SUPPLEMENTAL DATA INDEX

Supplemental Data File 1: Search strategies

MEDLINE (OvidSP) 1946-present

#	**Searches**
1	Hyponatremia/
2	Water-Electrolyte Imbalance/
3	Water-Electrolyte Balance/
4	Sodium/bl [Blood]
5	hyponatr?emi*.tw
6	Electrolyte adj (balance or imbalance).tw
7	(Sodium or Na) adj2 (low or deficien* or insufficien*).tw
8	(Blood or serum) adj2 (Sodium or Na).tw
9	Sodium level*.tw
10	Or/1-9
11	Body water/
12	Water Intoxication/
13	Drinking Water/
14	(Water or H2O) adj2 (drink* or consum* or intake* or excess* or intoxicat*).tw
15	Or/11-14
16	exp Adult/
17	adult*.tw
18	Middle age*.tw
19	Aged.tw
20	Elder* or geriatric*.tw
21	old* adj (person* or people).tw

22	or/16-20
23	10 and 15 and 22

EMBASE (OvidSP 1947-present)

#	**Searches**
1	Hyponatremia/
2	abnormally low substrate concentration in blood/
3	electrolyte disturbance/
4	electrolyte balance/
5	sodium/
6	sodium blood level/
7	electrolyte blood level/
8	Hyponatr?emia*.tw
9	(Electrolyte adj (balance or imbalance)).tw
10	((Sodium or Na) adj2 (low or deficien* or insufficien*)).tw
11	((Blood or serum) adj2 (Sodium or Na)).tw
12	Sodium level*.tw
13	Or/1-12
14	body water/
15	exp water intoxication/
16	drinking water/
17	(Water or H2O) adj2 (drink* or consum* or intake* or excess* or intoxicat*)).tw
18	or/14-17
19	exp adult/

20	Adult*.tw
21	Middle age*.tw
22	Aged.tw
23	Elder* or geriatric*.tw
24	(old* adj (person* or people*)).tw
25	or/19-24
26	13 and 18 and 25

CINAHL (EBSCO 1982-present)

#	**Searches**
S1	(MH "Hyponatremia")
S2	(MH "Fluid-Electrolyte Imbalance")
S3	(MH "Fluid-Electrolyte Balance")
S4	(MH "Fluid and Electrolytes (Iowa NOC)")
S5	(MH "Electrolyte and Acid-Base Balance (Iowa NOC)")
S6	(MH "Sodium/BL")
S7	TX hyponatr#emia
S8	TX Electrolyte N1 (balance or imbalance)
S9	TX (Sodium or Na) N2 (low or deficien* or insufficien*)
S10	TX (Blood or serum) N2 (Sodium or Na)
S11	TX "Sodium level" or "sodium levels"
S12	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11
S13	(MH "Body Water")
S14	(MH "Water Intoxication")

S15	TX (water) N2 (drink* or consum* or intake* or excess*)
S16	S13 or S14 or S15
S17	(MH "Adult+")
S18	TX ("elderly")
S19	TX (old*) N1 (person* or People)
S20	TX (middle aged or middle age*)
S21	TX ("aged")
S22	TX Adult*
S23	S17 or S18 or S19 or S20 or S21 or S22
S24	S12 and S16 and S23

Cochrane Library (OvidSP 1991-present)

#	**Searches**
1	Hyponatremia/
2	Water-Electrolyte Imbalance/
3	Water-Electrolyte Balance/
4	Sodium/bl [Blood]
5	hyponatr?emi*.tw
6	Electrolyte adj (balance or imbalance).tw
7	(Sodium or Na) adj2 (low or deficien* or insufficien*).tw
8	(Blood or serum) adj2 (Sodium or Na).tw
9	Sodium level*.tw
10	Or/1-9
11	Body water/

12	Water Intoxication/
13	Drinking Water/
14	(Water or H2O) adj2 (drink* or consum* or intake* or excess* or intoxicat*).tw
15	Or/11-14
16	exp Adult/
17	adult*.tw
18	Middle age*.tw
19	Aged.tw
20	Elder* or geriatric*.tw
21	old* adj (person* or people).tw
22	or/16-20
23	10 and 15 and 22

Supplemental Data File 2: Summary data extraction table

Case #	Source		Study type	Patients					Symptoms		Fluid		Types of measurement		Treatment		Outcome
	Author	Country		Total #	Age	Gender (M/F)	Relevant medical background	Concurrent medications	Onset	Types	Types	Volume	Serum Na (mmol/L)	Vitreous humor	Types	Complications/side effects	
1	Kashiura et al. 2017	Japan	Retrospective cohort study	56	53	26 M, 30 F	Underlying mental disorder	Unspecified	Unspecified	Convulsions	Unspecified	> 6 L/day	111	-	Water restriction	Rhabdomyolysis (35)	Recovery
2	Pal et al. 2017	India	Case report	1	44	M	Psychogenic polydipsia, alcohol abuse	-	Chronic	Slurring of speech, drooling, altered sensorium	Water	12-15 L/day	94	-	3% hypertonic saline, levodopa therapy, psychotherapy, water restriction (3 L/day)	Osmotic demyelination	Recovery
3	Suzuki et al. 2016	Japan	Case report	1	52	M	Psychogenic polydipsia, schizophrenia	Unspecified	Acute	Vomiting	Water	"Large amounts"	85	105 right eye, 107 left eye	-	-	Death
4	De Soto et al. 1985	USA	Case report	1	50	M	Schizoaffective disorder, psychogenic polydipsia, nephrogenic diabetes insipidus	Mood stabilisers, antipsychotics	Chronic	Seizure	Water	20-30 L/day	119	-	Water restriction	-	Recovery
5	Narci 2013	Turkey	Letter/case report	1	50	F	Schizophrenia	Unspecified	Acute	Respiratory distress, confusion, pulmonary oedema	Water	> 10 L/several hrs	129	-	Furosemide, fluid restriction	-	Recovery
6	Shutty et al. 1993	USA	Case report	1	39	M	Schizophrenia, psychogenic polydipsia	-	Acute	Auditory hallucination, grandiose delusions, irritability	Water	2.6 L/hr	118	-	Thiothixene, lithium, behavioural therapy	-	Ongoing
7	Porter et al. 2007	UK	Case report	1	25	F	Acute irreversible pulpitis, psychogenic polydipsia	-	Unspecified	Seizure, encephalopathy, agitation, aggression	Water	10 L/day	123	-	Phenytoin	-	Recovery
8	O'Brien et al. 2001	USA	Case report 1	1	Unspecified	M	Healthy	Unspecified	Acute	Vomiting, weakness, unresponsiveness, respiratory distress, diffuse pulmonary oedema	Water	~10 L/2 hrs	121	-	Normal saline	-	Death
9	O'Brien et al. 2001	USA	Case report 2	1	Unspecified	M	Healthy	Unspecified	Acute	Seizures, nausea, vomiting	Water	~2 L/hr during the morning + ~7 L	124	-	Unspecified	-	Recovery
10	O'Brien et al. 2001	USA	Case report 3	1	Unspecified	M	Healthy	Unspecified	Acute	Seizure, light-headedness, weakness, metabolic encephalopathy	Water	"Large amounts"	127	-	Unspecified	-	Recovery
11	O'Brien et al. 2001	USA	Case report 4	1	Unspecified	F	Healthy	Unspecified	Acute	Headache, nausea, vomiting, fatigue	Water	~18-20 L/8 hrs	121	-	Unspecified	-	Recovery
12	O'Brien et al. 2001	USA	Case report 5	1	Unspecified	M	Healthy	Unspecified	Acute	Nausea, dizziness, seizures, tiredness, disorientation	Water	~10 L/4hrs	123	-	Unspecified	-	Recovery
13	O'Brien et al. 2001	USA	Case report 6	1	Unspecified	M	Healthy	Unspecified	Acute	Weakness, blurred vision, bloated feeling	Water	~1 L/hr during march + ~3.7 L/30 minutes	128	-	Unspecified	-	Unspecified
14	Sato et al. 2018	Japan	Letter/case report	1	85	F	-	-	Acute	Incoherent speech, tremors	Water	1 L/6 hrs	120	-	Na supplementation	-	Recovery
15	Noakes et al. 1985	South Africa	Case report 1	1	46	F	Healthy	Unspecified	Acute	Watery diarrhoea, confusion, seizure, coma	Total fluid	~6 L/7 hrs	115	-	0.9% saline	-	Recovery
16	Noakes et al. 1985	South Africa	Case report 2	1	37	M	Healthy	Unspecified	Acute	Muscle cramps, twitching, lapsing consciousness	Total fluid	~12.5 L/10 hrs	118	-	0.9% saline, 5% dextrose	-	Recovery
17	Noakes et al. 1985	South Africa	Case report 3	1	20	M	-	Unspecified	Acute	Seizure, lapsing consciousness, aggression, sweating	Total fluid	~10 L/9 hrs	124	-	~4 L of 0.9% isotonic saline over 12 hrs	-	Recovery
18	Noakes et al. 1985	South Africa	Case report 4	1	29	F	Healthy	Unspecified	Chronic	Bloating, short of breath	Water	~8 L/10 hrs	125	-	Diuretic and slow infusion of 0.9% saline	-	Recovery
19	Rae 1976	Canada	Case report	1	53	F	Diabetes, paranoid schizophrenia	Antipsychotics	Chronic	Dazed, mute, restless, vomited, loss of	Water	6.2 L/day	111	-	5% glucose and saline, then 3% sodium	-	Recovery

										consciousness, convulsions, coma					chloride (750 mL over 7 hrs), Ringer's lactate, potassium chloride		
20	Chapman et al. 2008	UK	Case report	1	37	F	Healthy	Unspecified	Acute	Confusion, seizure	Water	> 4 L/day	111	-	Hypertonic saline	-	Recovery
21	Davis et al. 2001	USA	Cross-sectional study	26	40	3 M, 23 F	Healthy	Unspecified	Acute	Nausea, vomiting, weakness, confusion, dizziness, seizures, altered mental status	Total fluid	"As much as possible"	125	-	Normal saline, 3% hypertonic saline for severe cases	Seizures and altered mental status requiring intubation for airway protection (3)	Recovery
22	Goldman 1994	USA	Case report	1	38	F	Schizoaffective disorder, psychogenic polydipsia	Mood stabilisers, antipsychotics, benzodiazepines	Chronic	Lightheadedness, seizures, oedema	Unspecified	Unspecified	119	-	Fluid restriction, isotonic saline and inotropic agents	-	Death
23	Budisavljevic et al. 2003	USA	Case report	1	18	F	Healthy	Unspecified	Acute	Anxiety, agitation, visual hallucinations, vomiting, lethargy, loss of responsiveness	Water	"A lot"	124	-	Normal saline (1 L/8 hrs), 5% saline (480 mL)	-	Recovery
24	Parkinson et al. 2013	UK	Case report	1	62	M	-	-	Acute	Headache, nausea, confusion, seizure, cardiac arrest	Water	5-7 L/day	127	-	Urinary catheter, fluid restriction	-	Recovery
25	Adetoki et al. 2013	UK	Case report	1	49	M	Paranoid schizophrenia	Antipsychotics, benzodiazepines	Acute	Anxiety, agitation, visual and auditory hallucinations, vomiting, confusion, seizure, cerebral oedema	Water	"Copious quantities"	109	-	Electrolyte corrections	-	Recovery
26	Hsu et al. 2005	Taiwan	Retrospective cohort study	11	49	2 M, 9 F	Drug abuse (MDMA), psychogenic polydipsia	Stimulants, antipsychotics, antihypertensives	Acute	Bizarre behaviour, delirium, seizures	Total fluid	2.5-10 L/day	115	-	Hypertonic saline (4 patients also had combination treatment with furosemide)	-	Recovery
27	Akasaki et al. 1993	Japan	Case report	1	54	F	Schizophrenia	Antipsychotics	Chronic	Auditory hallucination, delusion of persecution, convulsions, coma	Water	"Large amounts"	116	-	Metylprednisolone sodium succinate, sodium chloride	-	Recovery
28	Vieweg et al. 1985	USA	Case report 2	1	52	F	Schizophrenia	Antipsychotics	Unspecified	Unspecified	Unspecified	Unspecified	110	-	Unspecified	-	Death
29	Vieweg et al. 1985	USA	Case report 4	1	45	F	Schizophrenia	Antipsychotics	Unspecified	Distended abdomen, unresponsive	Water	"Excessive water intake"	115	-	Unspecified	-	Death
30	Vieweg et al. 1985	USA	Case report 5	1	24	M	Schizophrenia, psychogenic polydipsia	Antipsychotics	Chronic	Agitation, nausea, vomiting, seizures, loss of consciousness	Unspecified	Unspecified	110	-	Unspecified	-	Death
31	Algahtani et al. 2008	Canada	Case report	1	25	F	-	Unspecified	Unspecified	Lethargy, tremors	Water	"Restricted diet to water alone"	109	-	Saline infusion	Rapid correction of hyponatraemia caused CPM	Death
32	Hiramatsu et al. 2007	Japan	Case report	1	50	F	Lower urinary tract infection (UTI)	-	Acute	Severe fatigue, nausea	Water	4 L/3 hrs	124	-	Saline infusion with KCl	-	Recovery
33	Pavalonis et al. 1992	USA	Case report	1	52	M	Schizophrenia, psychogenic polydipsia and polyuria	Mood stabilisers, anticonvulsants	Chronic	Confusion, auditory hallucinations, delusions	Total fluid	~10 L/day	130	-	Behavioural therapy using positive reinforcement	-	Ongoing
34	Tallis 1989	Australia	Case report 1	1	56	F	Schizophrenia	Antipsychotics	Unspecified	Confusion, agitation, convulsion, encephalopathy	Total fluid	"Compulsive intake"	109	-	1.8% hypertonic saline, water restriction supervised by patient's husband	-	Recovery
35	Tallis 1989	Australia	Case report 2	1	52	M	Schizophrenia	Antipsychotics	Chronic	Semi-consciousness, seizure	Water	"Compulsive intake"	108	-	1.8% hypertonic saline	-	Recovery
36	Tallis 1989	Australia	Case report 3	1	73	F	Korsakoff's psychosis	Antipsychotics, antidepressants	Chronic	Confusion, agitation	Water	"Compulsive intake"	121	-	1.8% hypertonic saline, fluid restriction with supervision	-	Recovery
37	Tallis 1989	Australia	Case report 4	1	67	F	Dementia	Antipsychotics	Unspecified	Loss of consciousness, generalised convulsion	Water	"Large amounts"	115	-	1.8% hypertonic saline, fluid restriction	-	Recovery
38	Chondrogiannis et al. 2009	Greece	Letter/case report	1	48	M	Healthy	-	Unspecified	Unspecified	Water	8-10 L/day	126	-	Water restriction (2 L/day)	-	Recovery
39	Phull et al. 2011	UK	Case report	1	50	M	Paranoid schizophrenia	Antipsychotics, antidepressants	Unspecified	Depression, loss of consciousness	Water	Unspecified	90	-	Olanzapine velotabs, olanzapine injections	Post injection hypotension	Ongoing
40	Chamberlain 2012	USA	Case report	1	40	M	Paranoid schizophrenia	-	Unspecified	Bloated, oedema in hands and ankles,	Water	"Large amounts"	115	-	Ziprasidone hydrochloride, lorazepam, 3%	-	Recovery

										paranoid, delusional, seizure					hypertonic saline (30 mL/h), normal saline (150 mL/hr), lorazepam, haloperidol		
41	de Leon et al. 1995	USA	Case report 2	1	39	F	Schizophrenia, psychogenic polydipsia	Antipsychotics, antihypertensives, anticonvulsants, mood stabilisers	Chronic	Vomiting, seizures	Total fluid	~15 L/day	122	-	Clozapine	-	Recovery
42	de Leon et al. 1995	USA	Case report 4	1	33	M	Paranoid schizophrenia	Antipsychotics	Chronic	Hostile, delusional behaviour, seizure	Water	"Excessive water intake"	110	-	Clozapine	-	Recovery
43	Young et al. 1987	USA	Case report	1	21	M	Healthy	-	Acute	Agitated, delirious, pink frothy sputum, pulmonary oedema, metabolic encephalopathy	Water	2 L post-race + variable amounts at every water station (16)	123	-	Ringer's lactate, 5% dextrose in normal saline (1.5 L for 1 hr), furosemide	Pulmonary oedema	Recovery
44	el-Mallakh et al. 1990	USA	Letter/case report	1	46	M	Paranoid schizophrenia	Antipsychotics	Chronic	Seizures, anxiety, personality changes	Water	"Binge drinking of water"	127	-	Lithium, neuroleptic	-	Recovery
45	Shah et al. 1992	USA	Retrospective cohort study	31	43	Unspecified	Schizophrenia, schizoaffective disorder, organic personality disorder, mental retardation, smoking	Anticonvulsants, antihypertensives	Unspecified	Seizures, delusions, auditory and visual hallucinations	Water	"Excessive water intake"	115	-	Water restriction, salt tablets, behavioural therapy	-	Ongoing
46	Nardone et al. 2010	Austria	Case report	1	50	F	Schizophrenia	Antipsychotics	Unspecified	Altered levels of consciousness	Water	Unspecified	107	-	Water restriction, furosemide, nasal desmopressin	-	Recovery
47	Primavera et al. 1995	Italy	Case report	1	53	F	Psychiatric symptoms but no official diagnosis, drug abuse	Antihypertensives	Chronic	Seizures, mental confusion, stupor, slurred speech	Water	Several litres/day	90	-	Anti-epileptic medication with phenobarbital, 5% NaCl in glucose, lorazepam, phenobarbital, amytriptiline	-	Recovery
48	Shesser et al. 1985	USA	Case report	1	25	F	Schizoaffective disorder	Antipsychotics, mood stabilisers	Unspecified	Seizure, twitching	Water	~29 L/day	105	-	Naloxone, urinary catheter, 5% saline over 8 hrs	-	Recovery
49	Emsley et al. 1984	South Africa	Letter/case report	1	48	F	Alcohol abuse	Anticonvulsants, antihypertensives	Unspecified	Restless, confused, irritable, disorientated, headaches, vomiting, coma, seizure	Water	"Large amounts"	119	-	Diazepam, phenytoin, water restriction	-	Recovery
50	Katsarou et al. 2010	UK	Case report	1	39	M	Bipolar disorder, early onset dementia, alcohol abuse	Antipsychotics, anticonvulsants	Chronic	Seizure, altered levels of consciousness, headaches, confusion, agitation	Total fluid	8-10 L of diet coke/day, 15-20 cups of coffee/day and several cups of water/few minutes	104	-	Phenytoin, saline, fluid restriction	Rhabdomyolysis	Recovery
51	Nagasawa et al. 2014	Japan	Case report	1	20	M	Schizophrenia	Antipsychotics, benzodiazepines	Chronic	Expanded abdomen, vomiting, collapsing	Water	"Large amounts"	83	113 right eye, 111 left eye	-	-	Death
52	Chen et al. 2016	Taiwan	Case report	1	56	M	Schizoaffective disorder	Antipsychotics, benzodiazepines	Unspecified	Convulsions	Water	"Overhydration"	120	-	Carbamazepine, water restriction program, zotepine, valporate, clonazepam	-	Recovery
53	Lee et al. 2016	UK	Case report	1	59	F	Recurrent UTI	Unspecified	Acute	Shaky, muddled, rapid and shallow breathin	Water	Several litres/day	123	-	Fluid restriction (1 L/day)	-	Recovery
54	Roche et al. 2018	Ireland	Case report	1	65	F	-	-	Unspecified	Fatigue, low mood	Water	3 L/day	119	-	Water restriction	-	Recovery
55	Snell et al. 2008	UK	Case report	1	25	M	-	Stimulants	Acute	Seizure, agitation	Water	> 6L/day	114	-	Mannitol, 2.7% hypertonic saline, normal saline	Pseudobulbar palsy, drooling secretions and dysphagia - possible signs of CPM or OD	Recovery
56	Coler et al. 2012	USA	Case report	1	85	M	Mild renal insufficiency	Antihypertensives	Acute	Sleepy, confused, incoherent speech, agitated, short of breath	Water	3 L/9 hrs	120	-	0.9% saline, furosemide	-	Recovery
57	Ledochowski et al. 1986	Austria	Case report	1	47	F	Schizophrenia	Unspecified	Acute	Confusion, incoherent speech, seizures, coma	Water	"Large amounts"	101	-	Hypertonic saline, frusemide, potassium replacement, phenytoin	-	Recovery
58	Itoh et al. 1997	Japan	Case report	1	33	M	Schizophrenia	Unspecified	Chronic	Vomiting, abdominal distension, altered	Water	"Compulsive intake"	130	-	Fluid restriction, urethral catheter	-	Ongoing

										levels of consciousnes							
59	Salathe et al. 2018	Switzerland	Case report	1	19	F	Healthy	Stimulants	Acute	Vomiting, loss of consciousness	Water	"Excessive water intake"	122	-	3% hypertonic saline, normal saline	-	Recovery
60	Putterman et al. 1993	Israel	Case report	1	19	M	Healthy	Unspecified	Acute	Nausea, convulsion	Water	Several litres during the hike + more after	115	-	Isotonic fluids, fluid restriction	Rhabdomyolysis	Recovery
61	Christenson et al. 1985	USA	Case report	1	79	F	-	Unspecified	Acute	Dizziness, decreasing level of consciousness, disorientated	Water	1.5-2 L/morning	122	-	3% saline (300 mL), 5% glucose in normal saline	-	Recovery
62	Onozaki et al. 2001	Japan	Case report	1	42	M	Nephrogenic DI, polydipsia and polyuria	Antihypertensives	Chronic	Fatigue, weight gain	Water	20-27 L/day	124	-	Water restriction (10 L/day) and discontinuation of diuretics	-	Recovery
63	Mavragani et al. 2005	Greece	Case report	1	28	F	Polydipsia	Mood stabilisers	Chronic	Partial seizures, loss of consciousness	Water	6 L/day	124	-	Overnight fluid restriction, diphenyldantoin	-	Recovery
64	Gutmann et al. 2002	USA	Case report	1	20	F	-	Unspecified	Chronic	Dizziness, headaches, confusion, pulmonary oedema	Water	10-12 L/2-3 hrs	123	-	Furosemide, normal saline (0.7 L)	-	Death
65	Lai et al. 2016	China	Case report	1	60	F	Delusional infestation (DI), depression	-	Acute	Shortness of breath, irritation, vomiting, seizure, loss of consciousness, mild coma, frothing of the mouth	Water	12 L/few hrs	120	-	Diazepam, sodium valproate pumping, potassium and sodium supplement, risperidone, aripiprazole, bromocriptine, citalopram	-	Recovery
66	Santos-Soares et al. 2008	Brazil	Case report	1	34	M	Healthy	Unspecified	Acute	Sleepy, seizures	Water	8 L/few hrs	123	-	3% saline infusion	-	Recovery
67	Yalcin-Cakmakli et al. 2010	Turkey	Case report 1	1	33	F	Depression	Antidepressants	Acute	Nausea, vomiting, uncooperative, sleepy, anxious, seizure, agitated, confused	Water	5-6 L	122	-	Water restriction, oral salt supplementation	-	Recovery
68	Yalcin-Cakmakli et al. 2010	Turkey	Case report 2	1	19	F	Healthy	Unspecified	Acute	Headache, nausea, vomiting, confused, lethargic	Water	3 L/1.5 hrs	126	-	Unspecified	-	Recovery
69	Kowalski et al. 2014	USA	Case report 1	1	23	M	Schizophrenia	Unspecified	Unspecified	Delusions	Water	"Overhydration"	117	-	Behavioural therapy (given sports drinks)	-	Ongoing
70	Kowalski et al. 2014	USA	Case report 2	1	63	M	-	Unspecified	Unspecified	Disoriented, pulmonary oedema	Water	"Excessive water intake"	118	-	Normal saline	-	Recovery
71	Vieweg et al. 1985	USA	Case report 1	1	46	M	Schizophrenia	Antipsychotics	Unspecified	Major motor seizure, hyposthenuria, hypotonic bowel and bladder	Water	Unspecified	115	-	Unspecified	-	Unspecified
72	Vieweg et al. 1985	USA	Case report 2	1	45	M	Schizophrenia	Antipsychotics	Unspecified	Major motor seizure, hyposthenuria	Water	Unspecified	108	-	Unspecified	-	Unspecified
73	Yong et al. 2015	Australia	Case reports	10	84	3 M, 7 F	Cognitive impairment, alcohol abuse	Antipsychotics, antihypertensives	Unspecified	Seizures, vomiting, coma, confusion, pulmonary oedema	Water	~6 L/day	106	-	Fluid restriction (n=7), hypertonic saline (n=3), normal saline n=(9), salt tablets (n=1)	-	Unspecified
74	Gillum et al. 1984	USA	Case report	1	37	F	Schizophrenia	Mood stabilisers	Acute	Semi-comatose	Water	"Copious quantities"	118	-	Urinary catheter	-	Recovery
75	Cheng et al. 1990	USA	Retrospective cohort study	13	49	Unspecified	Schizophrenia, alcohol dementia	Antipsychotics, antihypertensives	Unspecified	Seizures, coma, confusion, vomiting, lethargy, weakness, agitation	Water	> 400 mL/hr	110	-	Hypertonic saline, fluid restriction	-	Recovery
76	Issa et al. 1997	USA	Case report	1	72	M	-	Unspecified	Acute	Anxiety, weakness, confusion, seizure	Water	> 6 L/3 hrs	118	-	Fluid restriction, diuretics, 3% hypertonic saline	-	Recovery
77	Mirvis et al. 2015	UK	Case report 1	1	87	F	Multiple myeloma	Antineoplastics	Chronic	Confused, disorientated	Water	3 L/day	112	-	Fluid restriction	-	Recovery
78	Mirvis et al. 2015	UK	Case report 2	1	77	F	Multiple myeloma	Antineoplastics	Chronic	Unspecified	Water	4 L/day	126	-	Fluid restriction (1-1.5 L/day)	-	Recovery
79	Strachan et al. 2007	USA	Case report	1	63	M	Bipolar disorder	Antipsychotics, mood stabilisers	Unspecified	Shortness of breath, lethargic, pulmonary oedema	Water	10-12 L/day	110	-	3% saline, bicarbonate infusion	Rhabdomyolysis	Recovery
80	Noonan et al. 1977	Canada	Case report	1	32	F	Mental retardation	Unspecified	Unspecified	Nausea, vomiting, agitation, auditory and visual hallucinations, altered levels of consciousness	Water	"Excessive water intake"	127	-	Phenothiazines, butyrophenones, thioxanthenes, behavioural therapy	-	Ongoing

