

Supplement 3

Details of unmet needs extracted from included studies

No.	Year-First Author	Country	Sample size	Age	Time science stroke	Measures	Unmet needs (category)	UM-total
1	2012-Tistad M	Sweden	175	68(14)	1 year	Single item	33% unfulfilled rehabilitation needs	
2	2016-Ullberg T	Sweden	37383	75.3/71.5	1 year	Single item	21.5% unmet rehabilitation needs	
3	2017- Lee K	South Korea	1099	77.2(6.7)	NG	Sing item	53.07% Home care rehabilitation needs	Transformed data
4	2019-Vyas MV	Canada	5976	40-	NG	Single item	15.08% The unmet health care needs were	
5	2019-Lehnerer S	Germany	57	69.3(9.8)	2-3y	Nikolaus-score	43% social unmet needs	Totally 97 unmet needs
6	1999-Scholte Op Reimer WJM	Netherlands	382 224	<=69 186 >69 196	6 months	Semi-structured questionnaire	1) 8% Psychosocial support 2) 8% Physical therapy 3) 7% Home adaption 4) 6% Outdoor mobility 5) 5% ADL care 6) 5% Home help 7) 5% Aids 8) 0% Nursing care	31% perceived at least one unmet care needs 45% perceived a demand for more types of care
					5 years		1) 12% Home help 2) 1% Sociocultural care 3) 1% Day care	20% perceived at least one unmet need
7	2009-Jerome D	France	61	64(8.5)	1-2 years Mean 17 months	Non-structured questionnaire	1) 47% Family help 2) 45.9% External human help 3) 37% Instrumental device 4) 10% Information	54.1% need more help 41% depression
8	2000-Nilsson AL	Sweden	68	53	2 years	A checklist with	1) 66% Special support and service	

						15 areas	2) 62% Leisure/spare time 3) 49% Diet/weight/exercise 4) 44% Social function 5) 41% Support to caregivers 6) 38% Self-care 7) 32% Housing 8) 32% Transportation 9) 29% Consultation with specialists 10) 28% Communication 11) 24% Mobility outdoors 12) 21% Economic counseling 13) 18% Work/education 14) 10% Cognitive function 15) 10% Mobility indoors	
9	2004-Boer H	Netherlands	166	64	< 6 months	A checklist with wide range	1) 92% Physical problems 2) 60% Emotional problems 3) 48% Cognitive problem 4) 40% Disease prevention 5) 31% Mobility 6) 23% Handicap 7) 22% services 8) 16% IADL 9) 3% Behavior problems	97.59% reported problems totally 1419, Median number was 8 (5-11)
10	2002-Kersten P	UK	315	55	>1 year mean 3 years	Southampton Needs Assessment Questionnaire	1) 45% Information needs (cause21, prevent19 treatment14, recovery13) 2) 24% Assistances with finance	Median number was 2 (0-6) 70% report unmet needs

						(SNAQ)	3) 19% Social activities 4) 17% Intellectual fulfilment 5) 16% Adaptations 6) 16% Vehicles 7) 15% Social life 8) 15% Physiotherapy	
11	2003-Low JT	UK	135	52	Mean 3 years	SNAQ	1) 57% Information needs (cause34, prevention23 getting back to work19, recovery 20) 2) 34% Intellectual fulfillment 3) 33% Physiotherapy 4) 33% Help with finance 5) 33% Assistance with non-care activities	88% reported unmet needs
12	2016-Boerboom W (email contact)	Netherlands	67	52.5(10.7)	4 years	SNAQ	1) 67.2% Total unmet needs 2) 59.7% Information need 3) 20.9% Formal social services 4) 19.4% Mobility 5) 14.93% Voluntary Organizations 6) 13.43% Formal Health Services 7) 11.94% Housing 8) 11.94% Family 9) 10.45% Working or Training 10) 8.96% Social activities 11) 5.97% Finances	67.2% had one or more unmet needs. Mean number of um was 3.5/ median of 2 (0-6) 23.9% depression 43.3% had mild cognitive impairment 67.2% were unemployed
13	2014-Ward AB	UK	42	72(8.1)	8-60m	Post stroke checklist (PSC)	1) 75.6% Cognition	

14							2) 73.2% Mood 3) 70.7% Life after stroke 4) 65.9% Spasticity 5) 63.4% Absence of Secondary prevention 6) 56.1% Mobility 7) 51.2% ADLs 8) 43.9% Communication 9) 41.5% Continence 10) 39.0% Pain 11) 29.3% Carer relationship	
		Singapore	100	61(10.9)	9-36m	PSC	1) 24.0% Cognition 2) 21.3% Mood 3) 21.3% Pain 4) 17.3% Mobility 5) 16.7% Life after stroke 6) 14.7% Spasticity 7) 12.0% ADLS 8) 11.3% Continence 9) 10.0% Carer Relationship 10) 9.3% Absence of secondary prevention 11) 7.3% Communication	
	2018-Crow J	UK	21	72	2 weeks	PSC 12 items	1) 28.57% mood 2) 23.80% secondary prevention 3) 19.04% cognitive impairments 4) 19.04% ADLs	52% participants identified unmet needs Median number 3

