73 (50.3)	23 (62.2)		

Table S1 (continued)

Table S1 (continued)

Factors	Negative	Positive	r	P value
Medical treatment			0.044	0.557
No	90 (62.1)	21 (56.8)		
Yes	55 (37.9)	16 (43.2)		
Rehabilitation management			-0.053	0.474
No	61 (42.1)	18 (48.6)		
Yes	84 (57.9)	19 (51.4)		
Rehabilitation training			0.070	0.351
No	83 (57.2)	18 (48.6)		
Yes	62 (42.8)	19 (51.4)		

Data are expressed as n (%) or median [interquartile range]. SMA, spinal muscular atrophy; SCL-90, Symptom Checklist 90.

Table S2 Correlations between the factors of SMA children and their parents and the factor “depression” in the SCL-90

Factors	Negative	Positive	r	P value
Parent's gender			0.025	0.735
Male	20 (16.0)	8 (14.0)		
Female	105 (84.0)	49 (86.0)		
Household area			0.009	0.904
East China	52 (41.6)	23 (40.4)		
South China	8 (6.4)	5 (8.8)		
Central China	17 (13.6)	8 (14.0)		
North China	14 (11.2)	4 (7.0)		
Northwest China	8 (6.4)	3 (5.3)		
Southwest China	11 (8.8)	7 (12.3)		
Northeast China	15 (12.0)	7 (12.3)		
Place of residence			0.123	0.097
Urban area	84 (67.2)	31 (54.4)		
Non-urban area	41 (32.8)	26 (45.6)		
Education background			-0.040	0.590
High school or below	56 (44.8)	28 (49.1)		
College or higher	69 (55.2)	29 (50.9)		
Employment			-0.101	0.176
Unemployed	61 (48.8)	34 (59.6)		
Employed	64 (51.2)	23 (40.4)		
Monthly family income			-0.093	0.212
<10,000 yuan	78 (62.4)	41 (71.9)		
≥10,000 yuan	47 (37.6)	16 (28.1)		

Table S2 (continued)

Table S2 (continued)

Factors	Negative	Positive	r	P value
Physical condition			-0.114	0.124
Healthy	109 (87.2)	54 (94.7)		
Diseased (not mentally)	16 (12.8)	3 (5.3)		
Children's gender			0.042	0.577
Male	67 (53.6)	28 (49.1)		
Female	58 (46.4)	29 (50.9)		
Age of SMA children (months)	24 [24, 49]	115 [80, 115]	0.069	0.353
Living status of SMA children			-0.060	0.418
Home-living	80 (64.0)	40 (70.2)		
Enrolled in nursery or school	45 (36.0)	17 (29.8)		
Disease course			0.022	0.766
≤1 year	60 (48.0)	26 (45.6)		
>1 year	65 (52.0)	31 (54.4)		
Medical treatment			0.043	0.566
No	78 (62.4)	33 (57.9)		
Yes	47 (37.6)	24 (42.1)		
Rehabilitation management			0.1030	0.687
No	53 (42.4)	26 (45.6)		
Yes	72 (57.6)	31 (54.4)		
Rehabilitation training			0.134	0.071
No	75 (60.0)	26 (45.6)		
Yes	50 (40.0)	31 (54.4)		

Data are expressed as n (%) or median [interquartile range]. SMA, spinal muscular atrophy; SCL-90, Symptom Checklist 90.

Table S3 Correlations between the factors of SMA children and their parents and the factor "anxiety" in the SCL-90

Factors	Negative	Positive	r	P value
Parent's gender			0.032	0.671
Male	23 (16.0)	5 (13.2)		
Female	121 (84.0)	33 (86.8)		
Household area			0.010	0.893
East China	61 (42.4)	14 (36.8)		
South China	8 (5.6)	5 (13.2)		
Central China	18 (12.5)	7 (18.4)		
North China	16 (11.1)	2 (5.3)		
Northwest China	10 (6.9)	1 (2.6)		
Southwest China	15 (10.4)	3 (7.9)		

Table S3 (continued)

Table S3 (continued)