81	Hayashi et al. 2005	Japan	Case report	1	69	M	Schizophrenia	Unspecified	Unspecified	Unspecified	Water	"Excessive water intake"	92	-	-	-	Death
82	Vanhaebost et al. 2018	Belgium	Case report	1	54	M	Tobacco addiction, diabetes, schizophrenia	Antipsychotics, antidepressants	Acute	Vomiting, convulsions	Water	5 L/3 hrs	-	117	-	-	Death
83	Cronin 1987	USA	Case report 1	1	60	M	Intractable hiccups, alcohol abuse	Unspecified	Unspecified	Hiccups, weakness, nausea, vomiting, confusion	Water	10-12 gallons/day	113	-	Saline, water restriction, hypnosis, thorazine, diazepam	-	Ongoing
84	Cronin 1987	USA	Case report 2	1	56	M	Intractable hiccups, alcohol abuse	Antipsychotics	Unspecified	Hiccups, vomiting, seizures, agitation, semi-comatose	Total fluid	"Large amounts"	103	-	Isotonic saline, water restriction, hypertonic saline, frusemide	-	Recovery
85	Bremner et al. 1991	UK	Case report 1	1	58	F	Schizophrenia, mental handicap, diabetes	Antipsychotics	Unspecified	Vomiting, fits, stupor	Water	"Excessive water intake"	116	-	Phenytoin, increased dose of haloperidol	-	Recovery
86	Bremner et al. 1991	UK	Case report 2	1	53	M	Brain damage	Antihypertensives	Unspecified	Confusion	Total fluid	"Excessive water intake"	125	-	Chlorpromazine, haloperidol, demeclocycline	-	Recovery
87	Bremner et al. 1991	UK	Case report 3	1	51	F	Personality disorder	Antipsychotics, antidepressants	Unspecified	Confusion, vomiting, distended abdomen, rigidity, coma	Water	"Always at the tap"	118	-	Fluid restriction, flupenthixol, lithium	-	Recovery
88	Bremner et al. 1991	UK	Case report 4	1	29	M	Disintegrative psychosis, childhood autism, anxiety	Antidepressants, antipsychotics, antihypertensives	Unspecified	Abusive, tense, vomiting, diarrhoea, coma, respiratory arrest, cerebral oedema	Water	"Excessive water intake"	121	-	Fluid restriction, sodium bicarbonate, normal saline (2 L)	Hypernatraemia with flaccid tetraplegia, CPM	Death
89	Bremner et al. 1991	UK	Case report 5	1	41	M	Epilepsy, smoking, alcohol abuse	Mood stabilisers	Unspecified	Unsteady gait, slurred speech	Total fluid	Coffee with powdered milk + water/5 minutes	126	-	Discontinuation of carbamazepine, fluid restriction	-	Unspecified
90	Grainger et al. 1992	UK	Case report	1	60	F	Schizoaffective disorder	Antipsychotics	Unspecified	Auditory and visual hallucinations, nausea, vomiting, headache, confusion, semi-consciousness, disorientation, seizures	Water	4 L/12 hrs	109	-	Fluid restriction (500 mL), diazepam, hypertonic saline (1 L), electrolytes, urinary catheter, chlorpromazine	-	Recovery
91	Peh et al. 1990	Singapore	Retrospective cohort study	27	35	10 M, 17 F	Schizophrenia, mental retardation, alcohol dependence syndrome, epilepsy	Antipsychotics, antidepressants, mood stabilisers	Unspecified	Nausea, tremors, weight gain, disorientation, coma	Water	~3 L/day	120	-	Fluid restriction	-	Unspecified
92	Ismail et al. 2010	Canada	Letter/case report	1	62	M	Schizophrenia, smoking	Antipsychotics	Chronic	Paranoia, delusions, irritability	Water	"Increase in water intake"	125	-	Fluid restriction, normal saline	-	Recovery
93	Prim 1988	USA	Case report	1	47	M	Schizophrenia	Antipsychotics	Unspecified	Seizures, copious projectile emesis and uresis	Water	> 20 cups/day	123	-	Structured activities, nursing intervention, reduction in medication	-	Recovery
94	Lin et al. 2011	Taiwan	Case report	1	31	F	Schizophrenia	Unspecified	Unspecified	Seizures, loss of consciousness, vomiting	Water	~15 L/day	112	-	Lorazepam, phenytoin, 3% saline	-	Recovery
95	Peh et al. 1990	Singapore	Case report	1	40	F	Schizophrenia, diabetes mellitus	Antipsychotics	Unspecified	Confusion, fits, coma, restless, frothing at the mouth, pulmonary oedema	Water	"Excessive water intake"	109	-	Dextrose-saline drip, fluid restriction	-	Death
96	Finkel 2004	USA	Case report	1	45	F	Healthy	-	Asymptomatic	Asymptomatic	Water	6-8 L/day	124	-	Unspecified	-	Unspecified
97	Finlayson et al. 1989	Canada	Case report	1	55	F	Depression	Antipsychotics	Acute	Agitation, vomiting, seizure	Water	5-10 L/day	106	-	Saline, fluid restriction, vasopressin, lithium, isocarboxazid, L-tryptophan	-	Recovery
98	Howe et al. 1983	UK	Case report	1	25	M	Healthy	Unspecified	Unspecified	Poor memory, seizures, hallucinations, disorientated, aggressive	Water	"Drank from 2 L jugs + bath water"	125	-	Phenytoin, haloperidol, hypertonic saline	-	Ongoing
99	Koczapski et al. 1989	Canada	Cohort study	8	42	M	Schizophrenia	Antipsychotics	Unspecified	Stupor, seizures, drooling	Total fluid	~11 L/day	127	-	Fluid restriction	-	Unspecified
100	Kato et al. 2008	Japan	Case report	1	70	F	Glomerulonephritis, moderate renal failure	Antineoplastics	Unspecified	Nausea, cerebral oedema	Total fluid	> 2 L/12 hrs	108	-	Fluid restriction (1 L/day)	-	Recovery
101	Windpessl et al. 2017	Austria	Case report	1	61	F	Healthy	NSAIDs	Acute	Nausea, dizziness, vomiting, confusion, unintelligible speech, unsteady gait, tremor	Total fluid	4 L	122	-	3% hypertonic saline	-	Recovery
102	Kushnir et al. 1990	Israel	Case report	1	31	F	Schizophrenia, depression	Antipsychotics, antispasmodics	Acute	Irritability, vomiting, diarrhoea, coma, shallow breathing, cerebral oedema	Water	"Drinking frequently"	120	-	-	-	Death
103	Korzets et al. 1996	Israel	Case report	1	28	F	Paranoid schizophrenia	Antipsychotics	Chronic	Confused, dysphasic, coma	Water	"Excessive water intake"	109	-	Urethral catheter, hypertonic saline,	Fever (39.3 C), rhabdomyolysis	Recovery

															furosemide, KCl, magnesium sulfate		
104	Caputo et al. 2001	Italy	Case report	1	57	M	Chronic alcoholism, smoking	Antihypertensives, benzodiazepines	Chronic	Vomiting, diarrhoea, muscle pain, loss of consciousness	Water	4-5 L/day	95	-	Furosemide, 1.5% saline, water restriction, nifedipine, alprazolam, theophylline, disulfiram	-	Recovery
105	Inoue et al. 1985	Japan	Cohort study	6	38	4 M, 2 F	Schizophrenia, schizoaffective disorder, borderline personality disorder	Antipsychotics	Acute	Seizures, coma, nausea, vomiting, sleepiness	Water	"Excessive water intake"	120	-	2.5% sodium chloride	-	Recovery
106	Beresford 1970	USA	Case report 1	1	34	F	Schizophrenia	Antipsychotics, antihypertensives	Acute	Seizure, incoherent, somnolent, nauseous, distended bladder, lethargic	Water	Gallons/day	115	-	5% saline (250 mL), fluid restriction	-	Recovery
107	Beresford 1970	USA	Case report 2	1	61	M	Depression	Antihypertensives	Unspecified	Drowsiness, fatigue, confusion, disorientation	Water	"Copious quantities"	115	-	Hydrochlorothiazide, potassium chloride supplements, fluid restriction	-	Recovery
108	Goldman et al. 1988	USA	Case-control study	8	43	7 M, 1 F	Schizophrenia, organic delusional syndrome	Antipsychotics	Acute	-	Water	Unspecified	133	-	Hypertonic saline	-	Unspecified
109	Gleadhill et al. 1982	USA	Retrospective case-control study	8	50	1 M, 7 F	Schizophrenia, smoking	Antipsychotics	Unspecified	Obtunded, seizures, vomiting	Water	"Excessive water intake"	115	-	Unspecified	-	Recovery
110	Shapira et al. 1988	Israel	Case report	1	80	F	Healthy	Unspecified	Acute	Restless, confused, uncooperative	Water	4 L/night	119	-	Hypertonic saline	-	Recovery
111	Basnyat et al. 2000	Nepal	Case report	1	28	F	-	Mood stabilisers	Acute	Headache, fatigue, blurred vision, confusion, delirium, seizures, semi-comatose	Water	10 L/day	122	-	Midazolam, phenytoin, Ringer's lactate, normal saline	-	Recovery
112	Bhananker et al. 2004	USA	Case report	1	40	F	Anxiety	Benzodiazepines	Acute	Anxiety, nausea, confusion, tremors	Water	10 L/few hrs	120	-	Fluid restriction, 0.9% saline, Foley catheter	-	Recovery
113	Vieweg et al. 1984	USA	Case report 1	1	35	M	Paranoid schizophrenia, psychogenic polydipsia	Antipsychotics	Chronic	Auditory hallucinations, delusions, seizures	Water	25 L/day	115	-	Haloperidol, supplemental sodium chloride, fluid restriction	-	Ongoing
114	Vieweg et al. 1984	USA	Case report 2	1	42	F	Catatonic schizophrenia, psychogenic polydipsia	Antipsychotics	Chronic	Agitation, hallucinations, delusions	Water	13 L/day	124	-	Haloperidol, fluid restriction, supplemental sodium chloride	-	Ongoing
115	Vieweg et al. 1984	USA	Case report 3	1	46	M	Schizophrenia, psychogenic polydipsia	Antipsychotics	Chronic	Hallucinations, delusions	Water	35 L/day	115	-	Fluid restriction, fluphenazine, chlorpromazine, supplemental sodium chloride	-	Ongoing
116	Vieweg et al. 1984	USA	Case report 4	1	45	M	Schizophrenia, psychogenic polydipsia	Antipsychotics	Chronic	Withdrawal, inattention, hallucinations, delusions	Water	28 L/day	108	-	Haloperidol, fluid restriction, supplemental sodium chloride	-	Ongoing
117	DiMaio et al. 1980	USA	Case report	1	54	F	Psychosis	Antipsychotics, anticholinergics	Acute	Passing out, possibly seizing, nervous, agitated, confused	Water	"Large amounts"	110	115	Hypertonic saline, water restriction	-	Death
118	Lydakis et al. 2005	Greece	Case report	1	59	M	Psychotic disorder	NSAIDs	Chronic	Epilepsy, delusions	Water	9-12 L/day	110	-	Hypertonic saline, fluid restriction (1.5 L/day) risperidone, benzodiazepines	-	Death
119	Pupic-Bakrac et al. 2017	Bosnia & Herzegovina	Case report	1	43	M	Psychosis, moderate mental retardation	Mood stabilisers, antipsychotics, anticholinergics, benzodiazepines	Chronic	Convulsions, vomiting, disorientated	Water	"Large amounts"	98	-	0.9% NaCl (500 mL), water restriction (2 L/day), 7.5% hypertonic solution, urinary catheter, amlodipine, sodium valproate, haloperidol, promazine, diazepam, biperiden hydrochloride	-	Recovery
120	Mukherjee et al. 2005	UK	Case report	1	52	F	Healthy	-	Acute	Aphasic, loss of consciousnes, slurred speech, disorientated	Water	"Large amounts"	108	-	Potassium replacement, hypertonic saline, normal saline (1 L), venlafaxine, quetiapine	Brain damage	Recovery
121	Solomon et al. 2019	Israel	Case report 1	1	30	F	Healthy	Unspecified	Acute	Disoriented, confused	Water	"Large amounts"	118	-	Fluid restriction, 0.9% normal saline	-	Recovery
122	Solomon et al. 2019	Israel	Case report 2	1	30	F	Healthy	-	Acute	Unspecified	Water	"Excessive water intake"	120	-	Fluid restriction	-	Recovery
123	Vishwajeet et al. 2005	India	Case report	1	77	M	Healthy	Unspecified	Acute	Altered sensorium, weakness, seizure	Water	6 L/4 hrs	119	-	Fluid restriction, diuretics, hypertonic saline	-	Recovery

124	Goldman et al. 1985	USA	Retrospective cohort study	8	46	7 M, 1 F	Schizophrenia	Antipsychotics, anticholinergics	Unspecified	Seizures	Water	"Compulsive intake"	127	-	Salt tablets, fluid restriction, demeclocycline	-	Ongoing
125	Chen et al. 2014	Taiwan	Case report	1	80	F	Xerostomia, polydipsia, type II diabetes	-	Acute	Vertigo, nausea, vomiting	Water	4 L/several hrs	120	-	Water diary, oral salt supplementation, 3% saline	-	Death
126	Yonemura et al. 1987	Japan	Case report	1	26	M	Mental retardation	-	Acute	Headache, vomiting, seizure	Water	10-15 L/day	117	-	Water restriction	-	Ongoing
127	Nolte et al. 2019	South Africa	Case report	1	26	M	Healthy	Unspecified	Asymptomatic	Asymptomatic	Water	800 mL/hr	134	-	Unspecified	-	Unspecified
128	Farrell et al. 2003	UK	Case report	1	64	F	-	Unspecified	Acute	Vomiting, hysteria, distress	Water	30-40 glasses	-	92	-	-	Death
129	Losonczy et al. 2016	USA	Case report	1	41	F	Recurrent UTIs	Unspecified	Acute	Nausea, dizziness, anxiety, seizure, combative, cerebral oedema	Water	4-5 L/several hrs	114	-	3% hypertonic saline (100 mL), furosemide	Neurogenic stunned myocardium	Recovery
130	Sarvesvaran 1984	UK	Case report	1	40	F	Healthy	Unspecified	Acute	Vomiting, confusion, talking gibberish, seizure, semi-consciousness, pulmonary and cerebral oedema	Water	"Plenty of water"	111	-	Unspecified	-	Death
131	Cicognani et al. 2013	Italy	Case report	1	51	F	Type I diabetes, psychogenic polydipsia	Antidepressants	Unspecified	Coma, seizures	Water	"Compulsive intake"	112	-	Water restriction (< 1.5 L/day)	-	Recovery
132	Hanihara et al. 1997	Japan	Case report 1	1	58	M	Schizophrenia, psychogenic polydipsia	Antipsychotics	Chronic	Seizure, loss of consciousness, lethargy	Water	"Excessive water intake"	114	-	Fluid restriction (1.8 L/day), demeclocycline	-	Ongoing
133	Hanihara et al. 1997	Japan	Case report 2	1	52	M	Schizophrenia, polydipsia, cognitive impairment	Unspecified	Chronic	Agitated, ataxic gait, cognitive impairment	Water	"Compulsive intake"	131	-	Water restriction	-	Recovery
134	Hanihara et al. 1997	Japan	Case report 3	1	52	M	Disorganised schizophrenia, psychogenic polydipsia	Unspecified	Chronic	Agitated	Water	"Compulsive intake"	118	-	Water restriction	-	Ongoing
135	Santonastaso et al. 1998	Italy	Case report	1	26	F	Anorexia nervosa	Antipsychotics	Chronic	Headache, vomiting, seizures	Water	6 L/day	113	-	Hyperosmolar infusions and forced hyperdiuresis	-	Ongoing
136	Ramirez et al. 1993	USA	Letter/case report	1	58	M	Intractable hiccups	Unspecified	Unspecified	Unspecified	Water	2-3 gallons/day	111	-	Gamma-aminobutyric acid analog baclofen therapy	-	Recovery
137	Kott et al. 1985	Israel	Case report	1	21	F	Healthy	Unspecified	Acute	Confused, agitated, non-communicative, headache, nausea, vomiting, restlessness, loss of consciousness	Water	30 glasses	127	-	Urinary catheter, 5% NaCl (300 mL), 20% mannitol, dexamethasone	-	Recovery
138	Zilles et al. 2010	Germany	Case report	1	26	F	Schizophrenia	Antipsychotics, benzodiazepines	Acute	Agitation, vomiting	Water	3 L/30 minutes	112	-	Quetiapine, olanzapine	-	Recovery
139	Tenyi et al. 2006	Hungary	Case report	1	46	M	Paranoid schizophrenia	Antipsychotics	Chronic	Seizure, vomiting, mild muscle pain	Water	"Compulsive intake"	113	-	Hyperosmolar sodium solution, olanzapine	Rhabdomyolysis	Recovery
140	Mor et al. 1987	Israel	Case report	1	64	F	Depression	Antipsychotics, benzodiazepines	Acute	Stupor	Water	"Excessive water intake"	119	-	Urinary catheter	-	Recovery
141	Johansson et al. 2002	Sweden	Case report 1	1	33	F	Healthy	Unspecified	Acute	Vomiting, seizures	Total fluid	Several litres/9 hrs	115	-	Unspecified	-	Unspecified
142	Johansson et al. 2002	Sweden	Case report 2	1	30	F	Healthy	-	Asymptomatic	Asymptomatic	Water	> 8 L/23 hrs	129	-	Unspecified	-	Unspecified
143	Goldman et al. 1994	USA	Cohort study	4	34	M	Schizophrenia	Antipsychotics, benzodiazepines, mood stabilisers	Asymptomatic	Asymptomatic	Total fluid	~4.9 L/day	132	-	Electrolyte-containing beverages	-	Ongoing
144	Raskind 1974	USA	Case report	1	56	F	Psychotic depression, schizophrenia	Antipsychotics, antihypertensives	Acute	Agitated, irrational, difficulty sleeping, paranoid, nauseous, confused, incoherent	Water	"Copious quantities"	111	-	-	-	Death
145	Musch et al. 2003	Belgium	Prospective uncontrolled study	10	55	Unspecified	Schizophrenia, psychotic disease, alcohol abuse, psychogenic polydipsia	Unspecified	Unspecified	Drowsiness, weakness, confusion	Total fluid	> 4 L/day	126	-	Isotonic saline (2 L/24 hrs)	-	Recovery
146	Mercier-Guidez 1998	France	Letter/case report	1	43	M	Disorganised schizophrenia, smoking, psychogenic polydipsia	Antipsychotics	Chronic	Coma, vomiting, tremors, confusion, agitation, seizures, drowsiness, delirium	Total fluid	13 L/day	110	-	Behavioural therapy, fluid restriction	-	Recovery
147	Gopal et al. 2000	USA	Case report	1	58	F	Smoking	-	Acute	Drowsy, disoriented, nausea, vomiting, seizures	Water	Several litres + 3 more litres/1 hr	118	-	Promethazine, 0.9% saline, diazepam, water restriction	-	Recovery
148	Moshiri et al. 2014	USA	Case report	1	81	F	Anxiety disorder, anorexia	Antipsychotics, antihypertensives,	Unspecified	Unspecified	Water	"Excessive water intake"	122	-	Fluid restriction, discontinuation of hydrochlorothiazide	-	Recovery

								benzodiazepines									
149	Lightenberg et al. 1998	Netherlands	Letter/case report	1	34	F	Healthy	-	Acute	Anxiety, hallucinations, loss of consciousness, lung oedema, cerebellar herniation	Water	> 6 L/several hrs	114	-	Mannitol	-	Death
150	Gardner 2002	USA	Case report 1	1	18	M	Healthy	-	Acute	Vomiting, dizziness, headache, nausea, confusion, lethargy, loss of consciousness, diffuse cerebral and brainstem oedema	Water	~20 L/several hrs	121	-	Unspecified	-	Death
151	Gardner 2002	USA	Case report 2	1	20	M	Healthy	Unspecified	Acute	Cough, seizure	Water	6 canteens/2-3 hrs	113	-	Unspecified	-	Recovery
152	Gardner 2002	USA	Case report 3	1	19	M	Healthy	Unspecified	Acute	Altered mental status, confusion, lethargy, vomiting, fatigue, coma, cerebral oedema	Water	1 gallon/evening	128	-	Unspecified	Rhabdomyolysis	Death
153	Kipps et al. 2011	UK	Cross-sectional study	11	37	4 M, 7 F	Healthy	Unspecified	Asymptomatic	Asymptomatic	Total fluid	3.7 L	132	-	Unspecified	-	Unspecified
154	Tilley et al. 2011	USA	Case report	1	37	M	Healthy	-	Acute	Abdominal pain, confusion, restless, inarticulate, seizure	Water	14 L/3 hrs	122	-	Normal saline, lorazepam, Foley catheter	-	Recovery
155	Hariprasad et al. 1980	USA	Cohort study	16	50	M	Schizophrenia, organic brain syndrome	Antipsychotics	Unspecified	Headache, lethargy, coma, seizures	Total fluid	7-43 L/day	111	-	Water restriction, 5% NaCl	-	Recovery
156	Noakes et al. 2004	South Africa	Case report	1	34	M	Healthy	Unspecified	Acute	Mildly confused, oedema in hands, difficulty concentrating, sleepy	Total fluid	750 mL/hr while cycling + "drink as much as possible" afterwards	127	-	Fluid restriction, 16 NaCl tablets, furosemide	-	Recovery
157	Oh et al. 2018	USA	Case report 1	1	31	F	Healthy	Unspecified	Acute	Dizzy, collapsed	Water	~4.5 L/2 hrs	129	-	0.9% normal saline (2.5 L)	-	Recovery
158	Oh et al. 2018	USA	Case report 2	1	27	F	Healthy	Unspecified	Acute	Collapsed	Water	~5 L/2.5 hrs	131	-	0.9% normal saline	-	Recovery
159	Oh et al. 2018	USA	Case report 3	1	27	M	Healthy	Unspecified	Acute	Weakness, dizziness, nausea, vomiting	Water	~6 L/2 hrs	125	-	0.9% normal saline, fluid restriction, 3% hypertonic saline (120 mL)	-	Recovery
160	Tanneau et al. 1993	France	Retrospective case-control study	72	65	31 M, 41 F	Psychogenic polydipsia	Antihypertensives	Unspecified	Weakness, nausea, vomiting, confusion, disorientation, drowsiness, agitation, headaches, vertigo, tremor	Water	"Compulsive intake"	110	-	Hypertonic saline, isotonic saline, fluid restriction	Brain damage (3)	Recovery + death (11)
161	Madero et al. 2015	Mexico	Case report	1	57	F	-	Antihypertensives	Acute	Headache, nausea, disorientation, seizure, cerebral oedema	Water	"Excessive water intake"	116	-	Diazepam, vasopressors, 3% hypertonic saline	-	Recovery
162	Rosenbaum et al. 1979	USA	Case report 1	1	48	M	Psychotic depression, smoking, alcohol abuse	Unspecified	Unspecified	Bizarre behaviour, vomiting, paranoid, delusional, confused	Water	"Large amounts"	115	-	Water restriction, normal saline, trifluoperazine	-	Recovery
163	Rosenbaum et al. 1979	USA	Case report 2	1	35	M	Paranoid schizophrenia	Antipsychotics	Acute	Seizures	Total fluid	20 glasses of water + orange and grapefruit juice and milk	116	-	Phenobarbital, phenytoin, normal saline, water restriction	-	Recovery
164	Rosenbaum et al. 1979	USA	Case report 3	1	21	F	Schizophrenia, psychogenic polydipsia, smoking	Antipsychotics	Acute	Seizure, coma	Water	"Drinking from shower heads"	100	-	Normal saline, water restriction, haloperidol	-	Recovery
165	Garigan et al. 1999	USA	Case report	1	18	M	Healthy	-	Acute	Dizziness, headache, nausea, vomiting, coma, respiratory distress, confused, lethargic, frothy sputum, pulmonary oedema	Water	~20 L/4 hrs	115	-	Normal saline, phenytoin, mannitol	Sepsis, disseminated intravascular coagulation	Death
166	Sjoblom et al. 1997	Sweden	Case report	1	27	F	Healthy	Unspecified	Acute	Vomiting, seizure, exhaustion, unresponsiveness, loss of consciousness, cerebral oedema	Water	"Drank directly from the tap for 3-4 hrs"	106	-	Diazepam, hypertonic saline, isotonic saline with potassium, furosemide, betamethasone	-	Death
167	Ellinas et al. 1993	USA	Retrospective cohort study	15	42	9 M, 6 F	Schizophrenia, bipolar depression, psychogenic polydipsia, smoking, alcohol abuse	Antipsychotics	Unspecified	Seizures, bizarre behaviour, change in mental status,	Water	"Compulsive intake"	115	-	Fluid restriction, 3% normal saline (5)	-	Recovery + death (1)