							5) 14.26% Pain 6) 14.26% Mobility 7) 14.26% Life after stroke 8) 19.04% Spasticity 9) 9.52% relationships with family 10) 4.76% Communication 11) 4.76% Incontinence 12) 4.76% Sexuality	(1-6) 48% participants needed referral to local neurorehabilitation teams.
15	2018-Iosa M	Italy	64	69.17(12.39)	3.5m-15 years 38.4(30.4)m	PSC	1) 53.1% Mobility 2) 50% Mood 3) 43.7% ADL 4) 42.2% Spasticity 5) 40.6% Absence of Secondary prevention 6) 37.5% Pain 7) 34.4% Cognition 8) 28.1% Continence 9) 26.6% Communication 10) 26.6% Life after stroke, sex 11) 21.9% Carer relationship	
16	2018-De Bartolo D	Italy	53	65.76(13.50)	3.3m-21 years	PSC	1) 56.6% Increased spasticity 2) 45.28% Secondary prevention 3) 45.28% Mobility 4) 47.17% Reduced independence in ADL 5) 45.28% Reduced mobility 6) 43.40% Cognition 7) 41.51% Mood	on phone

							8) 32.08% Carer relationship 9) 33.96% Communication 10) 30.19% Continence 11) 22.64% Life after stroke, sex	
17	2018-Hotter B (email contact)	Germany	57	69.3(9.8)	2-3y	PSC	1) 61% Cognitive deficits 2) 35% Spasticity 3) 20% Depression 4) 18% Social needs 5) 14% Medication compliance	95% report at least one unmet need
18	2019- Kjörk EK	Sweden	46	70(41-85)	3m (1-84)	PSC	1) 61% Life after stroke 2) 56% Cognition 3) 41% Mood 4) 39% ADL 5) 30% Secondary prevention 6) 33% Mobility 7) 26% Communication 8) 24% Spasticity 9) 24% Pain 10) 20% Relationship with family 11) 17% Incontinence	87% have problems Median 4 problems/patients 30% need information about secondary prevention
19	2011-Mckeivitt C	UK	799	69.9(12.3) 66.3(13.0)	1 year	Questionnaire of Long-term care needs	1) 59% Memory problem unmet 2) 54% Information needs cause, prevention re 3) 43% Concentration problem 4) 43% Fatigue problem 5) 39% Emotional problem needs unmet	Definition of Unmet needs 51% reported no unmet needs Median number of

							6) 34% Reading difficulty 7) 28% Speaking difficulty 8) 26% Sight problems 9) 25% Mobility problem 10) 21% Falls 11) 21% Incontinence problems 12) 15% Pain problems	unmet needs was 3 (1-13)
20	2013- Rothwell K	UK	137	72.6(40-93)	6 months	Greater Manchester Stroke Assessment Tool GM-SAT	1) 34.3% Fatigue 2) 25.5% memory, concentration and attention 3) 21.9% Secondary prevention non-lifestyle 4) 19.0% Depression. 5) 18.2% Benefits and finances 6) 13.1% Exercise 7) 7.3% Smoking 8) 6.6% Diet 9) 4.4% Nutrition 10) 5.1% Alcohol 11) 2.9% Medication management 12) 1.5% Foot care 13) 0.7% Will-Walking	92% has unmet needs Mean number of unmet needs was 3 (0-14) Totally 464 unmet needs
21	2018-Groeneveld IF	Dutch	78 (resp 53.8%)	61.7(13.8)	5-8 years	the Longer-term Unmet Needs after Stroke (LUNS) monitoring tool	1) 46.2% Information on stroke 2) 21.8% Fear of falling 3) 21.8% Help with concentration/ memory 4) 19.2% Difficulties walking 5) 16.7% Help with applying for benefits	median number of unmet needs was 3.5 (2.0-5.0; 1.0-14.0) 67.9% indicated

							6) 16.7% Medication/blood checkup 7) 15.4% Help with mood 8) 14.1% Pain 9) 14.1% Bladder or bowel problems 10) 12.8% Advice on diet 11) 11.5% Information on holidays 12) 11.5% Information on public transport 13) 10.3% Help in household 14) 10.3% Need for aids/adaptations inside 15) 10.3% Help with personal care 16) 10.3% Advice on daily occupations 17) 7.7% Information on moving to another home 18) 5.1% Help with managing money 19) 3.8% Advice on physical relationship 20) 2.6% Need for aids/adaptations outsides 21) 2.6% Information on driving	having 1 or more unmet needs
22	2020- Ytterberg C	Sweden	110	63	>6 years	Stroke Survivor Needs Survey Questionnaire (SSNSQ)	1) 47% Fatigue problem 2) 45% Mobility problem 3) 35% Concentration problems 4) 30% Falls 5) 29% Emotion problem 6) 29% Memory problems 7) 22% Incontinence problem 8) 22% Speaking difficulties 9) 19% Pain	Rehabilitation needs