Factors	Negative	Positive	r	P value
Northeast China	16 (11.1)	6 (15.8)		
Place of residence			0.084	0.257
Urban area	94 (65.3)	21 (55.3)		
Non-urban area	50 (34.7)	17 (44.7)		
Education background			0.015	0.845
High school or below	67 (46.5)	17 (44.7)		
College or higher	77 (44.7)	21 (55.3)		
Employment			-0.086	0.250
Unemployed	72 (50.0)	23 (60.5)		
Employed	72 (50.0)	15 (39.5)		
Monthly family income			-0.061	0.412
<10,000 yuan	92 (63.9)	27 (71.1)		
≥10,000 yuan	52 (36.1)	11 (28.9)		
Physical condition			-0.043	0.567
Healthy	128 (88.9)	35 (92.1)		
Diseased (not mentally)	16 (11.1)	3 (7.9)		
Children's gender			0.077	0.303
Male	78 (54.2)	17 (44.7)		
Female	66 (45.8)	21 (55.3)		
Age of SMA children (months)	24 [24, 49]	115 [115, 125]	0.005	0.944
Living status of SMA children			-0.055	0.457
Home-living	93 (64.6)	27 (71.1)		
Enrolled in nursery or school	51 (35.4)	11 (28.9)		
Disease course			0.026	0.729
≤1 year	69 (47.9)	17 (44.7)		
>1 year	75 (52.1)	21 (55.3)		
Medical treatment			0.033	0.662
No	89 (61.8)	22 (57.9)		
Yes	55 (38.2)	16 (42.1)		
Rehabilitation management			-0.096	0.199
No	59 (41.0)	20 (52.6)		
Yes	85 (59.0)	18 (47.4)		
Rehabilitation training			0.111	0.135
No	84 (58.3)	17 (44.7)		
Yes	60 (41.7)	21 (55.3)		

Data are expressed as n (%) or median [interquartile range]. SMA, spinal muscular atrophy; SCL-90, Symptom Checklist 90.

Table S4 Correlations between the factors of SMA children and their parents and the factor “fear” in the SCL-90

Factors	Negative	Positive	r	P value
Parent's gender			0.092	0.215
Male	26 (16.8)	2 (7.4)		
Female	129 (83.2)	25 (92.6)		
Household area			-0.019	0.802
East China	63 (40.6)	12 (44.4)		
South China	11 (7.1)	2 (7.4)		
Central China	21 (13.5)	4 (14.8)		
North China	17 (11.0)	1 (3.7)		
Northwest China	9 (5.8)	2 (7.4)		
Southwest China	16 (10.3)	2 (7.4)		
Northeast China	18 (11.6)	4 (14.8)		
Place of residence			0.098	0.188
Urban area	101 (65.2)	14 (51.9)		
Non-urban area	54 (34.8)	13 (48.1)		
Education background			0.014	0.848
High school or below	72 (46.5)	12 (44.4)		
College or higher	83 (53.5)	15 (55.6)		
Employment			-0.0594	0.429
Unemployed	79 (51.0)	16 (59.3)		
Employed	76 (49.0)	11 (40.7)		
Monthly family income			-0.011	0.880
<10,000 yuan	101 (65.2)	18 (66.7)		
≥10,000 yuan	54 (34.8)	9 (33.3)		
Physical condition			0.009	0.902
Healthy	139 (89.7)	24 (88.9)		
Diseased (not mentally)	16 (10.3)	3 (11.1)		
Children's gender			0.065	0.385
Male	83 (53.5)	12 (44.4)		
Female	72 (46.5)	15 (55.6)		
Age of SMA children (months)	24 [24, 49]	113 [113,125]	0.019	0.804
Living status of SMA children			0.026	0.726
Home-living	103 (66.5)	17 (63.0)		
Enrolled in nursery or school	52 (33.5)	10 (37.0)		
Disease course			0.054	0.465
≤1 year	75 (48.4)	11 (40.7)		
>1 year	80 (51.6)	16 (59.3)		

Table S4 (continued)

Table S4 (continued)

Factors	Negative	Positive	r	P value
Medical treatment			0.110	0.140
No	98 (63.2)	13 (48.1)		
Yes	57 (36.8)	14 (51.9)		
Rehabilitation management			-0.102	0.169
No	64 (41.3)	15 (55.6)		
Yes	91 (58.7)	12 (44.4)		
Rehabilitation training			0.062	0.408
No	88 (56.8)	13 (48.1)		
Yes	67 (43.2)	14 (51.9)		

Data are expressed as n (%) or median [interquartile range]. SMA, spinal muscular atrophy; SCL-90, Symptom Checklist 90.