										lethargy, respiratory failure							
168	Cosgray et al. 1990	USA	Case report	1	41	M	Mental impairment	Unspecified	Chronic	Seizure, withdrawal, confusion, slurred speech	Water	"Frequent trips to the water fountain"	103	-	Diazepam, normal saline with potassium supplement	-	Recovery
169	Rao et al. 2011	India	Case report	1	38	F	Paranoid schizophrenia	Antipsychotics	Chronic	Delusions, auditory hallucinations, social withdrawal, decreased sleep and appetite	Water	8 L/day	123	-	Risperidone, trihexyphenidyl, fluid restriction	-	Recovery
170	Radojevic et al. 2012	Monte negro	Case report 1	1	38	M	Schizophrenia	Unspecified	Unspecified	Brain and lung oedema	Water	"Copious quantities"	-	112	-	-	Death
171	Radojevic et al. 2012	Monte negro	Case report 2	1	40	M	Schizophrenia, psychogenic polydipsia	Antipsychotics	Acute	Vomiting, nausea, unable to speak, disturbance of consciousness	Water	"Large amounts"	98	-	-	-	Death
172	McDaniel et al. 2010	USA	Case report 1	1	30	M	Schizoaffective disorder, cocaine dependence	Anticonvulsants, antipsychotics, stimulants	Acute	Euphoria, rapid speech, mute immobility	Water	17 cups/day	124	-	Lorazepam, divalproex, risperidone, demeclocycline, fluid restriction	-	Recovery
173	McDaniel et al. 2010	USA	Case report 2	1	58	F	Bipolar disorder, alcohol abuse	Anticonvulsants, benzodiazepines	Unspecified	Catatonic, agitated, meaningless activity	Water	"Excessive water intake"	122	-	Fluid restriction, demeclocycline, valproic acid	-	Recovery
174	McDaniel et al. 2010	USA	Case report 3	1	54	F	Bipolar disorder, psychogenic polydipsia	Mood stabilisers, antipsychotics, benzodiazepines	Unspecified	Depressed, hallucinations, delusions, motor excitement followed by muteness and staring	Total fluid	"Increase in water intake"	123	-	Resuming regular doses of lithium, increasing lorazepam dose, fluid restriction	-	Recovery
175	Chen et al. 2006	China	Case report	1	54	F	Healthy	Unspecified	Acute	Vomiting, headache, bizarre behaviour, seizure	Water	6 L	118	-	Furosemide, 3% hypertonic saline, mannitol, bicarbonate	Rhabdomyolysis	Recovery
176	Iwazu et al. 2007	Japan	Case report	1	66	F	Throat inflammation	Antipsychotics, antidepressants	Unspecified	Nausea, vomiting, headache, coma, seizures	Total fluid	6 L/day	123	-	Ringer's lactate, diazepam, phenytoin, azulene gargling	Rhabdomyolysis	Recovery
177	Speedy et al 2000	New Zealand	Case reports	2	35	F	Healthy	Unspecified	Acute	Lightheadedness, swollen body, tight skin	Total fluid	~9.5 L/12.6 hrs	131	-	-	-	Recovery
178	Shevitz et al. 1980	USA	Case report	1	43	F	Schizophrenia, multiple drug abuse, psychogenic polydipsia	Unspecified	Unspecified	Respiratory failure, acute renal failure, suspicious, uncooperative, fainting episodes, seizure	Water	~15 L/day	114	-	Fluid restriction, thioridazine, propranolol, prazosin, hydralazine	-	Ongoing
179	Tolan et al. 2001	Australia	Case report 1	1	41	F	Paranoid schizophrenia	Anticonvulsants, antipsychotics	Unspecified	Seizures, loss of consciousness	Water	10 glasses/day	104	-	Hypertonic saline, diuresis, clozapine	Rhabdomyolysis	Recovery
180	Tolan et al. 2001	Australia	Case report 2	1	44	F	Healthy	Unspecified	Unspecified	Stupor	Water	3 L	115	-	Unspecified	Rhabdomyolysis	Unspecified
181	Penders et al. 2015	USA	Case report	1	49	M	Schizoaffective disorder	Antipsychotics	Acute	Altered mental status, delirious, confused, agitated, gait and balance difficulties	Water	8 L/day	101	-	Fluid restriction, normal saline infusions, haloperidol, clozapine	-	Recovery
182	Olapade-Olaopa et al. 1997	UK	Case report 1	1	64	M	Healthy	Unspecified	Acute	Collapsed	Total fluid	7 L/6 hrs	116	-	Unspecified	-	Recovery
183	Olapade-Olaopa et al. 1997	UK	Case report 2	1	59	M	UTI	-	Acute	Seizure	Total fluid	15-18 L/24 hrs	113	-	Unspecified	-	Recovery
184	Funayama et al. 2011	Japan	Letter/case report	1	58	M	Schizophrenia	Antipsychotics	Chronic	Mild disorientation, agitation	Water	> 10 L/day	100	-	0.9% normal saline, fluid restriction	CPM	Recovery
185	Fleischhacker et al. 1987	Austria	Case report	1	47	F	Paranoid schizophrenia	-	Acute	Somnolent, seizures, vomiting, bizarre behaviour	Water	"Large amounts"	101	-	5% hypertonic saline, furosemide, potassium supplement, doxycycline, dexamethasone, phenytoin, cimetidine	-	Recovery
186	Bayir et al. 2012	Turkey	Case report	1	51	F	Major depression	-	Acute	Confused, disoriented, altered consciousness, agitated, headaches, cardiovascular arrest, seizure	Water	12 L/4 hrs	107	-	Magnesium, 3% NaCl, KCl, diazepam, antidepressants	-	Recovery

187	Weiss 2004	USA	Case report	1	71	F	Dry throat	Antihypertensives	Chronic	Weak, dizzy	Water	8 L/day	116	-	Normal saline, fluid restriction (1 L/day), fosinopril	-	Recovery
188	Diamond et al. 2003	USA	Case report	1	43	M	Healthy	-	Acute	Combative, confused, foaming at the mouth, lethargic	Water	5 gallons/few hrs	114	-	3% saline	Rhabdomyolysis	Recovery
189	Su et al. 2012	Australia	Case report	1	82	M	Depression, lower UTI	Antidepressants	Acute	Confusion, difficulty finding words	Water	3 L/4 hrs	114	-	Fluid restriction (800 mL/day)	-	Ongoing
190	Leban et al. 2016	Slovenia	Case report	1	44	F	Healthy	Unspecified	Acute	Dizziness, confusion, vomiting, weakness, nausea, muscle cramps, delusional, seizure	Water	~6 L/9 hrs	116	-	0.9% sodium chloride, water restriction	Rhabdomyolysis	Recovery
191	Kawashima et al. 2015	Japan	Case report 1	1	22	M	Intellectual disability	Unspecified	Chronic	Vomiting	Water	"Large amounts"	108	-	-	-	Death
192	Kawashima et al. 2015	Japan	Case report 2	1	23	M	Intellectual disability, psychogenic polydipsia	Antipsychotics	Chronic	Diarrhoea, vomiting	Water	"Large amounts"	100	-	-	-	Death
193	Kruse 1993	USA	Case report	1	54	M	Intractable hiccups, diabetes, psychiatric disorder, psychogenic polydipsia	Mood stabilisers, antipsychotics, anticholinergics	Unspecified	Hiccups, fatigue, agitation	Water	"Frequent trips to the water fountain"	124	-	Unspecified	-	Unspecified
194	Cosgray et al. 1993	USA	Cohort study	9	38	Unspecified	Schizophrenia, smoking	Antipsychotics	Unspecified	Unspecified	Water	"Excessive water intake"	124	-	Fluid restriction (3 L/day), behavioural therapy	-	Recovery
195	Cortejoso et al. 2014	Spain	Case report	1	61	M	Type II diabetes	Antihypertensives	Chronic	Semi-consciousness, repetitive language, short-term memory loss, lower limb oedema	Water	"Excessive water intake"	123	-	Fluid restriction	-	Recovery
196	Thomas et al. 2001	USA	Case report	1	48	M	Intractable hiccups	Antipsychotics, antihypertensives	Chronic	Nausea, vomiting, seizures, anxiety, irritability	Water	10 L/day	105	-	Behavioural therapy	-	Recovery
197	Scotney et al. 2015	Australia	Case report	1	Unspecified	Unspecified	Healthy	NSAIDs	Asymptomatic	Asymptomatic	Total fluid	~5.3 L/11 hrs	132	-	Unspecified	-	Unspecified
198	Nixon et al. 1982	USA	Case report	1	24	F	Schizophrenia	Antipsychotics, anticholinergics	Chronic	Seizures, coma, vomiting	Total fluid	15-20 L/day	115	-	Demeclocycline	-	Recovery
199	Chong et al. 1997	Singapore	Retrospective cohort study	14	49	10 M, 4 F	Schizophrenia, diabetes mellitus	Anticonvulsants, mood stabilisers, antipsychotics, antidepressants	Unspecified	Unspecified	Total fluid	"Excessive water intake"	125	-	Unspecified	-	Unspecified
200	Goldman 1999	USA	Case report	1	39	M	Schizophrenia	Antipsychotics, anticonvulsants, anticholinergics	Chronic	Delirium, seizures, aggression	Total fluid	~9-15 L/day	115	-	Cortisol	-	Ongoing
201	Moskowitz 1992	USA	Case report	1	42	F	Schizophrenia, psychogenic polydipsia	Antipsychotics, anticholinergics	Chronic	Collapsed, agitated, unresponsive	Total fluid	7 L/day	115	-	Foley catheter, 0.9% sodium chloride, water restriction	Rhabdomyolysis, nephrogenic diabetes insipidus	Ongoing
202	Simmons et al. 2007	USA	Case report	1	68	F	Depression, epilepsy	Antidepressants, anticonvulsants	Chronic	Altered mental status, abdominal pain, confusion	Water	2-3 gallons/day + 2 L over 3 hrs in emergency	118	-	Fluid restriction (2 L/day)	-	Recovery
203	Lipsky et al. 1987	USA	Letter/case report	1	64	F	-	-	Acute	Weakness, disoriented, aphasic	Water	~1.4 L/1-2 hrs	123	-	3% saline, 5% glucose in normal saline	-	Recovery
204	Looi et al. 1995	Australia	Case report	1	43	M	Schizoaffective disorder, smoking, diabetes insipidus	Mood stabilisers, antipsychotics, benzodiazepines	Chronic	Low mood, concentration difficulties, slurred speech, disorientated, unsteady, seizure	Water	16 L/day	120	-	Water restriction (1 glass/hr), normal saline, all psychotropic medications discontinued, midazolam	-	Recovery
205	Shiwach 1996	USA	Letter/case report	1	88	F	-	Unspecified	Acute	Confusion, disorientation, poor attention	Water	4 L/2 hrs	118	-	Hypertonic saline	-	Recovery
206	Whitchurch et al. 2011	Australia	Letter/case report	1	42	F	Bipolar affective disorder	Unspecified	Unspecified	Paranoid delusions, increased pressure of speech	Water	Several litres/day	123	-	Olanzapine, lorazepam, fluid restriction (2 L/day), oral sodium chloride tablets	-	Recovery
207	Wicke et al. 2017	Germany	Case report	1	44	F	Major depressive disorder	Antidepressants	Unspecified	Impaired consciousness, confusion	Water	"Overhydration"	102	-	Saline	CPM	Recovery
208	Noakes et al. 2001	South Africa	Case report	1	Unspecified	M	Healthy	Unspecified	Acute	Confusion, semi-comatose	Total fluid	~15 L/10 hrs	123	-	Furosemide, normal saline	-	Recovery
209	Kathol et al. 1985	USA	Case report 1	1	31	M	Disorganised schizophrenia	Unspecified	Chronic	Unspecified	Water	8 L/day	125	-	Propranolol, molindone hydrochloride	-	Recovery

210	Kathol et al. 1985	USA	Case report 2	1	42	M	Organic mental disorder	Anticonvulsants, antipsychotics	Chronic	Seizures, hallucinations	Water	18 L/day	123	-	Thiothixene discontinued, propranolol, captopril, haloperidol, phenytoin, primidone	-	Ongoing
211	Kathol et al. 1985	USA	Case report 3	1	56	M	Disorganised schizophrenia	Antihypertensives	Chronic	Seizures	Total fluid	> 8 L/day	120	-	Propranolol, demeclocycline, thiothixene, behavioural therapy	-	Ongoing
212	Lyster et al. 1994	USA	Letter/case reports	4	48	3 M, 1 F	Schizophrenia	Antipsychotics	Unspecified	Unspecified	Water	"Excessive water intake"	119	-	Clozapine	-	Recovery
213	Worthley 1975	Australia	Case report	1	67	F	Smoking	-	Acute	Vomiting, loss of consciousness, seizure	Water	"Excessive water intake"	97	-	Diazepam, frusemide, hypertonic saline	-	Recovery
214	Dubin et al. 2016	Israel	Case report	1	58	M	Schizophrenia	Antipsychotics	Chronic	Confused, agitated	Water	"Excessive water intake"	110	-	Hypertonic saline	Rhabdomyolysis	Recovery
215	Wicki et al. 1998	Switzerland	Case report	1	42	M	Paranoid schizophrenia	Antipsychotics	Chronic	Seizure, drowsy, anxious, visual hallucinations	Water	"Compulsive intake"	120	-	Diazepam, haloperidol, desmopressin, hyperosmolar sodium, clozapine restarted	-	Recovery
216	Zaidi 2005	USA	Case report	1	50	M	Paranoid schizophrenia, smoking, psychogenic polydipsia	Antipsychotics	Chronic	Restless, behavioural changes, seizures	Water	"Excessive water intake"	112	-	Haloperidol, 0.9% normal saline, 3% NaCl, water restriction (< 1 L/day), ziprasidone restarted	Rhabdomyolysis	Recovery
217	Allon et al. 1990	USA	Case report 1	1	53	F	Schizophrenia, smoking	Antipsychotics	Chronic	Seizure	Water	"Excessive water intake"	112	-	Fluid restriction, loxapine restarted	-	Recovery
218	Allon et al. 1990	USA	Case report 2	1	39	M	Schizophrenia, smoking	Unspecified	Unspecified	Seizure	Water	"Compulsive intake"	106	-	Fluid restriction	-	Recovery
219	Ripley et al. 1989	Canada	Retrospective case-control study	17	Unspecified	M	Schizophrenia, psychogenic polydipsia	Unspecified	Unspecified	Seizures, incoordination, ataxia, confusion	Water	5-10 L/day	120	-	Unspecified	-	Unspecified
220	Armstrong et al. 1993	USA	Case report	1	21	M	Healthy	Unspecified	Acute	Fatigue, nausea	Total fluid	"Overhydration"	122	-	5% hypertonic saline, overnight fluid restriction	-	Recovery
221	Woodard et al. 1992	USA	Letter/case report	1	76	F	Diabetes mellitus	Antihypertensives	Chronic	Nausea, vomiting	Water	Gallons/day	114	-	Normal saline, hydrochlorothiazide discontinued, water restriction	-	Recovery
222	Takagi et al. 2011	Japan	Cohort study	5	52	3 M, 2 F	Schizophrenia, mental retardation, epilepsy, organic psychosis	Unspecified	Unspecified	Auditory hallucinations, seizures, hyperactivity	Total fluid	"Excessive fluid intake"	129	-	Acetazolamide	-	Recovery + ongoing (1)
223	Friedman et al. 1983	Israel	Case report	1	28	M	Lower urinary tract obstruction	-	Acute	Nausea, vomiting, restlessness, convulsions	Water	4 L/day + 30-40 glasses in 5 hrs	117	-	Suprapubic aspiration, diazepam	-	Recovery

Supplemental Data File 3: Full data extraction table

Case #	Source		Study type	Patients					Symptoms		Fluid		Types of measurement		Treatment		Outcome
	Author	Country		Total #	Age	Gender (M/F)	Medical background	Concurrent medications	Onset	Types	Types	Volume	Serum Na (mmol/L)	Vitreous humor	Types	Complications/ side effects	
1	Kashiura et al. 2017	Japan	Retrospective cohort study	56	53	26 M, 30 F	Medical records from all patients who were admitted to hospital between 2012-2016 with water intoxication were assessed retrospectively. Most patients (51) suffered from an underlying mental disorder	Unspecified	Unspecified	Convulsions	Unspecified	> 6 L/day	110.5	-	Water restriction	Rhabdomyolysis (35)	Recovery
2	Pal et al. 2017	India	Case report	1	44	M	Patient presented to outpatient department on a background of psychogenic polydipsia presenting with features of parkinsonism, dengue fever, and alcoholism (250 g/week)	-	Chronic	Slurring of speech, slowness in activities, abnormal posturing of the upper limb, drooling of saliva from the mouth, fever, altered sensorium and thrombocytopaenia (26x109/L). Symptoms subsided after treatment, but on day 6 patient suddenly developed sudden-onset	Water	12-15 L/day	94	-	Rapid correction of serum Na with hypertonic saline (3% saline) infusion, levodopa therapy (100-400 mg/day over a period of 2 weeks), psychotherapy (advised to restrict	Osmotic demyelination in bilateral striatum resulting in classical extrapyramidal	Recovery - initial rapid correction of serum Na resulted in improved sensorium and communication, and Na 146 mmol/L, but caused osmotic demyelination on day 6. Patient improved drastically with levodopa therapy and fluid restriction (reduced bradykinesia, tremors and dystonia, Na 136 mmol/L). Complete recovery 1 month after discharge

										dystonic posturing of the upper limbs. On day 7, he developed dysarthria, dysphagia, significant clumsiness in his routine, bradykinesia, resting tremors and drooling of saliva from the mouth				water intake to no more than 3 L/day)	symptoms	
3	Suzuki et al. 2016	Japan	Case report	1	52	M	Patient was found dead in his home. According to family, he frequently complained of polydipsia a few weeks before his death, and had a background of schizophrenia, hypertension and hyperlipidaemia	Unspecified	Acute	Vomiting	Water	Repeatedly drank a large amount of water	85	105 right eye, 107 left eye	Cardiopulmonary resuscitation	-	Death - forensic autopsy performed 14 hrs after the patient's death revealed moderately congested organs, 700 mL of cadaveric blood, a 494 g heart which retained fluidity, oedematous lungs weighing 479 and 505 g, a large amount of light-brownish liquid in the duodenum and upper jejunum and 50 mL of red-brownish liquid in the stomach
4	De Soto et al. 1985	USA	Case report	1	50	M	Patient was admitted to hospital for a prostate biopsy where he suffered a grand mal seizure due to hyponatraemia. He had a 25 year history of schizoaffective disorder, and was also diagnosed with benign prostatic hypertrophy, psychogenic polydipsia and nephrogenic diabetes insipidus	Lithium carbonate (900-2100 mg/day), fluphenazine decanoate (25 mg) every 2 weeks	Chronic	Grand mal seizure	Water	20-30 L/day	119	-	Moderate water restriction for 1 week	-	Recovery - urine output of 10 L/day resulting in a 7 pound weight loss over 48 hrs, Na 135 mmol/L
5	Narci 2013	Turkey	Letter/case report	1	50	F	Patient was admitted to hospital with a 6 year history of fear, stress and schizophrenia which had recently begun to worsen	Unspecified	Acute	Respiratory distress, confusion and non-cardiogenic pulmonary oedema	Water	> 10 L over several hrs	129	-	5 ml/min oxygen, 3 mg intravenous morphine, 5 mcg/kg/min nitroglycerin infusion, 400 mg intravenous furosemide, fluid restriction	-	Recovery - after fluid restriction and intravenous infusion of nitroglyserin and furosemide, the patient excreted a large amount of urine and her symptoms gradually subsided. Patient was discharged after 24 hrs
6	Shutty et al. 1993	USA	Case report	1	39	M	Patient was admitted to a long-stay psychiatric unit with a history of schizophrenia, hyperthyroidism, psychogenic polydipsia, and repeated hospitalisations beginning in early twenties. He had tendencies towards impulsivity, higher energy and poor judgement, but no deficits in orientation, memory or attention were observed	Methimazole	Acute	Auditory hallucination, grandiose delusions, and irritability. After 10 months of treatment, patient began reporting that he was "carrying a baby" and that he was his "mother's wife"	Water	2.6 L/hr	118	-	Thiothixene (20 mg) 3 times a day, lithium (300 mg) 4 times a day, treatment program involving daily monitoring of diurnal weight gain	-	Ongoing - patient continued to experience periodic episodes of excessive water intake leading to hyponatraemia
7	Porter et al. 2007	UK	Case report	1	25	F	Retail manager presented to the emergency department following a seizure at home. Patient suffered from severe long-term dental pain and analgesics were ineffective. To combat this, the patient continuously held ice cold water in her mouth which she subsequently swallowed. She was diagnosed with acute irreversible pulpitis and psychogenic polydipsia	Ibuprofen (2.6 g) and paracetamol (2 g)	Unspecified	10 minute seizure, encephalopathy, and generalised behavioural disturbances such as agitation and aggression	Water	Up to 10 L/day	123	-	Phenytoin	-	Recovery - serum Na normalised after 8 days and patient was discharged with a short course of phenytoin
8	O'Brien et al. 2001	USA	Case report 1	1	Unspecified	M	Trainee was admitted to hospital after intensive exercise in hot weather and excessive water intake at the urging of his supervisors	Unspecified	Acute	Repeated vomiting, rapidly progressing weakness leading to unresponsiveness, respiratory distress, diffuse pulmonary oedema	Water	10 qt over 2 hrs	121	-	Normal saline intravenously, intensive medical care upon admission	-	Death - postmortem examination revealed severe cerebral and brainstem oedema and hydrocephalus
9	O'Brien et al. 2001	USA	Case report 2	1	Unspecified	M	Trainee was admitted to hospital after intensive exercise and excessive water intake	Unspecified	Acute	Generalised seizures, nausea, vomiting	Water	2 qt/hr during the morning, 7 qt over a short period in the afternoon	124	-	Unspecified	-	Recovery - discharged after 4 days of hospitalisation

