Depression, stress, and regional cerebral blood flow: Supplementary material

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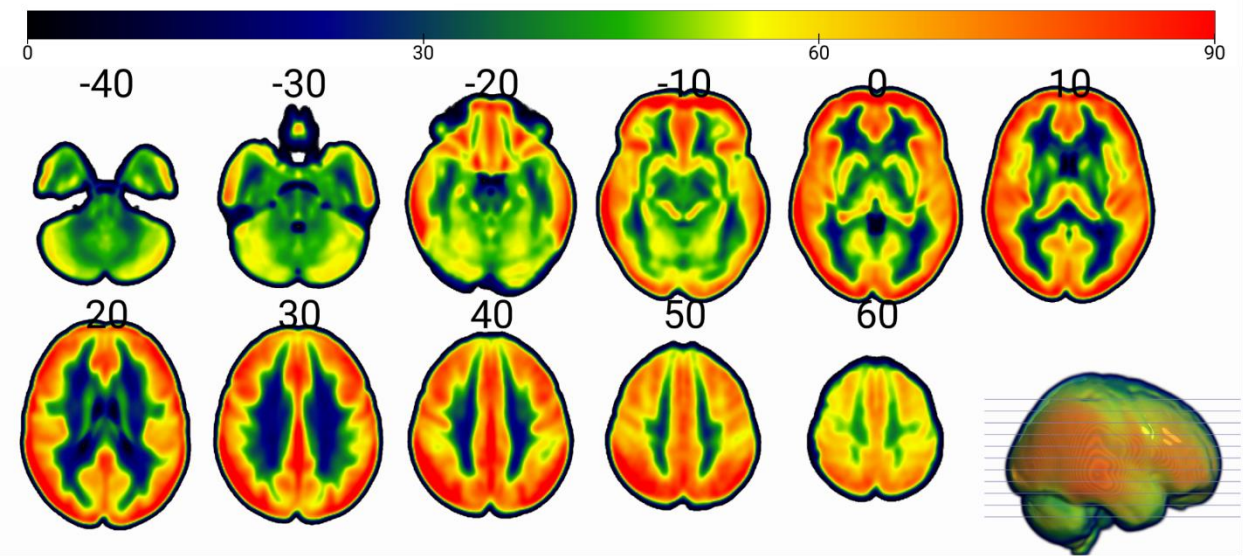
Supplementary Table 1: Previous studies on cerebral blood flow in depression. PET= positron emission tomography; ASL = arterial spin labeling; SPECT = single photon emission computed tomography; MDD = major depressive disorder; HC = healthy control; SZ = schizophrenia; FH = family history