Table S5 Correlations between the factors of SMA children and their parents and the factor “sleep and eating problems” in the SCL-90

Factors	Negative	Positive	r	P value
Parent's gender			0.029	0.701
Male	21 (16.0)	7 (13.7)		
Female	110 (84.0)	44 (86.3)		
Household area			-0.021	0.774
East China	54 (41.2)	21 (41.2)		
South China	8 (6.1)	5 (9.8)		
Central China	15 (11.5)	10 (19.6)		
North China	16 (12.2)	2 (3.9)		
Northwest China	10 (7.6)	1 (2.0)		
Southwest China	14 (10.7)	4 (7.8)		
Northeast China	14 (10.7)	8 (15.7)		
Place of residence			0.158	0.033*
Urban area	89 (67.9)	26 (51.0)		
Non-urban area	42 (32.1)	25 (49.0)		
Education background			-0.011	0.879
High school or below	60 (45.8)	24 (47.1)		
College or higher	71 (54.2)	27 (52.9)		
Employment			-0.058	0.435
Unemployed	66 (50.4)	29 (56.9)		
Employed	65 (49.6)	22 (43.1)		
Monthly family income			-0.043	0.569
<10,000 yuan	84 (64.1)	35 (68.6)		
≥10,000 yuan	47 (35.9)	16 (31.4)		

Table S5 (continued)

Table S5 (continued)

Factors	Negative	Positive	r	P value
Physical condition			-0.133	0.073
Healthy	114 (87.0)	49 (96.1)		
Diseased (not mentally)	17 (13.0)	2 (3.9)		
Children's gender			0.138	0.064
Male	74 (56.5)	21 (41.2)		
Female	57 (43.5)	30 (58.8)		
Age of SMA children (months)	24 [24, 49]	22 [22, 71]	-0.028	0.707
Living status of SMA children			-0.061	0.411
Home-living	84 (64.1)	36 (70.6)		
Enrolled in nursery or school	47 (35.9)	15 (29.4)		
Disease course			0.027	0.718
≤1 year	63 (48.1)	23 (45.1)		
>1 year	68 (51.9)	28 (54.9)		
Medical treatment			0.053	0.479
No	82 (62.6)	29 (56.9)		
Yes	49 (37.4)	22 (43.1)		
Rehabilitation management			-0.071	0.343
No	54 (41.2)	25 (49.0)		
Yes	77 (58.8)	26 (51.0)		
Rehabilitation training			0.131	0.079
No	78 (59.5)	23 (45.1)		
Yes	53 (40.5)	28 (54.9)		

*, $P < 0.05$. Data are expressed as n (%) or median [interquartile range]. SMA, spinal muscular atrophy; SCL-90, Symptom Checklist 90.

Table S6 Relevant factors of positive psychiatric symptoms outcomes in SMA parents

Variables	B	OR (95% CI)	P value
Somatization			
Household area			0.521
South China	0.628	1.873 (0.514, 6.827)	0.341
Central China	0.298	1.347 (0.431, 4.211)	0.609
North China	-1.514	0.220 (0.025, 1.904)	0.169
Northwest China	-1.267	0.282 (0.031, 2.524)	0.257
Southwest China	-0.436	0.647 (0.149, 2.806)	0.560
Northeast China	-0.221	0.802 (0.213, 3.014)	0.744
Place of residence	0.579	1.785 (0.766, 4.155)	0.179
Education background	0.734	2.083 (0.803, 5.403)	0.131
Employment	-0.161	0.852 (0.337, 2.148)	0.734
Monthly family income	-0.021	0.980 (0.378, 2.536)	0.966
Physical condition	-1.126	0.324 (0.064, 1.646)	0.174
Age of SMA children	0.002	1.002 (0.992, 1.013)	0.684
Living status of SMA children	-0.593	0.552 (0.188, 1.624)	0.281
Disease course	0.583	1.791 (0.751, 4.270)	0.188
Medical treatment	0.340	1.406 (0.588, 3.358)	0.444
Rehabilitation management	-0.686	0.503 (0.215, 1.180)	0.114
Depression			
Household area			0.846
South China	0.174	1.190 (0.326, 4.350)	0.792
Central China	0.083	1.087 (0.378, 3.121)	0.877
North China	-0.543	0.581 (0.150, 2.254)	0.433
Northwest China	-0.344	0.709 (0.151, 3.340)	0.664
Southwest China	0.669	1.952 (0.611, 6.233)	0.259
Northeast China	-0.187	0.829 (0.261, 2.638)	0.751
Place of residence	0.600	1.822 (0.876, 3.791)	0.108
Education background	0.163	1.177 (0.528, 2.622)	0.690
Employment	-0.305	0.737 (0.333, 1.630)	0.451
Monthly family income	-0.400	0.670 (0.290, 1.549)	0.349
Physical condition	-1.357	0.257 (0.061, 1.082)	0.064
Age of SMA children	0.012	1.012 (1.002, 1.021)	0.014*
Living status of SMA children	-1.023	0.360 (0.142, 0.910)	0.031*
Disease course	0.105	1.111 (0.524, 2.355)	0.785
Medical treatment	0.574	1.776 (0.832, 3.791)	0.137
Rehabilitation management	-0.368	0.692 (0.330, 1.451)	0.330