10	O'Brien et al. 2001	USA	Case report 3	1	Unspecified	M	Soldier attending a leadership course suffered a seizure after consuming large amounts of water to prevent heat injuries	Unspecified	Acute	Seizure, light-headedness, weakness, metabolic encephalopathy	Water	Large quantities	127	-	Unspecified	-	Recovery - the patient's serum Na normalised after several days and he was discharged
11	O'Brien et al. 2001	USA	Case report 4	1	Unspecified	F	Trainee was admitted to hospital after excessive water consumption	Unspecified	Acute	Headache, nausea, vomiting, fatigue	Water	18-20 qt over 8 hrs	121	-	Unspecified	-	Recovery - patient was discharged after 3 days
12	O'Brien et al. 2001	USA	Case report 5	1	Unspecified	M	Trainee was hospitalised after excessive water consumption	Unspecified	Acute	Nausea, dizziness, generalised seizures, tiredness, disorientation	Water	10 qt over 4 hrs	123	-	Unspecified	-	Recovery - patient was discharged after several days
13	O'Brien et al. 2001	USA	Case report 6	1	Unspecified	M	Trainee was admitted to hospital after excessive water consumption during a road march	Unspecified	Acute	Weakness, blurred vision, bloated feeling	Water	1 qt/hr during march, 3.7 qt in 30 minutes after discontinuing march	128	-	Unspecified	-	Unspecified
14	Sato et al. 2018	Japan	Letter/case report	1	85	F	Patient was admitted to hospital after consuming barium for a GI screening x-ray. She had been advised to consume water in order to excrete the barium and subsequently developed hyponatraemia. Despite a moderate level of water intake, water intoxication was given as a diagnosis due to mix of moderate water intake and impaired urinary dilution as evidenced by increased ADH levels. Patient had a history of hypertension, dyslipidaemia and previous lacunar infarction	Nilvadipine, pravastatin and ticropidine	Acute	Incoherent speech and tremors in arms	Water	1 L over 6 hrs	120	-	Intravenous Na supplementation	-	Recovery - patient's serum Na normalised on day 5 and symptoms subsided on day 7. Water restriction was not necessary in this case
15	Noakes et al. 1985	South Africa	Case report 1	1	46	F	A previously healthy patient who had been running for 3.5 years competed in the Comrades Marathon and developed hyponatraemia after excessive water intake. She was mentally confused when finally removed from the race and couldn't recognise her husband	Unspecified	Acute	Watery diarrhoea, confusion, grand mal seizure, coma, generalised muscular hypertonia	Mixture of coca-cola and water	6 L over 7 hrs	115	-	Intravenous infusion of 0.9% saline	-	Recovery - patient passed 4 L of urine/day and after 2 days, her mental state had normalised. Serum Na normalised after 3 days, and she was discharged on day 6
16	Noakes et al. 1985	South Africa	Case report 2	1	37	M	An anaesthetist who had been running marathons and ultra-marathons for 3 months competed in the Comrades Marathon and developed a mild muscle cramp. After he noticed himself drifting in and out of consciousness, he admitted himself into hospital to get treatment for what he believed was an electrolyte imbalance	Unspecified	Acute - 5 hrs	Muscle cramps and twitching, lapsing consciousness	Mixture of coca-cola and water, tea and beer	12 L of coca-cola and water mixture over 10 hrs, 500 mL tea and 70 mL beer post-race	118	-	0.9% saline/5% dextrose infusion	-	Recovery - patient passed 2.8 L of urine upon treatment. Saline infusion continued overnight and patient excreted more urine. His serum Na normalised the following day and he was discharged
17	Noakes et al. 1985	South Africa	Case report 3	1	20	M	A university student suffered a seizure 1 hr after completing the Comrades Marathon due to excessive water intake prompted by a fear of dehydration. He had a history of encephalitis	Unspecified	Acute - 1 hr	Seizure, lapsing consciousness, aggression, profuse sweating, supple neck	Electrolyte-containing sport drink and mixture of coca-cola and water	10 L over 9 hrs	124	-	Etomine and 4 L of intravenous infusion of isotonic (0.9%) saline over 12 hrs	-	Recovery - after 2 hrs of treatment, the patient was fully conscious. The patient excreted 3.8 L of urine over 24 hrs and was discharged after 4 days
18	Noakes et al. 1985	South Africa	Case report 4	1	29	F	Patient felt bloated and unwell after completing the Comrades Marathon. 10 weeks later she competed in the Durban Triathlon and experienced hyponatremic symptoms. She was subsequently hospitalised	Unspecified	Chronic	Bloating, short of breath, weight gain of 4.5 kg during the triathlon	Mainly water	8 L over 10 hrs	125	-	Diuretic and slow intravenous infusion of 0.9% saline	-	Recovery - the patient's serum Na improved after treatment and she was discharged after 4 days

19	Rae 1976	Canada	Case report	1	53	F	Patient was a widow with poorly controlled diabetes who had previously been admitted to a psychiatric hospital and was diagnosed with paranoid schizophrenia. Since then she had lived at home with her mother and seen local psychiatrists. She had a history of severe monilial vaginitis and drank excessive amounts of water because "it cooled her blood"	NPH insulin (20 U/d) and trifluoperazine (20 mg)	Chronic	Rigid limbs, dazed, mute, restless, vomited twice, loss of consciousness, flushed face, dilated pupils, fever, convulsions, coma	Water	6.2 L/day	111	-	5% glucose and saline, then 3% sodium chloride infusion (750 mL over 7 hrs), 1 L Ringer's lactate, 40 mmol of potassium chloride and paraldehyde (5 mL)	-	Recovery - patient's condition improved after treatment, her serum Na normalised and she was conscious and talking the next morning. She discharged herself after 2 days, but returned 3 days stating that she had reduced her water intake to 1.7 L/day. She was 4.5 kg lighter
20	Chapman et al. 2008	UK	Case report	1	37	F	A previously well patient presented with symptoms resembling eclampsia during labour. She had an uncomplicated pregnancy and normal blood pressure, however had been drinking more water recently because of the hot weather, fear of dehydration and feelings of thirst	Unspecified	Acute	Confusion, tonic-clonic seizure	Water	> 4 L/day	111	-	Hypertonic saline. Due to the acute nature of her illness, fluid restriction was not considered	-	Recovery - the patient made a full recovery and serum Na normalised to 138 mmol/L by day 14
21	Davis et al. 2001	USA	Cross-sectional study	26	40	3 M, 23 F	Medical records from all patients in the 1998 Suzuki Rock 'N' Roll Marathon who presented to emergency departments with hyponatraemia were assessed retrospectively. Hyponatraemic patients were more likely to be female, use NSAIDS, drink "as much as possible" and have slower running times	Unspecified	Acute	Nausea, vomiting, weakness, confusion, dizziness, seizures, altered mental status	Bottled water and sports drinks	Drank "as much fluid as possible", exceeding race packet recommendations	125	-	Normal saline, 3% HTS for severe cases	3 patients developed seizures and altered mental status requiring intubation for airway protection following initial treatment	Recovery - all patients eventually recovered and were discharged, with the most severe cases requiring 3% HTS
22	Goldman 1994	USA	Case report	1	38	F	Patient had a history of schizoaffective disorder, bradycardia and 10-year history of polydipsia, but was otherwise in good physical health. Her first hyponatraemic episode was in 1990 when she suffered a seizure. She had more seizures and presentations to ED in the years following but no causal factors were identified. Following the last exacerbation of her illness, she was admitted to a mental health centre where 3 months after admission she was found in a toilet stall upright against the wall, pupils dilated	Lithium, mesoridazine (250 mg/day) and lorazepam (1 mg)	Chronic	Lightheadedness, seizures, dilated pupils, diffuse anoxia, mild oedema	Unspecified	Unspecified	119	-	Fluid restriction, isotonic saline and inotropic agents	-	Death - patient was transferred to the intensive care unit of a nearby hospital after her last hyponatraemic event. She died the day after admission with an unclear cause of death. Patient was believed to have died from the concurrent events of hyponatraemia and a vasovagal episode inducing a fatal arrhythmia (with lithium being a potential contributor)
23	Budisavljevic et al. 2003	USA	Case report	1	18	F	A previously healthy patient was admitted to ICU with altered mental status. She had taken a tablet of ecstasy the night before and consumed an excessive amount of water due to increased thirst	Unspecified	Acute	Anxiety, remorse, agitation, visual hallucinations, vomited several times, lethargy and loss of responsiveness	Water	"A lot"	124	-	1 L normal saline over 8 hrs, 480 mL of 5% saline intravenously	-	Recovery - over the next 24 hrs the patient excreted 4500 mL of urine and her serum Na normalised. Her mental status recovered and she was discharged

24	Parkinson et al. 2013	UK	Case report	1	62	M	Patient was admitted for a left carotid endarterectomy to treat a TIA. He had a background of mild gastro-eosophageal reflux disease and urinary hesitancy. His serum Na was 127 mmol/L postoperatively, but deteriorated after he developed urinary retention and drank excessive amounts of water (Na = 107 mmol/L)	Heparin, antibiotic prophylaxis, oral antihypertensives, epinephrine	Acute	Headache, nausea, confusion, dysphasia, tonic-clonic seizure, pulseless electrical activity cardiac arrest	Water	5-7 L/day	127	-	Urinary catheter, fluid restriction	-	Recovery - patient's serum Na normalised by day 3
25	Adetoki et al. 2013	UK	Case report	1	49	M	Patient had a history of treatment resistant paranoid schizophrenia and was admitted to hospital following an acute relapse. He had poor compliance with medication	Olanzapine (10 mg/day) clonazepam (0.5 mg) 4 times daily, depot pipotiazine palmitate (25 mg)	Acute	Anxiety, agitation, violent behaviour, visual and auditory hallucinations, vomiting, confusion, tonic-clonic seizure, cerebral oedema	Water	"Copious quantities"	109	-	Conservative management (sedation, electrolyte corrections, antibiotics and physiotherapy), intubation	-	Recovery - patient's serum Na normalised and he was discharged back to the psychiatric ward. No further polydipsia was observed and his mental state stabilised, after which he was discharged to a nursing home
26	Hsu et al. 2005	Taiwan	Retrospective cohort study	11	49	2 M, 9 F	Medical records from all patients at a hospital in Taipei were reviewed to identify cases of acute hyponatraemia between January 2001 and December 2002. The estimated amount of daily water intake was gathered from the patients or their family members. Medical backgrounds varied from induced abortion to colonoscopy, drug abuse (MDMA), hypertension and polydipsia	Oxytocin, MDMA, polyethylene glycol, haloperidol, amisulpride, clonazepam, hydrochlorothiazide, amiloride	Acute	Bizarre behaviour, delirium, grand mal seizures	Water and herbal weight-reduction teas	2.5-10 L/day	115	-	Hypertonic saline (4 patients also had combination treatment with furosemide)	-	Recovery - no patients displayed any neurological sequelae after treatment and all recovered mental status
27	Akasaki et al. 1993	Japan	Case report	1	54	F	Patient was admitted to hospital following convulsions and a coma. She had previously been diagnosed with schizophrenia and had been hospitalised at psychiatric institutions in the past	Spiperone (6 mg/day)	Chronic	Auditory hallucination, delusion of persecution, flattening of affect, insomnia, convulsions, coma	Water	"Large quantity of water to satisfy her thirst during the previous two years"	116	-	IV maintenance fluid, metylprednisolone sodium succinate, sodium chloride	-	Recovery - patient excreted 8850 mL of urine on the first day, her consciousness level became normal over the next few days and her serum Na stabilised by the 3rd day
28	Vieweg et al. 1985	USA	Case report 2	1	52	F	Patient was initially hospitalised with schizophrenia	Chlorpromazine, thioridazine, haloperidol	Unspecified	Unspecified	Unspecified	Unspecified	110	-	Unspecified	-	Death - autopsy findings revealed visceral edema
29	Vieweg et al. 1985	USA	Case report 4	1	45	F	Patient was initially hospitalised with schizophrenia complicated by epilepsy	Chlorpromazine, trifluoperazine, antiseizure medication	Unspecified	Distended abdomen, found on floor "unresponsive"	Water	"Drinking water excessively"	115	-	Unspecified	-	Death - 2 days after being found unresponsive, the patient was found dead in bed. An autopsy was not performed
30	Vieweg et al. 1985	USA	Case report 5	1	24	M	Patient was intitially hospitalised with schizophrenia. He experienced recurrent episodes of polydipsia and polyuria over the past year	Antipsychotic agents	Chronic	Hyposthenuria, agitation, nausea, vomiting, seizures, found unconscious in the bathroom	Unspecified	Unspecified	110	-	Unspecified	-	Death - patient was found unconscious in the bathroom. He was believed to be in status epilepticus and expired after several hrs of seizures. An autopsy was not performed
31	Algahtani et al. 2008	Canada	Case report	1	25	F	Patient had a diagnosis of gastric B-cell lymphoma and presented to hospital with abdominal pain, nausea, vomiting, asthenia and an epigastric mass. No other medical history were specified. Her hyponatraemia was corrected rapidly, and she improved. However, 6 days later she deteriorated due to central pontine and extrapontine myelinolysis	Unspecified	Unspecified	Deterioration of level of awareness, lethargy, failure to thrive, spastic quadriplegia, hypertonia, clonus, bilateral Babinski sign, extra-pyramidal signs in form of rigidity and tremor, central pontine and extrapontine myelinolysis	Holy water Zamzam (natural well water in Makkah)	Restricted diet to only drinking holy water, Zamzam	109	-	Saline infusion, intubation, mechanical ventilation, chemotherapy, radiotherapy	Rapid correction of hyponatraemia caused CPM	Death - patient's serum Na normalised to 136 mmol/L within 36 hrs and her mental function improved. However, she deteriorated 6 days later from central pontine and extrapontine myelinolysis, and required intubation and mechanical ventilation. When she improved, she received chemotherapy and radiotherapy, however died 3 months later due to a combination of the myelinolysis and lymphoma
32	Hiramatsu et al. 2007	Japan	Case report	1	50	F	Patient presented to emergency department with severe fatigue and nausea. She had consumed excessive water intake due to worry about lower urinary tract	Levofloxacin (100 mg) 15 hrs before admission	Acute	Severe fatigue, nausea	Water	4 L in 3 hrs	124	-	Saline infusion with 10 mmol/L KCl	-	Recovery - patient's serum Na normalised by day 3 (141 mmol/L) and her symptoms disappeared

							infection. No other medical history were specified										
33	Pavalonis et al. 1992	USA	Case report	1	52	M	Patient was diagnosed with schizophrenia and hospitalised for 20 years. For the first 3 years of hospitalisation, he developed severe polydipsia and polyuria and experienced many episodes of hyponatraemia. He later developed hypotonic bowel and bladder, coronary artery disease complicated by angina pectoris, myocardial infarction and congestive heart failure	Lithium and phenytoin	Chronic	Social withdrawal, confusion, auditory hallucinations, delusions	Fluid	Up to 35 L/day, but 10 L	130	-	Non-intensive behavioural intervention using positive reinforcement	-	Ongoing - patient showed immense improvement after 23 weeks of treatment and at a 1-yr follow-up. His average fluid consumption decreased from 10 L to 4 L/day and incidents of hyponatraemia decreased by 62%
34	Tallis 1989	Australia	Case report 1	1	56	F	Patient was admitted to hospital following increasing confusion and agitation over 24 hrs. She had a history of schizophrenia	Trifluoperazine (1 mg) intermittently	Unspecified	Confusion, agitation, generalised convulsion, organic encephalopathy	Fluid	"History of compulsive fluid intake"	109	-	Hypertonic (1.8%) saline solution, water restriction supervised by patient's husband	-	Recovery - patient's plasma Na improved over the first 24 hrs (133 mmol/L) and normalised 1 month later (138 mmol/L)
35	Tallis 1989	Australia	Case report 2	1	52	M	Patient presented to hospital in a semi-conscious state after suffering a seizure. He had a history of chronic schizophrenia and lived in a psychiatric institution. The patient had previously been admitted 6 other times with symptomatic hyponatraemia	Depot fluphenazine (37.5 mg every 2 weeks), trifluoperazine (25 mg 3 times daily)	Chronic	Semi-consciousness, generalised seizure	Water	"Compulsive drinker of water"	108	-	Hypertonic (1.8%) saline solution, demeclocycline (200 mg 3 times daily) recommended	-	Recovery - patient excreted 4.4 L of urine over the first 24 hrs
36	Tallis 1989	Australia	Case report 3	1	73	F	Patient had a history of mild Korsakoff's psychosis and presented to hospital with increasing confusion and agitation. She had been admitted to hospital with hyponatraemia 4 times in the past	Amitriptyline (150 mg at night), haloperidol (10 mg at night)	Chronic	Confusion, agitation	Water	"Compulsive drinking of water"	121	-	Hypertonic (1.8%) saline solution, fluid restriction with increased supervision	-	Recovery - patient's plasma Na increased to 133 mmol/L and her cerebral state improved. She also excreted 3 L of urine
37	Tallis 1989	Australia	Case report 4	1	67	F	Patient presented to hospital unconscious after suffering a convulsion. She had dementia and lived in a psychogeriatric unit	Haloperidol (1 mg 3 times daily)	Unspecified	Loss of consciousness, generalised convulsion	Water	"Drinking large amounts of water"	115	-	Hypertonic (1.8%) saline solution, continuing fluid restriction	-	Recovery - patient's plasma Na had increased to 138 mmol/L within 36 hrs and she regained consciousness. She also excreted 3.6 L of urine
38	Chondrogiannis et al. 2009	Greece	Letter/case report	1	48	M	Patient presented to hospital for elective repair of a large incisional hernia. Unremarkable medical history. Patient was reluctant to reveal any information about water drinking habits and refused a recommended psychiatric evaluation. Surgery was postponed until electrolytes were corrected	-	Unspecified	Unspecified	Water	8-10 L/day	126	-	Water restriction to 2 L/day	-	Recovery - patient's serum Na normalised to 135 mmol/L over 2 days and he was able to be scheduled for surgery
39	Phull et al. 2011	UK	Case report	1	50	M	Patient suffered from paranoid schizophrenia and believed that his kidneys were dysfunctional and required 'flushing' out with water. He was admitted to hospital with hyponatraemia where he did not engage with psychological treatment. He was suspected to be drinking toilet water. His diet became increasingly restricted and he lost a significant amount of weight	Aripiprazole (10 mg twice daily), intramuscular haldol (5 mg), intramuscular flupenthixol decanoate, long-acting risperidone, mirtazapine (30 mg once daily)	Unspecified	Thought disorder, depressed, weight loss, loss of consciousness	Water	Unspecified	90	-	Olanzapine velotabs (5 mg daily, then 10 mg daily) , intramuscular olanzapine (10 mg daily). The patient refused oral olanzapine and required a prolonged course of olanzapine injections	Short period of post injection hypotension, which resolved after a few doses and was believed to have been caused by his poor physical condition	Ongoing - patient made a sustained improvement and tolerated the olanzapine, but required it for 155 days. He was eventually transferred to a rehabilitation unit, started on oral olanzapine and discharged to independent accommodation with support from the community mental health team
40	Chamberlain 2012	USA	Case report	1	40	M	Patient had paranoid schizophrenia and lived in a group home. He presented to emergency believing that he was	-	Unspecified	Bloated, oedema in hands and ankles, labile, paranoid, delusional, seizure	Water	"Large amounts of water in a short time to flush out his system and	115	-	Ziprasidone hydrochloride (20 mg) intramuscularly, IV	-	Recovery - patient excreted > 10 L of urine in the first 24 hrs of hospitalisation and his serum Na normalised to 135 mmol/L. His

							"getting a kidney stone". He was initially cooperative but shortly became labile, paranoid and delusional. He paced in his room or rapidly rocked back and forth and striked out a nurse. He required restraints to keep him in place due to his agitation					prevent kidney stones"			lorazepam (2 mg), hypertonic saline (3%) infusion at 30 mL/hr until serum Na reached 130 mmol/L, then normal saline 150 mL/hr, propofol (5ug/kg/min), lorazepam, haloperidol		agitation improved and he was eventually discharged back to his group home
41	de Leon et al. 1995	USA	Case report 2	1	39	F	Patient was diagnosed with schizophrenia and had a 22-year history of psychosis with severe formal thought disorder. She was initially admitted to hospital for unmanageable polydipsia and pica. Over the years, she developed enuresis and hyponatraemia, seizures and appendicitis	Loxapine (20 mg), lithium (900 mg), phenytoin (400 mg), propranolol (200 mg)	Chronic	Vomiting, seizures	Fluid	15 L/day	122	-	Clozapine (up to 400 mg)	-	Recovery - patient showed improvement in polydipsia on clozapine, however when medication was discontinued following surgery, she relapsed. This cycle of starting and stopping medication continued, and each time the polydipsia returned until clozapine was restarted
42	de Leon et al. 1995	USA	Case report 4	1	33	M	Patient had chronic paranoid schizophrenia and was stable until 26 when he began to deteriorate. He was hospitalised repeatedly and eventually transferred to a research unit for a dose response study of clozapine in patients with treatment resistant schizophrenia	Haloperidol	Chronic	Hostile, assaultive, impulsive outbursts, delusional behaviour, grand mal seizure	Water	"Excessive water drinking"	110	-	Clozapine (100, 300 and 600 mg/day)	-	Recovery - patient's polydipsia and hyponatraemia signficantly improved on clozapine, however would deteriorate whenever he missed doses
43	Young et al. 1987	USA	Case report	1	21	M	Patient was a previously healthy marathon runner who developed agitation and delirium 4 hrs after his first marathon which he completed in 5.5 hrs. He displayed no symptoms immediately after the race, but was later found by his friends wandering incoherently around his room	-	Acute - 4 hrs	Agitated, incoherent, delirious, pink frothy sputum, pulmonary oedema, metabolic encephalopathy	Water	2 L of water post-race and variable amounts at every water station (16)	123	-	Ringer's lactate, 1.5 L of 5% dextrose in normal saline for 1 hr, furosemide	Acute fulminant pulmonary oedema (partially caused by intravenous administration of fluid)	Recovery - over 72 hrs, the patient's cardiovascular abnormalities and mental status returned to normal
44	el-Mallakh et al. 1990	USA	Letter/case report	1	46	M	Patient had a 28-year history of paranoid schizophrenia and 2-year history of episodic water intoxication. His past symptoms included auditory hallucinations of past friends, paranoid delusions and thought disorder. He believed that his mother and aunt had been replaced by doubles and were trying to poison him. His medical background included rheumatic fever and hypertension	Fluphenazine (50 mg/day), benztropine (2 mg/day) orally	Chronic	Seizures and anxiety. During episodes of severe hyponatraemia, he would change aspects of his physical appearance and personality (clothes and hairstyle, deepen voice, develop bold swagger in his gait, angry, arrogant, aggressive, abusive and hostile). He also identified himself by a different name	Water	"Binge drinking of water"	127	-	Lithium (1200 mg/day), neuroleptic	-	Recovery - patient's serum Na normalised and episodes of personality change also became infrequent
45	Shah et al. 1992	USA	Retrospective cohort study	31	43	Unspecified	Patients in a state hospital with hyponatraemia were interviewed and their medical charts reviewed. 26 of the 31 patients had schizophrenia, 1 had schizoaffective disorder and 4 had organic personality disorder. 7 patients had a secondary diagnosis of mental retardation, 1 had encephalitis, and 29 were smokers	Anticonvulsants, carbamazepine, diuretics	Unspecified	Seizures, urinary retention, hypotonic bladder, hydronephrosis, delusions, hallucinations. 1 patient expressed globus hystericus (ball in this throat that would choke him if he didn't drink often), 2 patients had delusions that they needed to drink so that their babies wouldn't die, 4 patients were "flushing out poisons", 1 was "baptising himself", 1 was "regenerating" himself, 1 was "dissolving food", 1 was "cooling something hot", 1 was keeping his "blood thin enough" to reach his head	Water	"Excessive water intake"	115	-	Water restriction, salt tablets, environmental changes, behavioural restrictions (controlled drinking times at observation faucets, smoking restrictions, weight checking)	-	Ongoing - water restriction was an ineffective form of treatment for these patients (2 patients drank their urine when water restricted). However, the behavioural restrictions conducted in a special polydipsia unit were quite successful with patients' monthly serum Na values rising. In 9 months, only 1 patient had a seizure

										and 3 reported voices telling them to "drink plenty of fluids"						
46	Nardone et al. 2010	Austria	Case report	1	50	F	Patient demonstrated rapid changes in mental status and altered levels of consciousness before admission to neurological department. She had a 20-year history of schizophrenia and no other medical history	Clozapine	Unspecified	Unresponsive, grimacing, meaningless sounds, altered levels of consciousness	Water	Unspecified	107	-	Water restriction, furosemide, nasal desmopressin	-	Recovery - patient regained motor control 4 weeks after admission and her plasma Na increased
47	Primavera et al. 1995	Italy	Case report	1	53	F	Patient presented to hospital multiple times with tonic-clonic seizures and mental confusion. She had no diagnosis of epilepsy or psychosis, however her relatives reported a long history of psychiatric symptoms, unstable relationships, dysphoric mood, compulsive drinking and drug abuse	Diuretics	Chronic	Tonic-clonic seizures, mental confusion, dysphoric mood, stupor, slurred speech	Water	"Several litres of water daily for some days"	90	-	Anti-epileptic medication with phenobarbital, electrolyte infusion (NaCl in 5% glucose solution), lorazepam (3 mg/day), phenobarbital (100 mg/day), amytriptiline (40 mg/day)	-	Recovery - serum Na was corrected each time, however patient was non-compliant with medication and frequently re-presented to hospital with seizures. After last discharge, patient showed marked improvement and 1 yr later at an outpatient visit she was neurologically normal and in good psychiatric condition
48	Shesser et al. 1985	USA	Case report	1	25	F	Patient presented to emergency in status epilepticus. She lived in a community residence facility and had a history of schizoaffective disorder. She had slashed her wrists during several previous suicide attempts. Patient had no other medical history	Lithium carbonate (300 mg 3 times daily), fluphenazine (2 mg 3 times daily)	Unspecified	Seizure, clonic twitching	Water	29 L/day	105	-	IV boluses of 50% dextrose (25 g) and naloxone (0.4 mg), urinary catheter, normal saline (75 mL/hr), 5% saline solution over 8 hrs	-	Recovery - patient excreted 18 L of urine over the first 8 hrs and was discharged on the 4th day with no new recurrence of polydipsia
49	Emsley et al. 1984	South Africa	Letter/case report	1	48	F	Patient had a 7-day history of confusion and restlessness and a 20-year history of alcohol abuse. She had a background of aneurysm surgery for subarachnoid haemorrhage and a single seizure	Phenobarbitone (90 mg/day), hydrochlorothiazide (50 mg/day), amiloride hydrochloride (5 mg/day)	Unspecified	Restless, confused, irritable, disorientated, headaches, vomiting, coma, seizure	Water	"Large volumes of water"	119	-	Diazepam (15 mg/day), multivitamins, phenytoin (300 mg/day), water restriction	-	Recovery - patient was discharged after 5 weeks in hospital after her electrolytes normalised and displayed no further desire to consume excess water
50	Katsarou et al. 2010	UK	Case report	1	39	M	Patient had a history of bipolar disorder and early onset dementia from prior alcohol abuse. He was admitted following a seizure with altered levels of consciousness	Analgesics, risperidone (6 mg/day), sodium valproate (1500 mg/day)	Chronic	Seizure, altered levels of consciousness, recurrent headaches, confusion, agitation	Water, diet coke and coffee	8-10 L of diet coke/day, 15-20 cups of coffee/day and several cups of water every few minutes	104	-	Phenytoin, empirical IV ceftriaxone, saline, fluid restriction	Rhabdomyolysis	Recovery - patient's serum Na normalised by day 5 and he was discharged on day 11
51	Nagasawa et al. 2014	Japan	Case report	1	20	M	Patient had a history of schizophrenia and in the months before his death had been consuming excessive amounts of water. He had no history of smoking or alcohol abuse	Intramuscular injection of haloperidol (100 mg/month), olanzapine (15 mg/day), risperdal (2 mg/dose), flunitrazepam (1mg/dose), sennoside (12 mg/dose)	Chronic	Expanded abdomen, vomiting, collapsing, snoring loudly	Water	"Large amount of water"	83	113 right eye, 111 left eye	-	-	Death - patient was found dead the morning after his family reported he "drank a large amount of water, vomited, collapsed and snored loudly while sleeping". His family didn't believe the event was serious as the patient did it frequently. An autopsy revealed oedematous brain 1620 g, oedematous lungs (560 g right, 465 g left), 160 g brown stomach content
52	Chen et al. 2016	Taiwan	Case report	1	56	M	Patient had a history of schizoaffective disorder manifesting as auditory hallucinations, delusions of persecution and fluctuating moods. He had no other medical history	Sulpiride (800 mg) or chlorpromazine with lorazepam (600 mg)	Unspecified	Tonic convulsions	Water	"Water over-intake"	120	-	Carbamazepine (800 mg/day), water restriction program (weight and electrolyte monitoring, patient sent to isolation room if	-	Recovery - patient's epileptic activities improved, his medication dosage was reduced and he experienced no recurrence of seizures