							10) 18% Sight difficulties 11) 12% Reading difficulties	
23	2004-Pierce LL	USA	24	56	NG	Questionnaire of self-care needs	1) 71% Preventing falls 2) 63% Maintaining adequate nutrition 3) 63% Staying active 4) 58% Managing stress 5) 50% Dealing with emotional and mood changes 6) 46% Managing roles 7) 46% Learning activities to increase dexterity, memory 8) 42% Preventing constipation or elimination 9) 42% Understanding stroke diseases 10) 38% Dealing with communication problems 11) 38% Dealing with behavior 12) 29% Learning about exercise	
24	2010-Bai GF	China	346	60	All	Questionnaire	1) 83.82% Information 2) 78.03% Community rehabilitation 3) 39.02% Psychological care needs 4) 37.57% Social participation skills 5) 23.99% Transform help 6) 77.75% Mobility 7) 63.01% Self-care needs 8) 42.77% Walking instrument 9) 34.97% Cognitive 10) 30.55% Tableware modification	

							11) 27.75% Acupuncture 12) 11.56% Swallowing	
25	2011-Jiang H	China	110	67.47(12.02)	7 (1-12) m	Questionnaire	1) 70.9% Mobility 2) 60.9% Self-care ability training needs 3) 47.59% Rehabilitation needs	
26	2012-Zhang ZX	China	177	67.3(10.8)	>1 year	Questionnaire	1) 72.73% Information 2) 64.19% Rehabilitation needs 3) 68.13% Social support	
27	2012-Gao CH	China	127	62.61	All	Questionnaire	1) 96.85% Information 2) 75.59% Community rehabilitation 3) 77.17% Physical therapy 4) 44.09% Acupuncture or massage 5) 25.19% Psychological care needs	
28	2015-Walsh ME	Ireland	196	61.9(13.9) 24-89	3m-19years	Questionnaire	1) 77% information about secondary prevention 2) 68% Information about cause 3) 68% information about diet 4) 66.7% help with housing tasks 5) 53% Emotions 6) 52% fatigue 7) 50% need help with personal care 8) 48% concentration 9) 48% writing 10) 45% bladder/bowel 11) 45% memory 12) 40% reading 13) 39% arm function	78% having unmet health needs median number of unmet needs was 3 (1-5)

							14) 34% falling 15) 32% speech 16) 32% mobility 17) 31% swallowing 18) 27% sight 19) 25% pain	
29	2014-Andrew NE	Australia	765	68	2 years M	Questionnaire	1) 84% Health domain 2) 60% Work domain 3) 52% Support domain 4) 38% Financial domain 5) 34% Living domain	84% reported needs not be fully met median number of needs was 4 of 20)
							1) 78% Concentration 2) 77% Memory 3) 75% Fatigue 4) 73% Emotions 5) 75% Cognition 6) 69% Reading 7) 64% Vision 8) 58% Speech 9) 54% Pain 10) 53% Transport 11) 52% Incontinence 12) 46% Falls 13) 46% Mobility 14) 44% Swallowing	

							15) 64% Leisure needs 16) 39% Home help 17) 19% home adaptation 18) 17% Personal care	
30	2016- Kamalakannan S	India	50	58.9(10.5)	<6 weeks	Questionnaire	1) 82.0% Information needs 2) 70.9% Financial needs 3) 63.6% Physical symptoms 4) 59.1% Rehabilitation services 5) 58.3% Community support 6) 52.4% Psychological needs 7) 50.0% Transfers and mobility 8) 46.7% Social/recreational needs 9) 33.4% Employment needs 10) 31.6% Self-care needs 11) 24.0% Social interaction 12) 23.1% Home management	82% unmet needs
31	2017- Olaiya MT	Australia	335	73 M	>2 year	Questionnaire self- administered	1) 72.5% Secondary prevention 2) 60.6% Body function 3) 50.6% Post-acute care 4) 50.0% Activities and participation 5) 42.7% Environmental factors	87.6% reported at least one unmet need
32	2018-Jamison J	UK	596	72.7	7.7m	Questionnaire	1) 49.8% Prescriptions and collection of medicines 2) 36.4% Reminding to take medicines 3) 34.1% Checking that medicines have been	44.5% reported unmet needs at least one aspect of taking medication

							taken 4) 20.2% Swallowing medicines 5) 27.9% Getting medicines out of the box or packet 6) 34.7% Missing taking their medicines.	
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