Table S6 (continued)

Table S6 (continued)

Variables	B	OR (95% CI)	P value
Anxiety			
Household area			0.399
South China	0.997	2.710 (0.728, 10.090)	0.137
Central China	0.673	1.961 (0.634, 6.061)	0.242
North China	-0.672	0.511 (0.094, 2.778)	0.437
Northwest China	-1.162	0.313 (0.034, 2.889)	0.306
Southwest China	-0.227	0.797 (0.178, 3.559)	0.766
Northeast China	0.342	1.408 (0.414, 4.787)	0.584
Place of residence	0.531	1.700 (0.731, 3.956)	0.218
Education background	0.773	2.165 (0.847, 5.534)	0.107
Employment	-0.587	0.556 (0.220, 1.408)	0.216
Monthly family income	-0.239	0.787 (0.300, 2.065)	0.627
Physical condition	-0.600	0.549 (0.132, 2.275)	0.408
Age of SMA children	0.003	1.003 (0.993, 1.013)	0.549
Living status of SMA children	-0.569	0.566 (0.197, 1.627)	0.291
Disease course	0.196	1.217 (0.518, 2.860)	0.653
Medical treatment	0.383	1.466 (0.615, 3.497)	0.388
Rehabilitation management	-0.894	0.409 (0.176, 0.951)	0.038*
Fear			
Household area			0.939
South China	-0.098	0.906 (0.165, 4.973)	0.910
Central China	-0.036	0.965 (0.257, 3.624)	0.958
North China	-1.062	0.346 (0.039, 3.055)	0.339
Northwest China	-0.144	0.866 (0.148, 5.051)	0.873
Southwest China	-0.706	0.493 (0.086, 2.835)	0.428
Northeast China	0.245	1.277 (0.320, 5.091)	0.729
Place of residence	0.854	2.348 (0.897, 6.149)	0.082
Education background	0.606	1.832 (0.639, 5.256)	0.260
Employment	-0.465	0.628 (0.220, 1.796)	0.385
Monthly family income	0.033	1.034 (0.357, 2.990)	0.951
Physical condition	-0.190	0.827 (0.195, 3.519)	0.797
Age of SMA children	-0.002	0.998 (0.985, 1.010)	0.729
Living status of SMA children	0.190	1.209 (0.352, 4.154)	0.763
Disease course	0.213	1.237 (0.466, 3.285)	0.669
Medical treatment	0.932	2.540 (0.964, 6.691)	0.059
Rehabilitation management	-0.923	0.397 (0.152, 1.039)	0.060

Table S6 (continued)

Table S6 (continued)

Variables	B	OR (95% CI)	P value
Sleep and eating problems			
Household area			0.230
South China	0.276	1.318 (0.364, 4.767)	0.674
Central China	0.677	1.968 (0.696, 5.562)	0.202
North China	-1.152	0.316 (0.060, 1.672)	0.175
Northwest China	-1.622	0.198 (0.022, 1.805)	0.151
Southwest China	-0.397	0.672 (0.176, 2.572)	0.562
Northeast China	0.504	1.655 (0.521, 5.255)	0.393
Place of residence	0.956	2.602 (1.190, 5.692)	0.017*
Education background	0.537	1.711 (0.711, 4.118)	0.231
Employment	-0.222	0.801 (0.340, 1.888)	0.612
Monthly family income	-0.149	0.861 (0.357, 2.076)	0.739
Physical condition	-1.812	0.163 (0.031, 0.850)	0.031*
Age of SMA children	0.003	1.003 (0.993, 1.013)	0.586
Living status of SMA children	-0.607	0.545 (0.204, 1.460)	0.227
Disease course	0.333	1.395 (0.629, 3.095)	0.412
Medical treatment	0.629	1.875 (0.832, 4.226)	0.129
Rehabilitation management	-0.768	0.464 (0.211, 1.021)	0.056

*, P<0.05. B, regression coefficient; OR, odds ratio; CI, confidence interval; SMA, spinal muscular atrophy.