														abnormal electrolytes/weight gain), zotepine (100 mg/day), valporate (700 mg/day), clonazepam (5 mg)		
53	Lee et al. 2016	UK	Case report	1	59	F	Patient presented to emergency with symptoms related to a UTI. Her partner reported that she had woken up over the weekend with dysuria and abdominal back pain which she believed was related to her recurrent UTI. As a result, the patient consumed excessive amounts of water based on medical advice she recalled from the past. The patient had no other medical history	Unspecified	Acute - same day	Shaky, muddled, rapid and shallow breathing, word finding difficulties	Water	"Several litres of water throughout the day"	123	-	Fluid restriction (1 L/day)	-	Recovery - by the next morning, patient's symptoms had improved. Her serum Na normalised after 13 hrs and she was discharged the same day
54	Roche et al. 2018	Ireland	Case report	1	65	F	Patient had history of locally invasive squamous cell carcinoma of the tongue and oesophagus and lupus. She was admitted for a resection of the tongue tumour where initial biochemistry reported a low serum Na level. Patient revealed an increased intake of water due to taking crushed tablets for her postoperative dysphagia	Betamethasone 0.1% w/w topical steroid cream, crushed tablets for postoperative dysphagia	Unspecified	Anergia, daytime fatigue, low mood and anorexia	Water	3 L/day	119	-	Glucocorticoid replacement therapy, hydrocortisone therapy, water restriction	-	Recovery - after returning to whole tablet form, the patient's water intake reduced and with appropriate therapy her serum Na normalised
55	Snell et al. 2008	UK	Case report	1	25	M	Patient presented to emergency after suffering a seizure. He had a history of X-linked adrenal hypoplasia congenita with hypogonadotrophic hypogonadism and was non-compliant with his adrenal replacement therapy. He also occasionally took MDMA	MDMA	Acute - same day	Tonic-clonic seizure, mild respiratory symptoms, agitation	Water	> 6L/day	114	-	IV hydrocortisone, mannitol, hypertonic saline (2.7% sodium chloride) then normal saline	Rapidly progressive pseudobulbar palsy with dysarthria, drooling secretions and dysphagia - possible signs of central pontine myelinolysis or osmotic demyelination	Recovery - over a few days of hospitalisation, the patient made a full recovery
56	Coler et al. 2012	USA	Case report	1	85	M	Patient was an experienced hiker and retired internal medicine physician who went on an overnight hike through Yosemite National Park with his son who was also an internal medicine physician. He had a history of hypertension, mild renal insufficiency and diastolic dysfunction, and had previously undergone surgery for an aortic valve replacement and pacemaker implantation. The son was initially worried that his father was dehydrated and encouraged him to "push fluids" and snack on small bits of chocolate and beef jerky. However, after developing serious symptoms related to	Losartan (50 mg), hydrochlorothiazide (12.5 mg), nadolol (40 mg)	Acute - same day	Sleepy, confused, mumbling incoherently, unable to follow directions or respond properly, agitated, short of breath, dilated external jugular veins	Water	3 L over 9 hrs	120	-	0.9% saline, IV bolus furosemide (20 mg)	-	Recovery - patient deteriorated after 0.9% saline, but showed marked improvement after the IV bolus furosemide. He excreted 500 mL urine immediately and was discharged 2 days later without recurrence or neurologic sequelae

							hyponatraemia, the patient was airlifted to a local hospital										
57	Ledochowski et al. 1986	Austria	Case report	1	47	F	Patient had a history of schizophrenia and was found drinking water and vomiting by the sink in her room. She was admitted to the psychiatric clinic where psychiatrists suspected poisoning and transferred the patient to internal medicine	Unspecified	Acute	Confusion, incoherent speech, seizures, coma	Water	"Drank a large amount"	101	-	Hypertonic saline, frusemide, potassium replacement, doxycycline, dexamethason, phenytoin, cimetidine, haemo-filtration	-	Recovery - patient had 3 L of clear fluid removed through haemo-filtration and also excreted 5200 mL of urine over 24 hrs. Her serum Na normalised after 17 hrs and she was transferred back to psychiatry after 36 hrs
58	Itoh et al. 1997	Japan	Case report	1	33	M	Patient had a history of schizophrenia and had suffered intermittently from vomiting, abdominal distension and altered levels of consciousness	Unspecified	Chronic	Vomiting, abdominal distension, altered levels of consciousness, urinary incontinence	Water	"Continuous water drinking"	130	-	Fluid restriction, urethral catheter, vesicostomy	-	Ongoing - fluid restriction was ineffective, so a surgical intervention was decided upon to prevent renal failure. After surgery, symptoms reduced but the patient's polydipsia persisted
59	Salathe et al. 2018	Switzerland	Case report	1	19	F	Patient was admitted to emergency with altered levels of consciousness. Her friends reported that they had previously been at a party where the patient drunk a glass of vodka, complained about feeling unwell, threw up and then loss consciousness. A urinalysis showed evidence of MDMA ingestion	MDMA	Acute - 4.5 hrs	Vomiting, loss of consciousness	Water	"Very thirsty and drinking lots of water"	122	-	Hypertonic (3%) saline, normal saline	-	Recovery - patient was discharged the following day and suffered no further complications
60	Putterman et al. 1993	Israel	Case report	1	19	M	A previously healthy patient was admitted to hospital with agitation and confusion. He had a previously low level of physical activity, however on the day of admission, had engaged in many hrs of strenuous hiking in hot weather. During the hike, he also consumed excessive amounts of water	Unspecified	Acute - 2 hrs	Nausea, emesis, convulsion	Water	"Several litres of tap water" during the hike and more after as a medic believed he was dehydrated	115	-	IV isotonic fluids, fluid restriction	Rhabdomyolysis	Recovery - isotonic fluids were discontinued and replaced with fluid restriction only. Patient excreted large amounts of urine and his serum Na had normalised within 36 hrs. His symptoms gradually improved with no recurrence
61	Christenson et al. 1985	USA	Case report	1	79	F	Patient presented to hospital with vaginal bleeding and was scheduled for a pelvic ultrasound examination and dilation and curettage surgery. She mixed up her gynaecologists instructions for the surgery with the ultrasound and remained nil by mouth for 12 hrs. In order to complete the ultrasound, technicians had her drink a 1500-2000 mL load of water	Unspecified	Acute	Dizziness, decreasing level of consciousness, disoriented	Water	1.5-2 L over the morning	122	-	300 mL saline infusion (3%), glucose in normal saline (5%)	-	Recovery - after treatment, the patient's symptoms improved and her serum Na normalised (141 mmol/L) the following day
62	Onozaki et al. 2001	Japan	Case report	1	42	M	Patient had a history of nephrogenic DI with a high level of plasma arginine vasopressin. He had experienced chronic polydipsia and polyuria since 2 months of age. After his first hospital admission he was placed on trichlormethiazide and triamterene which were successful in reducing his water intake (7-8 L/day); he remained stable for 6 months. However, his water intake began increasing again and he was eventually re-admitted with general fatigue and 4 kg weight gain	Trichlormethiazide (4 mg daily), triamterene (200 mg daily)	Chronic	Fatigue, weight gain	Water	20-27 L/day	124	-	Water restriction to 10 L/day and discontinuation of diuretics	-	Recovery - patient's serum Na normalised within 8 days of water restriction and discontinuation of diuretics. Patient excreted 13 L of urine/day
63	Mavragani et al. 2005	Greece	Case report	1	28	F	Patient was a nun with a history of antiphospholipid syndrome and systemic lupus erythematosus and had experienced persistent	Acenocoumarol, oxcarbazepine (300-450 mg)	Chronic	Partial seizures, loss of consciousness, sialorrhea, mastication muscle contraction	Water	6 L/day	124	-	Overnight fluid restriction, diphenyldantoin (300 mg/day)	-	Recovery - oxcarbazepine was discontinued and replaced by diphenyldantoin. Within 2 weeks, polydipsia had resolved and serum Na had normalised

							polydipsia and hyponatraemia throughout the years										
64	Gutmann et al. 2002	USA	Case report	1	20	F	A previously healthy army trainee presented with an upper respiratory and flu-like illness 3 days before her unit was required to complete a drug test. In order to provide a urine sample she consumed up to 10-12 L of water in 2-3 hrs while being supervised and also performed vigorous exercises (push-ups, flutter kicks, running in place)	Unspecified	Chronic - 3 days	Dizziness, headaches, jerky upper extremity movements, confusion, pulmonary oedema, intracranial swelling	Water	10-12 L in 2-3 hrs	123	-	Continuous IV infusion of dopamine and then dobutamine, furosemide (40 mg), 0.7 L normal saline	-	Death - although the patient excreted copious amounts of urine and her serum Na normalised to 144 mmol/L, her mental status didn't improve and she was diagnosed as brain dead 2 days after admission. An autopsy revealed diffuse bilateral intra-alveolar oedema and congestion as well as acute bronchopneumonia and mild brain swelling. The heart and brain weighed 285 g and 1350 g respectively
65	Lai et al. 2016	China	Case report	1	60	F	Patient was admitted to hospital following a "skin infestation". She reported feeling insects crawling and breeding under her skin since travelling to a rural areas 4 months prior. She also believed that her living room was filled with these insects and that they bit her, caused her great pain and that numerous insect eggs washed off when she showered. She had a past medical history of hypertension and had undergone an appendectomy. When a colonscopy was scheduled, she ingested excessive amounts of water. She was eventually diagnosed with delusional infestation (DI) and depression	Amlodipine (5 mg daily)	Acute	Shortness of breath, irritation, itchy, vomiting, seizure, loss of consciousness, fever, mild coma, frothing of the mouth, biting tongue, urinary incontinence	Water	12 L (5 thermos jugs) in a few hrs	120	-	IV diazepam (10 mg) , IV sodium valproate pumping, IV potassium and sodium supplement, risperidone (2.5 mg/night), aripiprazole (5 mg/night), bromocriptine, citalopram (40 mg/day)	-	Recovery - patient regained consciousness and her serum Na normalised. After her diagnosis of DI and treatment with atypical antipsychotics, her delusions and hallucinations alleviated and she was discharged. During a follow-up, she showed signs of depression which did not improve after 2 weeks of treatment. 1 month later she was reported to have attempted suicide, and was lost to follow-up despite repeated phone calls
66	Santos-Soares et al. 2008	Brazil	Case report	1	34	M	A previously healthy patient was admitted to hospital after suffering a seizure. He was playing domino and the punishment for losing was to drink a full glass of water. It was estimated that the patient ended up drinking around 40 glasses of water over a few hrs	Unspecified	Acute	Sleepy, seizures	Water	8 L (40 glasses) over a few hrs	123	-	Saline infusion (3%)	-	Recovery - patient made a full recovery and was discharged from hospital after 5 days
67	Yalcin-Cakmakli et al. 2010	Turkey	Case report 1	1	33	F	Patient presented to emergency unconscious. She had a history of depression and had been taking medication for vaginal discharge. Earlier in the day she had undergone a pelvic ultrasound and consumed roughly 5-6 L of water	Escitalopram (10 mg), ornidazole	Acute - 4 hrs	Nausea, vomiting, numbness of right arm/leg/upper lip, uncooperative, sleepy, anxious, tonic-clonic seizure, agitated, confused	Water	5-6 L	122	-	Strict water restriction, oral salt supplementation	-	Recovery - patient's serum Na normalised after 18 hrs (137 mmol/L) and her symptoms completely resolved
68	Yalcin-Cakmakli et al. 2010	Turkey	Case report 2	1	19	F	A previously healthy patient was admitted after developing symptoms related to hyponatraemia following a pelvic ultrasound for her menstruation irregularities. She consumed around 3 L of water in 1.5 hrs before the scan	Unspecified	Acute - 2 hrs	Headache, nausea, vomiting, lassitude, progressive confusion, lethargic, central facial paresis and hemiparesis on right	Water	3 L in 1.5 hrs	126	-	Unspecified	-	Recovery - patient's serum Na normalised in 16 hrs (136 mmol/L) and she was discharged after 48 hrs of observation
69	Kowalski et al. 2014	USA	Case report 1	1	23	M	Patient had a history of childhood-onset schizophrenia and believed that he was a persecuted Christian who could be "fed to the lions in the coliseum" at any moment. He developed polydipsia in his mid-late teens	Unspecified	Unspecified	Delusions	Water	"Finding sources of water and overconsuming"	117	-	Gatorade protocol behaviour modification program (given sports drinks)	-	Ongoing - patient's serum Na improved to 120's and his delusions decreased
70	Kowalski et al. 2014	USA	Case report 2	1	63	M	Patient was a veteran with a history of congestive heart failure. He was admitted to hospital after his spouse found him "wandering their	Unspecified	Unspecified	Disoriented, pulmonary oedema	Water	"Regimen of drinking more water"	118	-	Normal saline, IV fluids	-	Recovery - patient improved within 3 days, his cardiac medication was adjusted and he was told to "not over drink" water before discharge

							neighbourhood". The patient reported increasing his water intake because he had been told it was healthy and believed it would help him lose weight									
71	Vieweg et al. 1985	USA	Case report 1	1	46	M	Patient was institutionalised with a history of schizophrenia and self-induced water intoxication. He developed hyposthenuria at age 39 as well as hypotonic bowel and bladder at age 46	Antipsychotic agents	Unspecified	Major motor seizure, hyposthenuria, hypotonic bowel and bladder	Water	Unspecified	115	-	Unspecified	-	Unspecified
72	Vieweg et al. 1985	USA	Case report 2	1	45	M	Patient was institutionalised with a history of schizophrenia and self-induced water intoxication. He developed severe hyposthenuria at age 36	Antipsychotic agents	Unspecified	Major motor seizure, hyposthenuria	Water	Unspecified	108	-	Unspecified	-	Unspecified
73	Yong et al. 2015	Australia	Case reports	10	84	3 M, 7 F	Patients were admitted to hospital during the 2014 Australian heatwave. During this period, public health warnings advised people to "drink plenty of water", and 7 of the 10 patients cited this as being the reason for their excessive intake of water. 6 patients were on medical therapy, 4 patients had a history of excessive water intake, 3 patients were on thiazide diuretics, 1 patient was on loop diuretics and various comorbidities of the patients included cardiac failure, hypertension, cognitive impairment and alcohol abuse	Thiazide diuretics, loop diuretics, spironolactone, angiotensin-converting enzyme inhibitor or angiotensin II receptor blocker, antipsychotics	Unspecified	Seizures (4), vomiting (4), coma (2), confusion (3), cardiorespiratory distress (2), pulmonary oedema, atrial fibrillation, myocardial infarction	Water	One patient consumed 6 L/day	One patient's serum Na was 106	-	Fluid restriction, (7) hypertonic saline (3), normal saline (9), salt tablets (1)	-	Unspecified
74	Gillum et al. 1984	USA	Case report	1	37	F	Patient had chronic schizophrenia and had begun lithium carbonate therapy 3 months before presenting to hospital. Her relatives reported her drinking copious amounts of tap water before collapsing	Lithium carbonate	Acute	Semi-comatose	Water	"Copious amounts of tap water"	118	-	Urinary catheter	-	Recovery - patient excreted 2 L of dilute urine upon insertion of urinary catheter and then more for 8 hrs until her serum Na normalised (138 mmol/L). She regained consciousness after around 6 hrs
75	Cheng et al. 1990	USA	Retrospective cohort study	13	49	Unspecified	Medical records from all patients with polydipsia in a hospital between 1977-1989 were reviewed to identify those who had experienced hyponatraemia. 11 patients had a background of schizophrenia and 2 had alcohol dementia. Other comorbidities included hypertension, benign prostate hypertrophy and chronic obstructive pulmonary disease	Phenothiazines, haloperidol, thiothixene, thiazide diuretics (4)	Unspecified	Seizures, coma, confusion, vomiting, lethargy, weakness, agitation, staggering gait	Water	> 400 mL/hr	110	-	Hypertonic saline infusion, fluid restriction	-	Recovery - all patients recovered from hyponatraemia immediately after treatment and there was no evidence of adverse neurologic sequelae up to 6 years follow-up
76	Issa et al. 1997	USA	Case report	1	72	M	A previously healthy patient developed obstructive voiding symptoms 6 months after radical retropubic prostatectomy for prostate cancer. Past medical history included partial gastrectomy with Billroth-I diversion for treatment of peptic ulcer disease. In preparation for a uroflowmetry test, the patient consumed excessive amounts of water	Unspecified	Acute - 4 hrs	Anxiety, generalised weakness, confusion, transient clonic seizure	Water	> 6 L/3 hrs	118	-	Fluid restriction, diuretics, slow IV infusion of 3% hypertonic saline	-	Recovery - the patient's serum Na normalised within 48 hrs (135 mmol/L), his symptoms resolved and he was discharged home
77	Mirvis et al. 2015	UK	Case report 1	1	87	F	Patient had a history of polymyalgia rheumatic and multiple myeloma. When attending hospital treatment she stated that she was "struggling to drink 3 L a day", something a nurse had previously advised her	Cyclophosphamide, prednisolone, thalidomide, bortezomib	Chronic	Confused, disorientated, pneumonia	Water	3 L/day	112	-	Fluid restriction, fludrocortisone, antibiotics	-	Recovery - patient's serum Na normalised within 5 days (138 mmol/L)

							to do. She later experienced a fall at home and was admitted to hospital with hyponatraemia									
78	Mirvis et al. 2015	UK	Case report 2	1	77	F	Patient had an 11-year history of multiple myeloma and had been receiving chemotherapy treatments. 3 years after her diagnosis, a routine biochemistry test revealed persistent intermittent hyponatraemia. The patient reported that she had been advised to drink 3 L of water per day by a nurse specialist	Chemotherapy regimens (melphalan, prednisolone), bortezomib, dexamethasone, cyclophosphamide, lenalidomide	Chronic	Unspecified	Water	4 L/day	126	-	Fluid restriction (1-1.5 L/day)	-	Recovery - patient's serum Na normalised (136 mmol/L)
79	Strachan et al. 2007	USA	Case report	1	63	M	Patient had a history of bipolar disorder and chronic obstructive pulmonary disease. He had previously been hospitalised for a hyponatraemic episode (116 mmol/L) and had developed changes in mental status as well as respiratory failure but improved after treatment	Tiotroprium inhaler, fluticasone/salmeterol inhaler, risperidone, lithium carbonate	Unspecified	Shortness of breath, lethargic, pulmonary oedema, hypercapnic respiratory failure	Water	10-12 L/day	110	-	3% saline infusion, bicarbonate infusion, intubation	Rhabdomyolysis	Recovery - patient's serum Na normalised and he was weaned off mechanical ventilation
80	Noonan et al. 1977	Canada	Case report	1	32	F	Patient had a history of mental retardation and wandering behaviour. Her excessive water drinking behaviours were well concealed but careful observation revealed that she would lie in the bath with her mouth to the faucet so that the sound of running water couldn't be heard. She also had a background of gallstones	Unspecified	Unspecified	Nausea, vomiting, agitation, auditory and visual hallucinations, compulsive hand washing, altered levels of consciousness	Water	"Continued excessive water drinking"	127	-	Phenothiazines, butyrophenones, thioxanthenes, behaviour therapy (only bathing in presence of staff)	-	Ongoing - patient's compulsive water drinking has been resistant to change and episodes of hyponatraemia continue to occur periodically
81	Hayashi et al. 2005	Japan	Case report	1	69	M	Patient was diagnosed with schizophrenia and hospitalised for 30-years. 2 hrs before he was found dead in his room, he had been observed eating lunch in the dining room. Nurses frequently noted him drinking water excessively	Unspecified	Unspecified	Unspecified	Water	"Drink running water excessively"	92	-	-	-	Death - patient was found dead in his room. Autopy revealed congested organs and diluted intracardiac blood. His heart weighed 320 g and left and right lungs were oedematous, weighing 660 and 780 g respectively. The stomach was enlarged and contained 1400 mL of clear brownish fluid. A large amount of fluid was also found in the duodenum and small intestine
82	Vanhaebost et al. 2018	Belgium	Case report	1	54	M	Patient was an inmate at the psychiatric unit of a prison. He had a history of tobacco addiction, diabetes and schizophrenia. Two inmates had alerted security that he was "vomiting a transparent fluid" but despite rapid medical attention and resuscitation, he didn't survive. He had previously been seen compulsively drinking water	Insulin, paliperidone, aripiprazole, venlafaxine	Acute - 3 hrs	Vomiting, convulsions	Water	5 L over 3 hrs	-	117	Resuscitation	-	Death - patient was seen vomiting and convulsing by fellow inmates, but despite rapid medical attention he did not survive. Autospy revealed a whitish, foamy liquid in the upper and lower respiratory airways, oedematous left and right lungs weighing 800 g and 1150 g respectively, heart weighing 420 g, brain weighing 1430 g and 200 mL of watery fluid in the stomach
83	Cronin 1987	USA	Case report 1	1	60	M	Patient was a retired mechanic with a history of symptomatic hyponatraemia and intractable hiccups. His medical history included hypertension, glaucoma, latent lues, upper GI bleeding, colonic diverticuli and alcohol abuse. Patient reported drinking excessive water to relieve his hiccups, but his wife also reported self-induced vomiting with a spoon	Unspecified	Unspecified	Hiccups, weakness, nausea, vomiting, confusion	Water	10-12 gallons/day	113	-	IV saline, water restriction, hypnosis, psychoactive drugs (thorazine and diazepam)	-	Ongoing - patient's serum Na normalised within a few days. However, he was still noted to be drinking excessive amounts of water on occasion and inducing vomiting. Despite treatment his drinking behaviour didn't change and he refused long-term psychiatric treatment
84	Cronin 1987	USA	Case report 2	1	56	M	Patient was a former construction worker with a 30-	Thorazine therapy	Unspecified	Hiccups, vomiting, seizures, agitation, semi-comatose	Water and	"Drinking large quantities of	103	-	Isotonic saline infusion, water	-	Recovery - despite thorazine therapy being ineffective for treating the