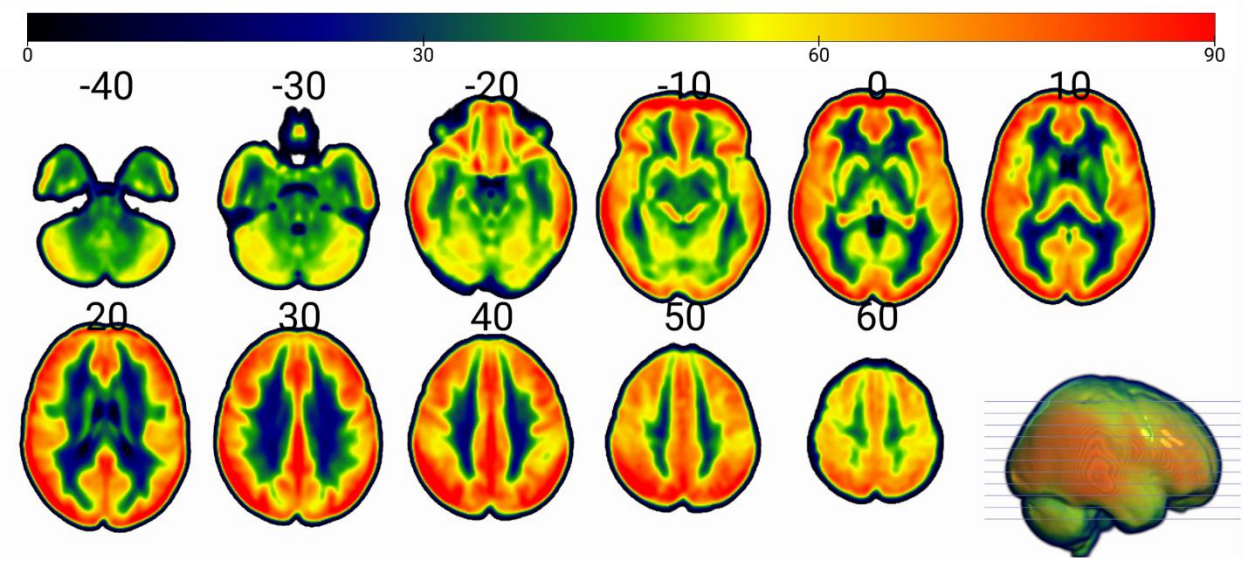
First author and year	Imaging method	Participant characteristics	Regions with decreased CBF associated with depression	Regions with increased CBF associated with depression
Bench 1993	PET	MDD or depressed bipolar (n=40) vs HC (n=23)	L. Anterior cingulate; L. dorsolateral PFC; L. angular gyrus	L. posterior cingulate
Colloby 2012	ASL	Older adults (>age 60) with depression (n=38) vs HC	None	white matter
Cooper 2020	ASL [calculated relative CBF]	Early onset (before age 30) MDD (n=164) vs HC	Bilateral cerebellum and midbrain; R. parahippocampal gyrus; R. fusiform gyrus; R. middle temporal gyrus; Bilateral insula	Bilateral inferior parietal lobule (including supramarginal and angular gyri)
Ho 2013	ASL	Adolescent, medication-naive depression (n=25) vs HC	Bilateral parahippocampal gyrus and insula, R. inferior frontal cortex/ dorsolateral prefrontal, R. anterior cingulate, R. middle occipital gyrus, L. inferior temporal gyrus, bilateral cerebellum	R. subcallosal cingulate, R. putamen, bilateral fusiform gyrus
Ishizaki 2008	SPECT	Older adults (>age 55) with MDD (n=25) vs HC	Anterior cingulate, bilateral ventrolateral prefrontal cortex, bilateral parieto-occipital lobes	None
Järnum 2011	ASL	MDD (n=23) vs HC, with 6 month follow-up	Frontal, parietal and temporal gray matter, frontal white matter, Anterior cingulate (Only patients with non-remitting depression vs HC)	None
Li 2018	SPECT	Medication-naïve MDD (n=74) vs HC	Anterior cingulate, Frontal cortex, Temporal cortex	Occipital cortex, posterior cingulate

Lui 2009	ASL	MDD (n=61) with follow-up to determine response to treatment vs HC	L. prefrontal cortex (responders); R. prefrontal cortex and thalamus (nonresponders)	Bilateral hippocampus, R. lentiform nucleus, L. occipital cortex, paracentral (responders)
Mayberg 1994	SPECT	Treatment-resistant MDD (n=13) vs HC	Anterior cingulate, inferior frontal cortex, superior frontal cortex, anterior temporal cortex, thalamus	None
Monkul 2012	PET	Unmedicated MDD (n=20) vs HC (n=21)	R. anterior cingulate; L middle frontal gyrus; L. inferior frontal gyrus	L. and R. posterior cingulate, R. caudate, L. parahippocampal
Ota 2014	ASL	MDD (n=27) vs HC vs SZ	R. anterior cingulate, R. inferior prefrontal	
Périco 2005	SPECT	MDD (n=15) vs HC	None	L. insula, R. caudate
Wang 2017	ASL	First episode, medication-naïve MDD with family history of MDD (n=47), MDD without family history of MDD (n=36) vs HC	Bilateral prefrontal, occipital lobe, bilateral insula, R. medial temporal (w/FH only); L. prefrontal, bilateral insula, R. occipital (w/o FH)	Bilateral basal ganglia, bilateral middle temporal gyrus, L. paracentral, R. thalamus (w/FH only)
Vasic 2015	ASL	Active MDD (n=43) vs HC	R. cuneus, L. anterior cingulate, bilateral parahippocampal gyrus	R. inferior parietal, R. middle temporal, bilateral middle frontal, R. superior frontal, R. caudate
Videbech 2001	PET	MDD (n=42) vs HC (n=47)	None	R. hippocampus; L. cerebellum
Summary of replicated findings (reported in 3 or more studies)			Anterior cingulate cortex, prefrontal cortex, R. parahippocampal gyrus	R. caudate

Supplementary figure 1: Average cerebral blood flow (CBF) maps for control participants and participants with depression.



Average CBF maps for control participants



Average CBF maps for patient participants

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