							year history of hiccups. He reported inducing vomiting and drinking excessive amounts of water to relieve the hiccups. His medical background included alcohol abuse, probable alcoholic cerebellar degeneration, a partial gastrectomy for peptic ulcer disease, lumbar disc surgery and a right cerebrovascular accident with mild residual left hemiparesis				alcohol	water", 1 pint of gin/day for 15 yrs			restriction, hypertonic saline, frusemide diuresis		patient's hiccups, water restriction was effective in restoring serum Na
85	Bremner et al. 1991	UK	Case report 1	1	58	F	Patient had a 20-year history of schizophrenia as well as a moderate mental handicap. She was noted to be drinking excessively and had various episodes of water intoxication over the past 12 years, possibly related to her hallucinations. Nurses noted that during periods of excessive water consumption, she talked to an imaginary person and looked upwards for no reason. Medical background included diabetes which was managed by diet alone	Haloperidol	Unspecified	Vomiting, fits, stupor	Water	"Excessive water drinking"	116	-	Phenytoin, increased dose of haloperidol	-	Recovery - patient was prescribed phenytoin following an episode of atypical epilepsy. Her excessive consumption of water and subsequent hyponatraemia were managed well with an increased dose of haloperidol
86	Bremner et al. 1991	UK	Case report 2	1	53	M	Patient had brain damage resulting from meningitis in infancy as well as a family history of affective disorder. He had various episodes of sleeplessness, weight loss and suicidal thoughts, and episodes of hoarding rubbish and wandering off to sleep outdoors. He had a history of compulsive smoking, self-inflicted skin injuries and excessive consumption of tea	Thiazide diuretics	Unspecified	Confusion	Water and tea	"Drinking excessively"	125	-	Chlorpromazine (300-400 mg/day), haloperidol (5 mg/day), demeclocycline (300 mg)	-	Recovery - patient's serum Na normalised after prescription of demeclocycline and he had no further episodes of hyponatraemia
87	Bremner et al. 1991	UK	Case report 3	1	51	F	Patient was deserted in early childhood by an unstable mother and had a family history of psychiatric illnesses. Her brother had repeated admissions for unspecified psychosis. She was diagnosed with personality disorder and described as the "ward bully". She had periods of self-harm and depressive episodes	Depot flupenthixol decanoate, lofepramine	Unspecified	Confusion, vomiting, swollen face, distended abdomen, rigidity, coma	Water	"Always at the tap"	118	-	Fluid restriction, daily weighing, depot flupenthixol, lithium	-	Recovery - patient's previous medications were suspended and she had 4 further episodes of hyponatraemia over the next 10 months. After fluid restriction, her serum Na values normalised but she became depressed and suicidal and would drink large amounts of water from the toilet. When flupenthixol was re-introduced, her water consumption reduced dramatically and she had no further episodes of hyponatraemia
88	Bremner et al. 1991	UK	Case report 4	1	29	M	Patient was diagnosed with disintegrative psychosis and childhood autism at 18-months. He developed the habits of touching women's breasts and self-mutilating his eyes, which resulted in cataracts and blindness in one eye. He had a history of hypertension and anxiety and had experienced various episodes of hyponatraemia throughout the years	Nifedipine, fluvoxamine, chlorpromazine, atenolol, prazosin, thiazide diuretics	Unspecified	Abusive, tense, vomiting, diarrhoea, coma, respiratory arrest, cerebral oedema	Water	"Drinking excessively"	121	-	Fluid restriction, resuscitation, IV sodium bicarbonate, normal saline (2 L)	Hypernatraemia with flaccid tetraplegia, CPM	Death - patient's first 2 episodes of hyponatraemia were resolved with fluid restriction and discontinuation of thiazide diuretics. However, during patient's 3rd episode of hyponatraemia he had a respiratory arrest. He was resuscitated and treated with IV sodium bicarbonate and normal saline but became hypernatraemic with suspected CPM. He died 2 weeks later and an autopsy showed total infarction of the cerebral cortices, pons, medulla and cerebral hemispheres through to be due to anoxia
89	Bremner et al. 1991	UK	Case report 5	1	41	M	Patient had a history of epilepsy, aggressive outbursts, petty thievery and fire-setting under the influence of alcohol. He was institutionalised in a mental hospital, but when trialled for a	Carbamazepine	Unspecified	Cerebrovascular episodes, unsteady gait, slurred speech	Water and coffee with powde	Drinks of coffee with powdered milk + water every 5 minutes	126	-	Discontinuation of carbamazepine, fluid restriction	-	Unspecified

							hostel rehabilitation program he would become temperamental, threaten arson, chain smoke and carry around jars of coffee and powdered milk to make drinks every 5 minutes. He also consumed excessive amounts of water				red milk						
90	Grainger et al. 1992	UK	Case report	1	60	F	Patient had a history of schizoaffective disorder and was admitted to a psychiatric unit. The night prior to her admission she had an argument with her son as she believed that "the devil was in him". She also wore a patch over her left eye believing that the devil could enter her through it. She reported that she had stopped taking her regular medication during the past few weeks. After being admitted, she refused to eat anything but maintained a good fluid intake	Haloperidol	Unspecified	Auditory and visual hallucinations, nausea, vomiting, headache, confusion, semi-consciousness, disorientation, grand mal seizures	Water	4 L in 12 hrs	109	-	Fluid restriction 500 mL, IV diazepam, hypertonic saline infusion (1 L), serum urea and electrolytes, urinary catheter, chlorpromazine	-	Recovery - patient's serum Na normalised over the next few days and she was discharged on day 18
91	Peh et al. 1990	Singapore	Retrospective cohort study	27	35	10 M, 17 F	A 1-month survey was conducted in a hospital to identify cases of water intoxication. Of the 27 patients identified, 19 had schizophrenia, 7 had mental retardation and 1 had alcohol dependence syndrome. Other comorbidities included epilepsy, non-toxic diffuse goitre, liver cirrhosis, pulmonary tuberculosis, anaemia and Sturge-Weber Syndrome	Chlorpromazine (17), thioridazine (3), haloperidol (10), trifluoperazine (1), fluphenazine decanoate (21), flupenthixol decanoate (1), amitriptyline (1), lithium carbonate (6), carbamazepine (5), diazepam (9)	Unspecified	Nausea, tremors, weight gain, disorientation, coma, fits	Water	3 L/day	120	-	Fluid restriction	-	Unspecified
92	Ismail et al. 2010	Canada	Letter/case report	1	62	M	Patient had a 32-year history of schizophrenia and COPD. He smoked 15 cigarettes/day and was hospitalised for 4 months. He expressed a desire to quit smoking and was prescribed varenicline which helped him to reduce his smoking to 2 cigarettes/day. However, after 18 days on the medication he developed polydipsia and nursing staff reported a significant increase in water intake	Depot risperidone (20 mg every 2 weeks), varenicline	Chronic	Paranoia, delusions, disorganisation, nihilism, irritability	Water	"Significant increase in water intake"	125	-	Fluid restriction, normal saline bolus and infusion	-	Recovery - patient's varenicline was discontinued and fluid restriction trialled to no effect due to non-compliance. After administration of normal saline, his serum Na normalised and his mental status improved. He was discharged 3 days later and at a 5-week visit he remained stable despite having resumed smoking
93	Prim 1988	USA	Case report	1	47	M	Patient had a 15-year history of schizophrenia with hospitalisation, and presented with a sudden onset of seizures. Staff reported that he usually only voided once per shift	Haloperidol (5 mg)	Unspecified	Seizures, copious projectile emesis and uresis	Water	> 20 cups/day	123	-	Structured activities, intensive nursing intervention, reduction in medication	-	Recovery - over 2 months, the patient's medication was reduced. Intensive nursing intervention with an increase in the number of structured activities was trialled with much success as the patient began to reduce his trips to the water fountain. After 5 months of this intervention, the patient had no more episodes of water intoxication
94	Lin et al. 2011	Taiwan	Case report	1	31	F	Patient had a 6-year history of schizophrenia and poor compliance with treatment. She quit medication 2 weeks prior to	Unspecified	Unspecified	Seizures, loss of consciousness, vomiting	Water	> 10 bottles/day (1500 mL/bottle)	112	-	Lorazepam, phenytoin, intubation, 3% saline solution	-	Recovery - patient's serum Na normalised and she regained consciousness. She was discharged 5

							admission. Her medical history was unknown but detailed interviews with her family revealed that she consumed excessive amounts of water									days later and remained stable at a 2-week follow-up
95	Peh et al. 1990	Singapore	Case report	1	40	F	Patient had a history of schizophrenia and persecutory delusions against her family, as well as diabetes mellitus. She had various admissions for relapse. During her last admission, she reported having quarrelled with her husband due to paranoia about him and a woman neighbour	Fluphenazine decanoate, chlorpromazine, trifluoperazine, benzhexol, tolbutamide	Unspecified	Confusion, fits, coma, restless, sweating, frothing at the mouth, pulmonary oedema	Water	"Drinking tap water excessively"	109	-	IV dextrose-saline drip, fluid restriction,	-	Death - during her last relapse, the patient threw a fit, fell and hit her head. She was managed for acute pulmonary edema but had a cardiac arrest and died. Autopsy revealed severely congested lungs, kidneys and liver, cerebral oedema and evidence of ischaemic heart disease
96	Finkel 2004	USA	Case report	1	45	F	Patient was referred after the urine sample she submitted for drug testing showed a specific gravity of 1.001. She had no previous medical history. 4 months before the testing, she had started a diet that involved appetite suppressants and "fat-burning" pills, avoidance of salt and large quantities of water intake. Patient reported constantly carrying water around with her and waking 4-5 times per night to urinate	-	Asymptomatic	Asymptomatic	Water	6-8 L/day	124	-	Unspecified	-	Unspecified
97	Finlayson et al. 1989	Canada	Case report	1	55	F	Patient had a history of depression requiring hospitalisation. She presented for admission with agitation, insomnia, poor appetite and complaints of abdominal burning. During treatment she experienced a seizure and following recovery revealed that she drank excessive amounts of cold water to relieve her dry mouth and anxiety	Chlorpromazine, thioridazine, diphenhydramine, ECT	Acute	Agitation, vomiting, seizure	Water	5-10 L/day	106	-	IV saline, fluid restriction, vasopressin, lithium, isocarboxazid, L-tryptophan	-	Recovery - patient's serum Na normalised and she was discharged after 5 weeks of treatment
98	Howe et al. 1983	UK	Case report	1	25	M	A previously healthy patient developed a "flu-like" illness and suffered a seizure. He presented to hospital in a confused state but was treated and discharged in 1 week. Back at home his parents noticed that his memory had deteriorated and that he ate and drank excessively. After he was admitted to a neurological unit, he complained of hunger and thirst, stole food and water from other patients and drank his own bath water. During a water deprivation test, he escaped from the ward and was found 12 hrs later in another town	Unspecified	Unspecified	Poor memory, apathetic, seizures, hallucinations, disoriented, aggressive, violent	Water	"Drank from 2 L jugs and his bath water"	125	-	Phenytoin, haloperidol, hypertonic saline infusion	-	Ongoing - patient's hyperphagia and hyperdipsia continued but were slightly better managed. He was discharged to his parent's home but quickly re-admitted to a chronic-care hospital as they could not care for him. He remained hyponatraemic
99	Koczapski et al. 1989	Canada	Cohort study	8	42	M	8 patients with chronic schizophrenia and hyposthenuria were studied over 5 days to assess fluid intake and serum sodium level	Neuroleptics	Unspecified	Stupor, mild euphoria, seizures, drooling	Fluid	11 L/day	127	-	Fluid restriction	-	Unspecified
100	Kato et al. 2008	Japan	Case report	1	70	F	Patient had anti-neutrophil cytoplasmic antibody-related glomerulonephritis and was admitted to hospital with vomiting, confusion and disorientation. After treatment and discharge, she presented to outpatient with low serum Na but no symptoms. She reported	Prednisolone, low-dose cyclophosphamide (CY)	Unspecified	Nausea, cerebral oedema	Fluid	> 2 L in 12 hrs	108	-	Fluid restriction (1 L/day)	-	Recovery - patient's CY was discontinued and she was fluid restricted. Following this, her serum Na normalised and no further episodes of hyponatraemia were observed

							increased fluid intake to maintain urinary flow and prevent haemorrhagic cystitis. She also had a background of moderate renal failure and hypoalbuminaemia									
101	Windpessl et al. 2017	Austria	Case report	1	61	F	Patient was admitted for sudden onset confusion and slurred speech. She had commenced preparation for a colonoscopy by ingesting sodium picosulfate/magnesium citrate, water and tea within 2 hrs. Her husband found her confused with unintelligible speech. She had a history of hypothyroidism. Following treatment, she reported that she had eaten limited food for the past 2 days with minimal amounts of salt	Sodium picosulfate/ magnesium citrate, levothyroxine, diclofenac (nonsteroidal ati-inflammatory drug)	Acute - 2 hrs	Nausea, dizziness, vomiting, confusion, unintelligible speech, unsteady gait, tremor	Water, tea and PICOLAX	2 L of water + 2 L of tea	122	-	Hypertonic saline (3%)	-	Recovery - patient's symptoms resolved and her serum Na normalised. She remained well on follow-up 1 week later
102	Kushnir et al. 1990	Israel	Case report	1	31	F	Patient had a 9-year history of schizophrenia and depression. 1 month prior to admission she stopped taking her medications and began drinking excessive amounts of water. She was drinking straight from the garden hose on the day of her admission, and presented to hospital unconscious	Haloperidol (3 mg/day), artane (6 mg/day)	Acute	Irritability, vomiting, diarrhoea, coma, shallow breathing, cerebral oedema	Water	"Drinking water frequently"	120	-	Resuscitation	-	Death - patient died in asystole on the 5th day. Autopsy revealed cerebral oedema and normal kidneys
103	Korzets et al. 1996	Israel	Case report	1	28	F	Patient had a 8-year history of paranoid schizophrenia that worsened in the month leading to her admission. The patient's mother reported that before admission, the patient began to eat and drink excessively. She presented to ICU in a coma	Fluphenazine (12.5 mg every 3 weeks), perphenazine (30 mg)	Chronic - few days	Confused, dysphasic, coma	Water	"Drink excessively"	109	-	Intubation, urethral catheter, hypertonic saline, IV furosemide therapy, IV KCl, IV magnesium sulfate	Fever (39.3 C), rhabdomyolysis	Recovery - patient excreted 8 L of urine within the first 16 hrs. Her serum Na normalised and she was transferred to a psychiatric ward after 12 days
104	Caputo et al. 2001	Italy	Case report	1	57	M	Patient had a history of chronic alcoholism (10-12 drinks/day) and presented with severe asthenia and semi-consciousness. He was a heavy smoker and had a medical background which included bronchitis, emphysema and arterial hypertension. His relatives reported a 10 day history of muscle pain, plus abstension from food and excessive water intake	Theophylline, ace-inhibitors, diuretics, alprazolam, carvedilol	Chronic - 10 days	Vomiting, diarrhoea, muscle pain, asthenia, inability to maintain upright position, loss of consciousness	Water and alcohol	4-5 L of water/day + 10-12 alcoholic drinks/day (120-144 g)	95	-	Furosemide (20 mg/day), 1.5% saline solution, water restriction, nifedipine, alprazolam, theophylline, group B vitamins, folic acid, abstension from alcohol, disulfiram	-	Recovery - patient regained consciousness and serum Na normalised. He was discharged with medication after 1 week. 1 month after discharge he had some trouble with balance but was otherwise fine (serum Na = 139 mmol/L). He began to take disulfiram and attend an alcohol addiction program
105	Inoue et al. 1985	Japan	Cohort study	6	38	4 M, 2 F	Patients were all psychiatric inpatients with the syndrome of self-induced water intoxication. 4 patients had schizophrenia, 1 had schizoaffective disorder and 1 had borderline personality disorder. 1 believed that water could wash out the poison in his body and 1 felt like someone was commanding her to drink	Psychotherapeutic medications	Acute	Tonic-clonic seizures, postictal coma, perspiration, nausea, vomiting, dyspnea, sleepiness	Water	"Drank water excessively"	120	-	IV infusion 2.5% sodium chloride	-	Recovery - all patients recovered without neurological sequelae
106	Beresford 1970	USA	Case report 1	1	34	F	Patient had a history of schizophrenia and was admitted with lethargy and convulsion. She had been in various psychiatric hospitals and her husband reported that she often drank 15-20 cups of coffee a day and gallons of water. Nurses noted that she stayed near the water fountain and drank large amounts	Thioridazine hydrochloride, chlorpromazine hydrochloride, hydrochlorothiazide (25 mg/day)	Acute - hrs	Seizure, incoherent, somnolent, nauseous, distended bladder, lethargic	Water and coffee	15-20 cups of coffee/day + gallons of water	115	-	250 mL of IV saline (5%), fluid restriction	-	Recovery - the patient excreted 3.4 L of urine within the first 16 hrs. Her serum Na normalised within the first few days and she was transferred back to the psychiatric hospital on the 7th day

107	Beresford 1970	USA	Case report 2	1	61	M	Patient had a history of depression, mild hypertension, atrial fibrillation, mild congestive heart failure and weakness in both legs due to a cervical spine injury. He presented to hospital multiple times complaining of fatigue, rapid heart rate, drowsiness etc. and reported that he drank lots of beer, coffee and water when he felt depressed. When nurses observed him drinking copious amounts of water, he stated it was because his "intestinal waters were reversed"	Digoxin, methyldopa, hydrochlorothiazide	Unspecified	Drowsiness, fatigue, confusion, disorientation	Water	"Copious amounts of water"	115	-	Digoxin, low-sodium diet, hydrochlorothiazide, potassium chloride supplements, fluid restriction	-	Recovery - patient was prescribed a low-sodium diet to combat mild congestive heart failure, however his condition improved when salt was reintroduced. He passed 2.5 mL of urine on the 4th day and was alert by the 6th (serum Na had normalised to 138 mmol/L). Hydrochlorothiazide was discontinued and the patient was discharged on the 15th day
108	Goldman et al. 1988	USA	Case-control study	8	43	7 M, 1 F	Patients were recruited from the extended-treatment units of a psychiatric facility. All patients had a history of hyponatraemia. 7 patients had schizophrenia and 1 patient had organic delusional syndrome. A control group of patients without polydipsia, polyuria or hyponatraemia was also selected for comparison. Patients were asked to consume a standard oral water load over 15 minutes and blood and urine samples were collected every 30 minutes for 4 hrs. At the same time, patients were shown a form with different amounts of water and asked how much they wanted to drink. 2 hrs after this procedure, patients were given an infusion of hypertonic saline (3%). Ad libitum fluid intake was measured for 30 minutes after the completion of the infusion. Water intake was shown to be higher in test patients compared to controls	Chlorpromazine, other neuroleptics	Acute - 4 hrs	-	Water	Unspecified	133	-	Hypertonic saline	-	Unspecified
109	Gleadhill et al. 1982	USA	Retrospective case-control study	8	50	1 M, 7 F	A computerised review of records from 1976-1979 was conducted to identify patients who were diagnosed with schizophrenia and had experienced episodes of hyponatraemia. 6 patients were smokers, all drank water excessively and all recovered without any lasting complications. A control group of schizophrenic patients who hadn't experienced hyponatraemia was also selected for comparison. 2 patients believed they were "washing away sins" and "purging their bodies". The others all reported thirst as the reason for their excessive intake	Antipsychotic medication	Unspecified	Obtunded (8), seizures (6), vomiting (6), alterations in sensorium and neurologic function	Water	"Drink water excessively"	115	-	Unspecified	-	Recovery - all patients recovered and were discharged from hospital without any visible lasting complications
110	Shapira et al. 1988	Israel	Case report	1	80	F	Patient was hospitalised in a confused state. She had no previous medical history except for some recent abdominal pains. When preparing for an abdominal ultrasound she was advised to drink plenty of water while fasting on a clear liquid diet. As she previously wasn't able to complete her ultrasound	Unspecified	Acute	Restless, confused, uncooperative	Water	4 L overnight	119	-	Hypertonic saline	-	Recovery - patient improved within 24 hrs and serum Na normalised (138 mmol/L)

							due to inadequate preparation, she made sure to drink around 4 L of boiled water this time around									
111	Basnyat et al. 2000	Nepal	Case report	1	28	F	Patient was trekking with her friend at low altitude in a hot, humid environment in Nepal when she developed a headache, confusion, delirium and seizures. They were attempting to complete a 2-day hike in 1 day. The patient believed that any dizziness experienced while working out could be overcome by drinking plenty of fluids, so continued to "pound water" over 6 hrs and only ate some saltless watery noodle soup. She was seen by a local shaman before her partner helped organise a helicopter rescue to Kathmandu. She had a history of asthma and childhood seizure secondary to a sports injury	Valproate (250 mg), pneumocort (200 mg)	Acute	Headache, fatigue, blurred vision, confusion, delirium, seizures, semi-comatose	Water	10 L/day	122	-	Midazolam, phenytoin, 1500 mL Ringer's lactate, normal saline, cefotaxime (2 g)	-	Recovery - patient woke after 12 hrs and excreted around 2 L of urine while in hospital. She was later flown out of Kathmandu to Singapore where she fully recovered
112	Bhananker et al. 2004	USA	Case report	1	40	F	A previously healthy patient presented to emergency with severe anxiety, diaphoresis, nausea and confusion. 12 hrs earlier she had undergone rhinoplasty and she had a history of generalised anxiety. During the evaluation, the patient often repeated herself and forget how to answer simple questions. The anesthesiologist was contacted and stated that the patient had consumed 4 L of water before surgery and 6 L after to prevent dehydration on advice from a naturopathic physician	Benzodiazepines, alprazolam	Acute - 5 hrs	Anxiety, diaphoresis, nausea, confusion, tremors, fever	Water	10 L over a few hrs	120	-	Fluid restriction, IV infusion 0.9% saline, Foley catheter	-	Recovery - patient's serum Na normalised over 10 hrs (140 mmol/L) and she excreted around 3.7 L of urine. She made a full recovery and was discharged without sequelae
113	Vieweg et al. 1984	USA	Case report 1	1	35	M	Patient had a history of paranoid schizophrenia and had been hospitalised for 14 yrs. He developed hyposthenuria and polydipsia, and suffered from intermittent hyponatraemia throughout the years	Haloperidol	Chronic	Auditory hallucinations, grandiose and persecutory delusions, disturbed thought content and progression, seizures	Water	25 L/day	115	-	Haloperidol, supplemental sodium chloride, fluid restriction	-	Ongoing - patient's serum Na improved to 132 mmol/L with supplemental sodium chloride. Antipsychotic therapy was continued. His schizophrenic symptoms persisted despite treatment
114	Vieweg et al. 1984	USA	Case report 2	1	42	F	Patient had a history of catatonic schizophrenia and had been hospitalised for 21 yrs. She suffered from hyposthenuria, hypotonic bowel and bladder, hydronephrosis and intermittent hyponatraemia and polydipsia	Haloperidol	Chronic	Agitation, mutism, blunted affect, hallucinations, delusions	Water	13 L/day	124	-	Haloperidol, fluid restriction, supplemental sodium chloride	-	Ongoing - patient's serum Na improved to 134 mmol/L with supplemental sodium chloride. Antipsychotic therapy was continued. Her schizophrenic symptoms persisted despite treatment
115	Vieweg et al. 1984	USA	Case report 3	1	46	M	Patient had disorganised schizophrenia and had been hospitalised for 30 yrs. He had hyposthenuria, hypotonic bowel and bladder and intermittent hyponatraemia and polydipsia	Haloperidol, fluphenazine, chloropromazine	Chronic	Hallucinations, delusions	Water	35 L/day	115	-	Fluid restriction, fluphenazine, chlorpromazine, supplemental sodium chloride	-	Ongoing - patient's serum Na improved to 134 mmol/L with supplemental sodium chloride. Antipsychotic therapy was continued. His schizophrenic symptoms persisted despite treatment
116	Vieweg et al. 1984	USA	Case report 4	1	45	M	Patient had undifferentiated schizophrenia and had been hospitalised for 20 yrs. He had hyposthenuria and intermittent hyponatraemia and polydipsia	Haloperidol	Chronic	Withdrawal, inattention, hallucinations, delusions	Water	28 L/day	108	-	Haloperidol, fluid restriction, supplemental sodium chloride	-	Ongoing - patient's serum Na improved to 133 mmol/L with supplemental sodium chloride. Antipsychotic therapy was continued. His schizophrenic symptoms persisted despite treatment
117	DiMaio et al. 1980	USA	Case report	1	54	F	Patient was found dead at home. She had been seen alive 2 hrs prior and her husband stated that she had been released from hospital the day before. Medical records from the hospital	Haloperidol, trihexyphenidyl	Acute	Passing out, possibly seizing, nervous, agitated, confused	Water	"Large quantities of water"	110	115	Hypertonic saline, water restriction	-	Death - after the patient's 1st hospital admission, she recovered and was discharged (135 mmol/L) with a diagnosis of psychogenic polydipsia. An autopsy didn't find anything significant

							revealed that she had been admitted after passing out and that she had a long history of psychosis. Her husband stated that she ran out of her usual medications several days before admission and became increasingly nervous, drinking excessive amounts of water to combat this									
118	Lydakis et al. 2005	Greece	Case report	1	59	M	Patient was a farmer working in an isolated village. He had a history of chronic mild thoracic pain and a CT scan revealed a small lesion at the lower lobe of the right lung. Patient presented to hospital once with epileptic status and was re-evaluated at a clinic 8 months later. When questioned, patient reported that he believed he had cancer and was going to die soon. He also reported high water consumption. Following psychiatric evaluation, the patient was diagnosed with psychotic disorder	Verapamil hydrochloride, NSAIDs	Chronic	Epilepsy, non-bizarre delusions	Water	9-12 L/day	110	-	Hypertonic saline, fluid restriction (1.5 L/day) risperidone, benzodiazepines	-	Death - patient was treated for past hyponatraemic episodes and discharged on psychiatric medications. However, he was non-compliant with medication and rarely attended his medical follow-ups. He committed suicide 1 yr later
119	Pupic-Bakrac et al. 2017	Bosnia & Herzegovina	Case report	1	43	M	Patient presented to emergency with convulsions. He had a history of psychosis and moderate mental retardation and was institutionalised in a facility for adults with special needs. He had a medical background of hypertension and tuberculosis	Antiepileptic therapy, carbamazepine, sodium valproate, haloperidol, promazine, diasepam, biperiden hydrochloride, lisinopril, amoxicillin, antituberculous therapy	Chronic	Convulsions, vomiting, urinary incontinence, disorientated	Water	"Drinking large amounts of water"	98	-	500 mL of 0.9% NaCl solution, water restriction (2 L/day), hypertonic NaCl solution (7.5%), preoral salt intake, urinary catheter, amlodipine, metoprolol, sodium valproate, haloperidol, promazine, diasepam, biperiden hydrochloride	-	Recovery - patient was discharged on the 9th day and medical staff at the facility were instructed to restrict water intake and regularly check serum electrolytes. His neuropsychiatric therapy was modified
120	Mukherjee et al. 2005	UK	Case report	1	52	F	Patient was found unconscious at home. She was previously fit, worked as a property dealer and didn't have any physical or mental health issues. Following an argument with her partner, she was extremely stressed and upset and was observed to self-induce vomiting and drink excessive amounts of water	-	Acute	Aphasic, loss of consciousness, rapid, high tone, slurred speech, expressive and receptive dysphagia, disoriented, excitable	Water	"Drink large quantities of water"	108	-	Benzyl penicillin, cefuroxime, potassium replacement, hypertonic saline, 1000 mL normal saline, venlafaxine, quetiapine	Brain damage	Recovery - patient's serum Na normalised after 36 hrs and she regained consciousness. However, she was transferred to the psychiatry unit and diagnosed with organic behavioural and cognitive impairment. Her mental status improved over time but some cognitive impairment remained
121	Solomon et al. 2019	Israel	Case report 1	1	30	F	A pregnant patient presented at 41 weeks in labour. She was confused and disoriented upon admission and had reportedly been drinking vast amounts of water to help cope with contractions	Unspecified	Acute	Disoriented, confused, apathetic	Water	"Vast amounts"	118	-	Fluid restriction, normal saline (0.9% sodium chloride), cessation of epidural anaesthesia	-	Recovery - patient's neurological status improved after 2 hrs and she gave birth to an asymptomatic baby with serum Na of 122 mmol/L. Following delivery she was treated exclusively with water restriction and her serum Na normalised within 48 hrs
122	Solomon et al. 2019	Israel	Case report 2	1	30	F	A pregnant patient presented with ruptured membranes at 40 weeks. She gave birth to a baby with signs of lethargy and serum Na of 121 mmol/L. The patient reported excessive drinking during contractions	-	Acute	Unspecified	Water	"Excessive drinking"	120	-	Fluid restriction	-	Recovery - patient's serum Na normalised after 12 hrs
123	Vishwaje et et al. 2005	India	Case report	1	77	M	Patient presented to hospital with lower urinary tract symptoms. He was advised to undergo a uroflowmetry and drink plenty of fluids beforehand to ensure a full bladder. 2 hrs	Unspecified	Acute - 2 hrs	Altered sensorium, weakness, seizure	Fluids (mainly water)	6 L over 4 hrs	119	-	Fluid restriction, diuretics, IV hypertonic saline	-	Recovery - patient's serum Na normalised after 24 hrs (138 mmol/L) and he was subsequently discharged

							after the test, the patient had a seizure and was taken to emergency									
124	Goldman et al. 1985	USA	Retrospective cohort study	8	46	7 M, 1 F	Patients were all psychiatric inpatients with a history of chronic undifferentiated schizophrenia. They all had a history of seizures and unexplained syncopal episodes	Neuroleptics, anticholinergic medications	Unspecified	Seizures, syncopal episodes	Water	"Compulsive water drinkers"	127	-	Salt tablets, fluid restriction, demeclocycline	-	Ongoing - salt tablets and fluid restriction had both failed in reducing episodes of hyponatraemia. However, demeclocycline helped to reduce the frequency and severity of hyponatraemic episodes
125	Chen et al. 2014	Taiwan	Case report	1	80	F	Patient presented to emergency 14 times with vertigo and hyponatraemia. She developed water intoxication after developing xerostomia and polydipsia. She had a medical background which included type II diabetes and hypertension. She reported experiencing vertigo with oscillopsia, nausea and vomiting after she consumed 4 L of water over several hrs	Acarbose, glimepiride, valsartan	Acute	Vertigo, oscillopsia, nausea, vomiting	Water	4 L over several hrs	120	-	Water diary, add teaspoon of salt to a 600 mL bottle of sport drink/day, 3% IV saline bolus	-	Death - 2 yrs following her 14th hospital admission she died from pneumonia. During those 2 yrs she didn't experience any further episodes of vertigo or water intoxication
126	Yonemura et al. 1987	Japan	Case report	1	26	M	Patient had a history of mental retardation and was transferred to hospital with hyponatraemia. He drank 10-15 L of water for several days. After a fight with a friend, he drank a large amount of water and experienced symptoms a few hrs later	-	Acute - hrs	Headache, vomiting, somnolent, grand mal seizure	Water	10-15 L/day	117	-	Water restriction	-	Ongoing - patient excreted 5.5 L of urine within the first 10 hrs. His serum Na normalised after 34 hrs (143 mmol/L). As water restriction would be difficult following discharge due to his mental retardation, he was hospitalised for 3 months. During these 3 months he experienced another 3 hyponatraemic episodes
127	Nolte et al. 2019	South Africa	Case report	1	26	M	Patient was a soldier who completed a route-march as part of a selection preparation program. Ad libitum drinking along the march was allowed. He completed the march in 8 hrs and 38 minutes	Unspecified	Asymptomatic	Asymptomatic	Water	800 mL/hr	134	-	Unspecified	-	Unspecified
128	Farrell et al. 2003	UK	Case report	1	64	F	Patient had a history of mitral valve disease. The night before her death, she drank vast amounts of water (30-40 glasses) and began vomiting. She was hysterical and distressed and shouted that she hadn't drunk enough water. She refused medical help and continued drinking after she had gone to bed. She died sometime later	Unspecified	Acute - hrs	Vomiting, hysteria, distress	Water	30-40 glasses	-	92	-	-	Death - autopsy revealed frothy pink fluid exuding from the lungs and 800 mL of watery fluid within the stomach
129	Losonczy et al. 2016	USA	Case report	1	41	F	Patient had a history of recurrent urinary tract infections and presented to emergency with nausea, dizziness, anxiety, and 2 hrs of dysuria similar to her previous UTIs. She reported that she drank 4-5 L of water over several hrs after she developed dysuria as a form of self-treatment	Unspecified	Acute - 2 hrs	Nausea, dizziness, anxiety, dysuria, tonic-clonic seizure, diaphoretic, combative, cerebral oedema	Water	4-5 L over several hrs	114	-	100 mL of 3% hypertonic saline, intubation, furosemide (20 mg)	Neurogenic stunned myocardium	Recovery - patient became dyspneic and hypoxic after initial treatment and developed crackles througout lung fields on auscultation. However, after intubation and furosemide, her serum Na slowly normalised over 2 days
130	Sarvesvaran 1984	UK	Case report	1	40	F	Patient drank water from a cup containing bleach which had been left there by her brother for cleaning. After she realised what had happened, she phoned her local hospital and was told to drink plenty of water. She then developed vomiting and phoned a poisons unit where she was given the same advice. She was later transported to hospital after her brother found her in a confused state	Unspecified	Acute - 2 hrs	Vomiting, confusion, talking gibberish, seizure, semi-consciousness, pulmonary and cerebral oedema	Water	"Plenty of water"	111	-	Unspecified	-	Death - patient was pronounced brain dead a few days after admission. Autopsy revealed cerebral anoxia with terminal hypostatic bronchopneumonia

131	Cicognani et al. 2013	Italy	Case report	1	51	F	Patient was referred to emergency in a coma following 2 seizures. She had a history of type I diabetes and psychogenic polydipsia	Low dose citalopram	Unspecified	Postictal coma, tonic-clonic seizures	Water	"Compulsive water drinking"	112	-	Water restriction (< 1.5 L/day)	-	Recovery - no further symptoms occurred after her seizures resolved
132	Hanihara et al. 1997	Japan	Case report 1	1	58	M	Patient had a history of undifferentiated schizophrenia and 20-yr polydipsia. His 1st episode of hyponatraemia led to a seizure and loss of consciousness. Several more episodes occurred over the years. He fractured his left femoral bone at 55 and became wheelchair-bound which prevented his excessive water intake	Neuroleptics	Chronic	Seizure, loss of consciousness, lethargy	Water	"Excessive water intake"	114	-	Elemental diet, fluid restriction (1800 mL/day), demeclocycline (600 mg/day)	-	Ongoing - patient remained unconscious for over 1 month, during which time his hyponatraemia persisted
133	Hanihara et al. 1997	Japan	Case report 2	1	52	M	Patient had a history of undifferentiated schizophrenia and mild polydipsia. He frequently experienced ataxic gait and cognitive impairment	Unspecified	Chronic	Agitated, nocturnal incontinence, ataxic gait, cognitive impairment	Water	"Compulsive water drinking"	131	-	Water restriction	-	Recovery - patient remained free of any symptoms or hyponatraemic episodes despite still being moderately polydipsic
134	Hanihara et al. 1997	Japan	Case report 3	1	52	M	Patient had a history of disorganised schizophrenia and polydipsia. He had experienced various episodes of hyponatraemia throughout the years	Unspecified	Chronic	Agitated	Water	"Compulsive water drinking"	118	-	Water restriction	-	Ongoing - fluid restriction normalised his serum Na values, however he still experienced intermittent episodes of hyponatraemia
135	Santonastaso et al. 1998	Italy	Case report	1	26	F	Patient had a 13-yr history of anorexia nervosa. She was 1st hospitalised after her weight dropped to 27 kg but she discharged herself against advice after 1 month. A few months later compulsory treatment was given through an NG tube for 3 months. Patient began to slowly eat voluntarily. She was discharged after she made considerable improvement with the agreement to have periodic visits. During a 1 month visit she complained of a headache, vomiting and seizures and was hospitalised again. She later reported that she had begun to drink compulsively to maintain her target weight	Haloperidol	Chronic	Headache, vomiting, seizures	Water	6 L/day	113	-	Hyperosmolar infusions and forced hyperdiuresis	-	Ongoing - patient continued to drink compulsively despite knowing the risks. She refused other medical control. 3 yrs later her parents reported that she remained anorexic
136	Ramirez et al. 1993	USA	Letter/case report	1	58	M	Patient was admitted various times for hyponatraemia due to excessive water consumption in an attempt to stop chronic hiccups. He was admitted 7 times in 9 months before he began gamma-aminobutyric acid analog baclofen therapy. This helped to reduce his compulsive water drinking until he discontinued therapy. He subsequently began therapy again and remained well after	Unspecified	Unspecified	Unspecified	Water	2-3 gallons/day	111	-	Gamma-aminobutyric acid analog baclofen therapy (20 mg orally 4 times daily)	-	Recovery - patient's compulsive water drinking behaviours reduced with therapy and the frequency of his hiccups also decreased
137	Kott et al. 1985	Israel	Case report	1	21	F	Patient was a university student who presented to emergency with confusion and bizzare behaviour. She reacted to other people speaking by staring and screaming incoherent words. Her mother reported that she had drunk 30 glasses of water to prepare for an ultrasound examination for an ovarian cyst. She believed that the more she	Unspecified	Acute - hrs	Confused, agitated, non-communicative, headache, nausea, vomiting, restlessness, tingling in limbs, loss of consciousness	Water	30 glasses, one after the other	127	-	Urinary catheter, resuscitation, 300 mL NaCl 5% IV, 100 mL mannitol 20%, IV dexamethasone	-	Recovery - patient's serum Na normalised after she had a large diuresis in the first 24 hrs. She regained consciousness and was discharged after 4 days with no neurological deficits

							drank, the more precise the test would be										
138	Zilles et al. 2010	Germany	Case report	1	26	F	Patient had a history of schizophrenia and frequently experienced anxiety and delusions, believing that something bad would happen to herself or her friends and family. After 3 days of inpatient treatment, she experienced increased psychomotor agitation. The patient reported that she had drunk 6 half-litre bottles of mineral water within 30 minutes to help with agitation and nerves	Quetiapine (100 mg/day), lorazepam	Acute - hrs	Agitation, enuresis, encopresis, vomiting, reduced vigilance	Mineral water	6 half-litre bottles within 30 minutes (3 L)	112	-	Quetiapine (700 mg), olanzapine	-	Recovery - patient's electrolyte abnormalities were corrected. Antipsychotic therapy was continued with quetiapine for 3 weeks before being switched to olanzapine due to lack of efficacy
139	Tenyi et al. 2006	Hungary	Case report	1	46	M	Patient had a history of paranoid schizophrenia and had been on clozapine treatment for 4-yrs before admission to hospital with seizures and vomiting. Nurses reported that he had displayed compulsive drinking for a few days before admission	Clozapine	Chronic - several days	Seizure, vomiting, mild muscle pain, asthenia	Water	"Compulsive drinking"	113	-	Hyperosmolar sodium solution, olanzapine	Rhabdomyolysis	Recovery - hyperosmolar sodium solution was administered and the patient's serum Na normalised the next day (140 mmol/L). Clozapine was discontinued and olanzapine started on days 11 and 12. The patient was eventually discharged on day 35 with no further recurrence of rhabdomyolysis
140	Mor et al. 1987	Israel	Case report	1	64	F	Patient was admitted with stupor and polyuria. She had a history of labile hypertension, hysterectomy and bilateral cataract. She was previously hospitalised in a psychiatric institution due to delusions, anorexia and insomnia, and was subsequently diagnosed with depression with psychotic features. She responded well to neuroleptic therapy, but was readmitted 7-yrs later with delusions and a 20 kg weight gain due to excessive eating. On the day of admission, she was found by her neighbour in a stupor. She later revealed that she had drunk excessive amounts of water the day before admission after feeling unusually thirsty	Neuroleptics, levomepromazine (25 mg), oxazepam (10 mg daily)	Acute - 1 day	Stupor, polyuria	Water	"Excessive drinking of water"	119	-	Urinary catheter	-	Recovery - patient excreted 1.9 L of clear, hypotonic urine after urinary catheter was inserted. She regained consciousness after excreting 6780 mL of urine within the 1st day of hospitalisation. After correction of serum Na, she was transferred to a psychiatric hospital for further treatment of psychotic symptoms
141	Johansson et al. 2002	Sweden	Case report 1	1	33	F	Patient was a healthy 33-yr old woman expecting her first child. She had a normal pregnancy, but 9 hrs after admission began to vomit and became somnolent. A caesarean was performed, during which she had seizures. She later reported drinking several litres of water and fruit juice over 9hrs	Unspecified	Acute - 9 hrs	Somnolent, vomiting, seizures	Water and fruit juice	Several litres over 9 hrs	115	-	Unspecified	-	Unspecified
142	Johansson et al. 2002	Sweden	Case report 2	1	30	F	Patient was a healthy woman who had a normal delivery at 40 weeks. IV infusion of oxytocin was started 5 hrs before delivery due to weak contractions	Oxytocin (300 mL)	Asymptomatic	Asymptomatic	Water	> 8 L in 23 hrs	129	-	Unspecified	-	Unspecified
143	Goldman et al. 1994	USA	Cohort study	4	34	M	4 inpatients with chronic undifferentiated schizophrenia and recent hyponatraemia were given unlimited water for 1 week, Gatorade plus water for 3 weeks and then water again for 1 week to test the effect of electrolyte-containing beverages on water imbalance. All patients consumed a large amount of	Chlorpromazine (4), lithium (1), clonazepam (1)	Asymptomatic	Asymptomatic	Gatorade, water	4.9 L/day	132	-	Electrolyte-containing beverages	-	Ongoing - patients didn't appear to benefit from the electrolyte-containing beverages as serum Na remained the same

							gatorade and stated that they preferred it to water										
144	Raskind 1974	USA	Case report	1	56	F	Patient was admitted to hospital following the ingestion of 6 glutethimide tablets in an apparent suicide attempt after a fight with her son. She had a history of psychotic depression and schizophrenia and had been hospitalised various times in the past. She had a medical background of moderate hypertension. While in hospital she slept little and spent most of her time in the bathroom or by the water fountain	Hydroflumethiazide, thioridazine, hydrochloride (50 mg)	Acute - hrs	Agitated, irrational, difficulty sleeping, emotionally labile, paranoid, nauseous, urinary urgency, confused, incoherent	Water	"Copious amounts"	111	-	Intubation, ventilation	-	Death - patient's serum Na normalised after 3 days (138 mmol/L). However, her symptoms remained unchanged and she died the following day. Autopy revealed cerebral oedema
145	Musch et al. 2003	Belgium	Prospective uncontrolled study	10	55	Unspecified	Patients all had a history of polydipsia and hyponatraemia. Medical histories included schizophrenia, psychotic disease and alcohol abuse. 4 were compulsive water drinkers and 6 compulsive beer drinkers	Unspecified	Unspecified	Drowsiness, weakness, confusion	Water and beer	> 4 L/day	126	-	2 L isotonic saline over 24 hrs	-	Recovery - patients' serum Na improved to 135 mmol/L after 24 hrs of isotonic saline
146	Mercier-Guidez 1998	France	Letter/case report	1	43	M	Patient had a 16-yr history of psychogenic polydipsia and drank up to 13 L of fluids/day. He had a history of disorganised schizophrenia and had been hospitalised various times throughout the years. He was a heavy smoker	Neuroleptics	Chronic	Coma, vomiting, tremors, confusion, agitation, seizures, neuroleptic malignant syndrome, drowsiness, emotional lability, delirium	Fluids	13 L/day	110	-	Ventilation, behavioural treatment, fluid restriction	-	Recovery - behavioural treatment and fluid restriction over 6 months resulted in a significant reduction in symptoms
147	Gopal et al. 2000	USA	Case report	1	58	F	Patient presented to her physician's office after 1 week of vaginal spotting. She was referred for a pelvic ultrasound examination. She had a history of hypertension, chronic constipation, self-induced vomiting for weight loss and smoking. She reported checking the locks on her doors multiple times a day but never sought medical care for obsessive and compulsive tendencies. Before her procedure she was advised to drink several litres of water. During an initial scan, the radiology technician noted that her bladder was not distended fully so encouraged her to drink more water. After consuming 3 more litres of water within an hr, she developed symptoms of hyponatraemia	Nisoldipine (30 mg once daily), vitamin E (400 IU daily), multivitamin tablet (once daily), phenolphthalein (1 square every 2 to 3 days as needed)	Acute - hrs	Drowsy, disoriented, nausea, vomiting, grand mal tonic-clonic seizures	Water	Several litres + 3 more litres within 1 hr	118	-	Promethazine (25 mg), 0.9% saline, IV diazepam, oxygen, water restriction	-	Recovery - the patient's serum Na normalised and she was discharged on the 5th hospital day. She received outpatient care for a year and remained symptom-free
148	Moshiri et al. 2014	USA	Case report	1	81	F	Patient had a history of COPD, hypertension, anxiety disorder, constipation, anorexia, weight loss, fatigue and non-pruritic maculo-papular rash. After her physician mentioned the benefits of water intake, she began ingesting large amounts	Amlodipine, valsartan, hydrochlorothiazide, bronchodilators, quetiapine, clonazepam	Unspecified	Unspecified	Water	"Excessive water intake"	122	-	Fluid restriction, discontinuation of hydrochlorothiazide, hydroxychloroquine (for lupus)	-	Recovery - patient's serum Na improved after discontinuation of hydrochlorothiazide and fluid restriction
149	Lightenberg et al. 1998	Netherlands	Letter/case report	1	34	F	A previously healthy patient was admitted due to loss of consciousness after 1 day of anxiety and hallucinations. She had been compulsively drinking for several hrs	-	Acute - hrs	Anxiety, hallucinations, loss of consciousness, bilateral lung oedema, cerebellar herniation	Water	> 6 L over several hrs	114	-	Mannitol	-	Death - mannitol did not improve the patient's neurological state and she was confirmed to be brain dead 8 hrs after admission. Autopsy revealed cerebral oedema, cerebellar herniation and edema in both lungs
150	Gardner 2002	USA	Case report 1	1	18	M	A previously healthy soldier drank 8 quarts of water over a few hrs on a hot day and subsequently developed	-	Acute - hrs	Vomiting, dizziness, headache, nausea, confusion, lethargy, loss of consciousness, diffuse	Water	20 quarts over several hrs	121	-	Unspecified	-	Death - patient died from diffuse cerebral and brainstem oedema

							symptoms of hyponatraemia which were mistakenly attributed to dehyration. He then drank up to 10 quarts more water over the next 2 hrs and died from cerebral and brainstem edema			cerebral and brainstem oedema						
151	Gardner 2002	USA	Case report 2	1	20	M	Patient was a Marine Corps recruit who presented to a field aid station on a hot day after 9 hrs of hiking with an 18 kg pack and maneuvering obstacle courses. He had a cough and experienced a generalised seizure. He reported drinking at least 6 canteens of water over 2-3 hrs	Unspecified	Acute - 2-3 hrs	Cough, seizure	Water	6 canteens over 2-3 hrs	113	-	Unspecified	-	Recovery - patient excreted around 6.5 L of urine over 14 hrs and was discharged after 5 days in hospital
152	Gardner 2002	USA	Case report 3	1	19	M	A Marine died from cerebral oedema after a 26-mile march. He completed the 8-hr march carrying a pack weighing more than 90 pounds. Towards the end of the march he began vomiting and developed altered mental status. He was reported to have drunk at least 1 gallon of water the night before the march	Unspecified	Acute - overnight	Altered mental status, confusion, acidosis, lethargy, vomiting, fatigue, coma, cerebral oedema	Water	1 gallon over an evening	128	-	Unspecified	Rhabdomyolysis	Death - patient's lethargy progressed to coma and he was declared brain dead the next day due to cerebral oedema
153	Kipps et al. 2011	UK	Cross-sectional study	11	37	4 M, 7 F	Runners in the London Marathon were recruited at race registration to participate in a study investigating the effects of water intake on development of exercise-associated hyponatraemia. The 11 runners who developed asymptomatic hyponatraemia were assessed for fluid intake volume and compared against the runners who didn't develop hyponatraemia	Unspecified	Asymptomatic	Asymptomatic	Water and sports drinks	3.7 L or 843 mL/hr	132	-	Unspecified	-	Unspecified
154	Tilley et al. 2011	USA	Case report	1	37	M	A previously healthy Air Force soldier had a history of obstructive sleep apnea. He was instructed to report for a urine drug screen test where he needed to produce urine under direct visual observation. After a 1st unsuccessful attempt, the patient drank over 14 L of water within 3 hrs. He developed hyponatraemia and was quickly taken to hospital	Modafinil	Acute - 3 hrs	Abdominal pain, confusion, restless, inarticulate, seizure	Water	14 L in 3 hrs	122	-	IV normal saline, lorazepam, Foley catheter	-	Recovery - patient excreted 4.5 L of urine within 90 minutes of admission and his serum Na increased considerably. His serum Na eventually normalised (139 mmol/L) and he was discharged the following afternoon
155	Hariprasad et al. 1980	USA	Cohort study	16	50	M	Patients were all hospitalised with a history of hyponatraemia. Some had schizophrenia and some had organic brain syndrome. Patients all engaged in compulsive drinking behaviours with varying levels of severity. Patients drank from various sources (e.g. showers, toilets, water fountains)	Antipsychotic drugs	Unspecified	Headache, lethargy, coma, recurrent seizures	Fluids	7-43 L/day	111	-	Water restriction, 5% IV NaCl (1)	-	Recovery - patients responded well to infusions of hypertonic saline (3% to 5%)
156	Noakes et al. 2004	South Africa	Case report	1	34	M	Patient was an experienced ultramarathon runner who competed in his 1st Ironman triathlon. Before the race, he agreed to participate in a study investigating the effects of sodium supplementation during prolonged exercise and was given starch-containing tablets to take (4-8/hr). He finished the	Unspecified	Acute - 12 hrs	Mildly confused, swollen face, oedema in hands, difficulty concentrating, sleepy	Water, coca cola and sports drinks	750 mL/hr while cycling + "drink as much as possible" afterwards	127	-	Fluid restriction, 16 NaCl tablets, furosemide (50 mg)	-	Recovery - patient passed 4.1 L of urine overnight at the hospital and was discharged the following day with normal serum Na (136 mmol/L)

							race in 12 hrs but became mildly confused and sleepy. He had visible edema in his hands									
157	Oh et al. 2018	USA	Case report 1	1	31	F	Patient was a soldier conducting a 12-mile timed foot march. She carried 35 lbs on her back and began to feel dizzy at mile 6. She collapsed and later reported having drunk around 4.5 quarts of water in 2 hrs	Unspecified	Acute - 2 hrs	Dizzy, collapsed	Water	4.5 quarts over 2 hrs	129	-	2.5 L of 0.9% normal saline	-	Recovery - patient's serum Na normalised to 136 mmol/L and she was subsequently discharged
158	Oh et al. 2018	USA	Case report 2	1	27	F	Patient was a soldier who presented to emergency after collapsing during a 12-mile timed foot march. She reported drinking "a lot" over the 2.5 hrs	Unspecified	Acute - 2.5 hrs	Collapsed	Water	5 quarts over 2.5 hrs	131	-	0.9% normal saline infusion	-	Recovery - patient excreted a significant amount of urine and was discharged back to her unit
159	Oh et al. 2018	USA	Case report 3	1	27	M	Patient was a soldier who presented to emergency for weakness and dizziness. He had been conducting an outdoor training event and reported drinking 6 quarts of water in 2 hrs	Unspecified	Acute - 2 hrs	Weakness, dizziness, nausea, vomiting	Water	6 quarts in 2 hrs	125	-	0.9% normal saline bolus, fluid restriction, oral hypertonic broth (120 mL oral solution of 3% hypertonic saline)	-	Recovery - patient tolerated treatment well and had a large volume diuresis. His serum Na normalised within 8 hrs and he was discharged after an overnight stay (140 mmol/L)
160	Tanneau et al. 1993	France	Retrospective case-control study	72	65	31 M, 41 F	Medical records of elderly and younger patients who were hospitalised with hyponatraemia at 4 different medical units were reviewed. Patients had a history of meningitis, carcinoma, pulmonary disease, head trauma and psychogenic polydipsia. Psychogenic polydipsia was the most common cause of hyponatraemia in the younger patients, while thiazide diuretics played a role in development of hyponatraemia in the older patients	Thiazide diuretics, spironolactone, amiloride	Unspecified	Weakness, anorexia, nausea, vomiting, confusion, disorientation, drowsiness, agitation, psychosis, headaches, vertigo, ataxia, tremor	Water	"Compulsive drinking"	110	-	Hypertonic saline, isotonic saline, fluid restriction	Brain damage (3)	Recovery + death - most patients recovered after treatment, but 11 patients died due to underlying diseases (e.g. stroke, pneumonia, COPD). 7 of the patients who died were of the older patient group and 4 of the younger
161	Madero et al. 2015	Mexico	Case report	1	57	F	Patient was a previously healthy flight attendant with a history of essential hypertension. During a flight from London to Mexico City, she drank excessive amounts of water like she had on previous flights. However, she developed a headache and nausea, and upon arrival to Mexico City was transferred to a hospital where she suffered a seizure	Angiotensin converting enzyme inhibitor (ACE), thiazide diuretic	Acute - hrs	Headache, nausea, disorientation, tonic clonic seizure, cerebral oedema	Water	"Significant amount of water"	116	-	Intubation, diazepam, vasopressors, 3% hypertonic saline	-	Recovery - patient's serum Na increased to 135 mmol/L within 12 hrs after she excreted a significant amount of urine. She was discharged after 5 days, and when contacted 2 months later, she reported no clinical abnormalities
162	Rosenbaum et al. 1979	USA	Case report 1	1	48	M	Patient was a married school teacher who was taken to hospital by police after he claimed to be trying to reach the CIA and Food and Drug Administration because "doctors were trying to kill him" and had given him "poisoned pills" that would lead to "death by dehydration". Patient was a heavy smoker (3 packs/day) and had been drinking excessive amounts of alcohol for several months. Because of his delusional beliefs, he had also begun to drink excessive amounts of water	Unspecified	Unspecified	Bizarre behaviour, vomiting, paranoid, delusional, confused	Water	"Compulsively ingest large quantities of water"	115	-	Water restriction, IV normal saline, trifluoperazine (40 mg)	-	Recovery - patient's serum Na normalised after 48 hrs (139 mmol/L). He was diagnosed with psychotic depression and transferred for treatment of his psychiatric illness. With treatment, his psychosis resolved
163	Rosenbaum et al. 1979	USA	Case report 2	1	35	M	Patient was brought to emergency by ambulance with convulsions. He had 2 grand mal seizures upon arrival. He had a history of hospitalisations for chronic paranoid schizophrenia	Psychotropic medications	Acute - hrs	Grand mal seizures	Water, orange and grapefruit	20 glasses of water + orange and grapefruit juice and milk	116	-	Phenobarbital, phenytoin, IV normal saline, water restriction	-	Recovery - patient's serum Na normalised after 2 days. He was then transferred to a psychiatric hospital for treatment

							and had stopped antipsychotic medication at the time of admission. His mother reported that the afternoon prior to admission he had gotten up every 5 minutes to drink "water, orange and grapefruit juice, milk... like nothing I'd ever seen before". His father found a bottle of "Old English" furniture polish in his room, opened and missing 1 inch of volume				juice, milk						
164	Rosenbaum et al. 1979	USA	Case report 3	1	21	F	Patient presented to emergency following a grand mal seizure. She had a history of hospitalisations for chronic schizophrenia, psychosis and self-destructive behaviour. She was diagnosed with psychogenic polydipsia. After successful treatment the 1st time around, she presented again 19 days later with another episode of hyponatraemia. This was also successfully treated. However, when she was given unrestricted access to cigarettes, her ability to dilute her urine was diminished. Thus, she was diagnosed with mild SIADH from nicotine	Thioridazine (300 mg/day)	Acute	Grand mal seizure, coma	Water	"Drinking from the shower heads"	100, then 117	-	Normal saline, water restriction, haloperidol (20 mg/day)	-	Recovery - patient's serum Na normalised and she was discharged back to her normal state hospital
165	Garigan et al. 1999	USA	Case report	1	18	M	Patient was a soldier in his 4th week of Army basic training. He was previously healthy. He drank 1 quart of water (1 canteen) upon waking, another after training and 1 more before arriving at the rifle range. During rifle training he sweated profusely so drank another 2 quarts. By mid morning he was complaining of thirst and drank 3 more quarts. When he developed symptoms of hyponatraemia, they were mistaken for dehydration and was instructed to drink another 2 quarts in the shade. He urinated only once upon arriving at training. When his symptoms didn't improve, he was encouraged to drink another 10 quarts during the next 90 minutes. He was eventually taken to hospital with acute respiratory distress where he suffered cardiac arrest. He was diagnosed with diabetes insipidus while in hospital	-	Acute - hrs	Dizziness, throbbing headache, nausea, pale, thirsty, vomiting, coma, respiratory distress, confused, lethargic, frothy sputum, pulmonary oedema	Water	20 quarts over 4 hrs	115	-	IV normal saline, intubation, IV phenytoin, mannitol	Sepsis, disseminated intravascular coagulation	Death - although serum Na normalised and patient diuresed a significant amount of urine, he remained comatose. He suffered a cardiac arrest several days after admission to hospital. Autopsy revealed diffuse cerebral and brainstem oedema without myelinolysis and focal autolysis versus infarction of the adenohypophysis
166	Sjoblom et al. 1997	Sweden	Case report	1	27	F	A previously healthy mother was brought to emergency unconscious with seizures. The day before, her 1-yr old son had gotten sick with diarrhoea. She began experiencing symptoms too and spent most of the day vomiting and experiencing diarrhoea. Her husband recommended that she drink lots of water and she took his advice by drinking directly from the tap during the next 3-4 hrs. She was taken to hospital after her	Unspecified	Acute - hrs	Vomiting, seizure, exhaustion, unresponsiveness, loss of consciousness, cerebral edema	Water	Drank directly from the tap for 3-4 hrs	106	-	IV diazepam (10 mg), intubation, mechanical ventilation, hypertonic saline infusion, isotonic saline with potassium, furosemide (20 mg), betamethasone (8 mg)	-	Death - patient remained unconscious and was diagnosed as brain dead. Autopsy revealed pronounced cerebral oedema with cerebellar herniation

							husband found her exhausted and semi-unresponsive									
167	Ellinas et al. 1993	USA	Retrospective cohort study	15	42	9 M, 6 F	Medical records of patients who had been hospitalised with hyponatraemia from 1986 to 1989 at a hospital in New York were reviewed. All patients had a history of polydipsia and were heavy smokers. 13 had chronic schizophrenia, 1 had bipolar depression with psychotic features, and 1 had no psychiatric history but was a chronic alcoholic	Chlorpromazine, fluphenazine, thioridazine, thiothixene, perphenazine, trifluoperazine, loxapine, haloperidol, chlorpropamide, tolazamide, nonsteroidal anti-inflammatory drug	Unspecified	Grand mal seizures (14), tonic-clonic seizures (10), bizarre behaviour, change in mental status, lethargy, respiratory failure, status epilepticus	Water	"Compulsive water drinking"	115	-	Fluid restriction, 3% normal saline infusion (5)	-	Recovery + death - 14 patients recovered with treatment and were discharged, however, 1 patient died on the day of admission. This patient was the only nonpsychiatric patient and presented due to a 3-day alcohol binge in a diabetic hyperosmolar state
168	Cosgray et al. 1990	USA	Case report	1	41	M	Patient was admitted to a psychiatric facility with symptoms of mental impairment. Several weeks after admission he began to exhibit urinary incontinence and withdrawal. Staff members observed the patient making frequent trips to the water fountain. He eventually suffered a grand mal seizure and was transferred to hospital for treatment	Unspecified	Chronic	Grand mal seizure, withdrawal, confusion, slurred speech	Water	"Frequent trips to the water fountain"	103	-	IV diazepam, normal saline with potassium supplement	-	Recovery - patient made a steady recovery and was discharged
169	Rao et al. 2011	India	Case report	1	38	F	Patient had an 8-yr history of paranoid schizophrenia. She discontinued her medication 6 months earlier and her symptoms exacerbated. She also began to drink water excessively	Antipsychotics	Chronic	Delusions, auditory hallucinations, social withdrawal, decreased sleep and appetite	Water	8 L/day	123	-	Risperidone (6 mg/day), trihexyphenidyl (2 mg/day), fluid restriction	-	Recovery - after 6 weeks, the patient's symptoms improved. Her water intake decreased to 2 L/day and her serum Na normalised (138 mmol/L)
170	Radojevic et al. 2012	Montenegro	Case report 1	1	38	M	Patient had a history of schizophrenia and occasionally engaged in the excessive intake of water. He was found dead in his apartment next to the sink, with the tap still running	Unspecified	Unspecified	Brain and lung oedema	Water	"Intake of copious amounts of water"	-	112	-	-	Death - patient was found dead in his apartment next to the sink. Autopsy revealed general congestion, brain and lung oedema and 1000 mL of urine in the bladder
171	Radojevic et al. 2012	Montenegro	Case report 2	1	40	M	Patient had a 14-yr history of schizophrenia and began experiencing polydipsia 1-yr prior to his death. He was frequently seen drinking an excessive amount of water by staff who provided psychiatric treatment. He died 4 hrs after admission to hospital with disturbance of consciousness	Neuroleptic (nosinan)	Acute - hrs	Vomiting, nausea, pale, unable to speak, disturbance of consciousness, urinary incontinence	Water	"Continuous drinking of extremely large quantities of water"	98	-	Resuscitation	-	Death - patient died 4 hrs after hospital admission despite therapeutic and resuscitating measures. Autopsy revealed oedematous brain (1370 g) and lungs (800 and 850 g), a heart weighing 420 g and extremely dilated stomach with 1400 ccm of brownish fluid. Other organs also showed congestion and interstitial oedema
172	McDaniel et al. 2010	USA	Case report 1	1	30	M	Patient had a history of schizoaffective disorder and cocaine dependence. He presented twice within 2 weeks with exacerbations of psychosis due to discontinuation of his medications. During his hospitalisation, he would take paper clips from the nursing station and swallow them. He also worked a steel bracket and screw loose from the wall and swallowed them. X-rays revealed cap and wires used to secure cork stoppers and other pieces of unidentified metal in his stomach. A high-fibre diet	Divalproex (1500 mg/day), risperidone (4 mg), cocaine	Acute - 26 hrs	Euphoria, rapid speech, mute immobility	Water	17 cups/day	124	-	Lorazepam (2 mg 3-4 times daily), divalproex, risperidone, demeclocycline, fluid restriction	-	Recovery - patient's psychotic symptoms resolved with treatment and excessive water drinking behaviours also stopped

							helped the patient to pass these objects in his stool										
173	McDaniel et al. 2010	USA	Case report 2	1	58	F	Patient had a history of bipolar disorder and alcoholism. She had been hospitalised several times in the past with paranoid delusions and auditory hallucinations	Divalproex, lorazepam	Unspecified	Catatonic, agitated, meaningless activity	Water	"Excessive drinking"	122	-	Fluid restriction, demeclocycline (300 mg), valproic acid (1500 mg/day)	-	Recovery - patient's symptoms and polydipsia were successfully treated
174	McDaniel et al. 2010	USA	Case report 3	1	54	F	Patient had a 30-yr history of bipolar disorder with several episodes of mania and psychosis. She had been stable on lithium for 25 yrs. However, any attempts to withdraw fluoxetine resulted in relapsing depression. She had also been drinking excessive amounts of water for 25 yrs and was diagnosed with psychogenic polydipsia. During a recent episode, she demonstrated odd mannerisms such as saluting people and beginning and ending conversations with a "hearty handshake" which she verbalised	Lithium (900 mg/day), fluphenazine (5 mg/day), fluoxetine (60 mg/day), lorazepam (1 mg 3 times daily)	Unspecified	Depressed mood, hallucinations, paranoid delusions, motor excitement followed by muteness and staring	Fluids	"Increased fluid intake"	123	-	Resuming regular doses of lithium, increasing lorazepam dose, fluid restriction	-	Recovery - patient's symptoms resolved after resuming her regular doses of lithium (she had missed a few doses) and increasing doses of lorazepam. She continued her fluid restriction by buying a 1 L bottle that she filled once a day
175	Chen et al. 2006	China	Case report	1	54	F	Patient was admitted with vomiting, seizures and bizarre behaviour. Her family reported that she had consumed 6 L of water in preparation for a colonoscopy. The colonoscopy revealed narrow stools and unexplained anaemia	Unspecified	Acute	Vomiting, headache, bizarre behaviour, seizure	Water	6 L	118	-	Furosemide (60 mg), 3% hypertonic saline infusion, mannitol, bicarbonate	Rhabdomyolysis	Recovery - patient regained consciousness and serum Na increased. 10 L of IV fluid were given over 3 days until she recovered
176	Iwazu et al. 2007	Japan	Case report	1	66	F	Patient was admitted due to vomiting and loss of appetite. She had a cold 2 days prior to admission which developed into acute viral bronchitis. She had a history of hyperlipidaemia and hypertension, and had been taking various cold medications. She drank a large amount of water to ease throat inflammation	Salicylamide (270 mg), acetaminophen (150 mg), promethazine methylenedisalicylate (13.5 mg)	Unspecified	Nausea, vomiting, headache, coma, seizures	Water and Japanese tea	6 L/day	123	-	IV Ringer's lactate solution, IV diazepam, IV phenytoin, azulene gargling	Rhabdomyolysis	Recovery - patient regained consciousness after IV infusion. She began drinking large amounts of water to ease throat inflammation which caused her serum Na to drop again. After she started azulene gargling for throat discomfort, her water intake reduced and serum Na normalised
177	Speedy et al 2000	New Zealand	Case reports	2	35	F	2 female ultradistance thiathletes participated in a study investigating electrolyte changes in the Ironman triathlon. They both drank excessive volumes of fluid and developed mild hyponatraemia as a result	Unspecified	Acute	Lightheadedness, swollen body, tight skin	Water, Powerade and coca-cola	9.5 L/12.6 hrs	131	-	-	-	Recovery - patients didn't seek treatment, and their serum normalised by the next morning (141 mmol/L)
178	Shevitz et al. 1980	USA	Case report	1	43	F	Patient was admitted to hospital in a coma. She had been living with her mother since the breakup of an unhappy marriage 20 yrs prior. She had 2 prior psychiatric hospitalisations for toxic delirium and multiple drug abuse, as well as a history of essential hypertension and schizophrenia. She developed psychogenic polydipsia and delusional thoughts, believing that she was the only patient in hospital who was being treated cruelly and not able to drink as much water as she wanted	Unspecified	Unspecified	Hypotension, respiratory failure, right upper lobe pneumonia, acute renal failure, suspicious, uncooperative, fainting episodes, grand mal seizure	Water	15 quarts/day	114	-	Respirator, broad spectrum antibiotic, fluid restriction, thioridazine (50 mg every 8 hrs), propranolol, prazosin, hydralazine	-	Ongoing - patient's mood and symptoms improved markedly after treatment with propranolol. She transitioned into ad libitum water intake and her electrolytes normalised. However, after she was discharged she failed to attend outpatient appointments and became noncompliant with medication. She was later found to be ataxic and brought back to emergency where it was discovered that she still suffered from excessive thirst and drinking. She refused more psychiatric follow-up
179	Tolan et al. 2001	Australia	Case report 1	1	41	F	Patient was admitted with seizures secondary to severe hyponatraemia. She had a history of paranoid	Olanzapine (10 mg/day), sertraline (50 mg/day)	Unspecified	Seizures, loss of consciousness	Water	10 glasses/day	104	-	Intubation, artificial ventilation,	Rhabdomyolysis	Recovery - patient's serum Na normalised over 48 hrs

							schizophrenia. A few weeks before admission, she had begun receiving assertive community treatment with a case manager visiting daily. The morning of admission she was found unconscious at home							hypertonic saline, diuresis, clozapine		
180	Tolan et al. 2001	Australia	Case report 2	1	44	F	Patient consumed 3 L of water after drinking alcohol	Unspecified	Unspecified	Stupor	Water	3 L	115	-	Unspecified	Rhabdomyolysis	Unspecified
181	Penders et al. 2015	USA	Case report	1	49	M	Patient presented to emergency with altered mental status. He had a history of schizoaffective disorder and had recently increased his fluid intake to 8 L/day. He also had a history of alcohol abuse but had remained alcohol-free for many years	Valproate (2500 mg nightly), ziprasidone (80 mg twice daily)	Acute - waxing and waning over past 2 days	Altered mental status, delirious, confused, agitated, gait and balance difficulties	Water	8 L/day	101	-	Fluid restriction, normal saline infusions, haloperidol (1 mg twice daily), clozapine (350 mg/day)	-	Recovery - patient's serum Na normalised within 6 days of hospitalisation. He was transferred to a behavioural health service where he demonstrated cognitive deficits and agitation. He was started on clozapine but this was discontinued after no improvements were seen. His cognitive state began to improve and he was discharged after 10 days on no psychotropic medications. At a 3-month follow-up he remained free of symptoms and did not require any pharmacological treatment
182	Olapade-Olaopa et al. 1997	UK	Case report 1	1	64	M	Patient collapsed in hospital after a bladder-neck incision procedure. He later reported having drunk 7 L of fluid in the 6 hrs postop in an attempt to adhere to medical advice	Unspecified	Acute - 6 hrs	Collapsed	Fluid	7 L over 6 hrs	116	-	Unspecified	-	Recovery - patient made a full recovery and was discharged after 8 days
183	Olapade-Olaopa et al. 1997	UK	Case report 2	1	59	M	Patient was admitted with acute urinary retention. He had previously visited his GP with symptoms suggestive of a urinary infection, and was given a course of antibiotics and encouraged to "drink plenty". Shortly after being admitted to hospital he suffered a seizure but was successfully resuscitated. His wife later revealed that he had drunk 15-18 L of fluid 24 hrs before admission	Antibiotics	Acute - 24 hrs	Seizure	Fluid	15-18 L/24 hrs	113	-	Unspecified	-	Recovery - patient made a full recovery and was discharged after 5 days
184	Funayama et al. 2011	Japan	Letter/case report	1	58	M	Patient had a 35-yr history of schizophrenia with 1 hospital admission due to a psychotic episode. He had been treated as an outpatient for 34 yrs	Haloperidol (3 mg/day)	Chronic	Mild disorientation, agitation	Water	> 10 L/day	100	-	0.9% normal saline, fluid restriction	Central pontine myelinolysis	Recovery - patient's serum Na normalised over 7 days, but he developed CPM. With treatment, he fully recovered over the next few months and his symptoms reversed. His water intake reduced to 1.5 L/day and he was discharged after 6 months
185	Fleischhacker et al. 1987	Austria	Case report	1	47	F	Patient had a history of paranoid schizophrenia that was treated with neuroleptics. However, in the 8 months prior to admission she had discontinued medication. She had been holidaying in a small village near Innsbruck before admission, and the landlady of the inn she stayed at for over 4 weeks described her behaviour as bizarre. She withdrew from others, spent most of her time in her darkened room praying, only visited the graveyard and church and only ate cereal products, yoghurt and fruit juice. 4 hrs after one of her visits to the graveyard she was found in her room drinking water from the washbasin and vomiting	-	Acute - 4 hrs	Somnolent, grand mal seizures, vomiting, bizarre behaviour	Water	"Drinking large quantities of water"	101	-	5% hypertonic saline, furosemide, potassium supplement, doxycycline, dexamethasone, phenytoin, cimetidine	-	Recovery - patient had 3 L of clear fluid removed through haemofiltration. She had profuse diuresis and her serum Na normalised within 17 hrs of admission. She regained consciousness after 36 hrs but could not remember anything that had happened between her arrival in Austria to her hospitalisation. She developed symptoms of depersonalisation and thought disturbances 9 days later, and reported that the voice of God had commanded her to drink large amounts of water to cleanse herself. She was discharged 16 days after admission

186	Bayir et al. 2012	Turkey	Case report	1	51	F	Patient was admitted with altered consciousness and agitation. She complained of severe headaches before loss of consciousness, and went into cardiac arrest during initial examination. She had a history of hypertension, and her family reported that she had consumed several litres of tap water in a short period of time due to emotional stress. She later confirmed that she had consumed 12 L of water in 4 hrs with suicidal intent, and was diagnosed with major depression	Olmesartan (20 mg/day)	Acute - 4 hrs	Confused, disoriented, altered consciousness, agitated, headaches, cardiovascular arrest, tonic-clonic seizure	Water	12 L in 4 hrs	107	-	Intubation, IV magnesium, 3% NaCl, KCl, IV diazepam (10 mg), antidepressants	-	Recovery - patient's serum Na normalised and she was discharged with antidepressants
187	Weiss 2004	USA	Case report	1	71	F	Patient had a history of hypertension, hyperlipidaemia and right eye cataract. She reported to a clinic for evaluation before cataract extraction where hyponatraemia was detected. She reported drinking up to 8 L of water/day for years, that it "felt good" to drink cold water and that it helped with her dry throat	Labetolol, nifedipine, fosinopril, hydrochlorothiazide (12.5 mg/day), pravastatin	Chronic	Weak, dizzy	Water	8 L/day	116	-	Normal saline, fluid restriction (1 L/day), fosinopril (20 mg)	-	Recovery - patient recovered and was discharged home on fosinopril (40 mg), aspirin, pravastatin and nifedipine. Cataract surgery was performed 2 weeks later and her serum Na at the time was normal (136 mmol/L). Over the next month, she had no further problems with medication compliance or fluid intake
188	Diamond et al. 2003	USA	Case report	1	43	M	Patient had no prior medical history. He had recently smoked marijuana and took 20 capsules of the herbal, uva ursi (hydroquinone) with 5 gallons of water in preparation for a pre-employment drug screen. Several hrs later he was transferred to hospital for hyponatraemia	Marijuana, uva ursi (hydroquinone, ursolic acid, isoquercetin, arbutin)	Acute - hrs	Combative, confused, lip smacking, "foaming at the mouth", lethargic	Water	5 gallons over a few hrs	114	-	3% saline	Rhabdomyolysis	Recovery - patient's serum Na improved over 48 hrs and he had a huge diuresis of > 9 L. He was discharged after 6 days
189	Su et al. 2012	Australia	Case report	1	82	M	Patient had a history of TURP, AF, hypertension and depression and was reviewed for ongoing chronic lower urinary tract symptoms. While preparing for a urine flow study, he drank 3 L of water in 4 hrs. Hrs later, his family noticed he was having difficulty speaking and becoming confused	Mirtazapine, ramipril	Acute - 4 hrs	Confusion, difficulty finding words	Water	3 L over 4 hrs	114	-	Fluid restriction (800 mL/day)	-	Ongoing - patient was discharged with a serum Na level of 127 mmol/L
190	Leban et al. 2016	Slovenia	Case report	1	44	F	Patient had no previous medical history. She was admitted after attending a purification and detoxification ritual called "Amazonia" which was organised by a South American shaman. The shaman burned her shoulder 5 times with a burning stick, and applied dried skin secretion from a giant leaf frog to the wounds. She began feeling dizzy and started drinking the recommended 4 L of water. 3 hrs later she developed symptoms of hyponatraemia, drank more water and called her husband for help. She developed SIADH which was exacerbated by excessive water consumption	Unspecified	Acute - 9 hrs	Dizziness, confusion, vomiting, weakness, nausea, muscle cramps, shivering, delusional, grand mal seizure	Water	6 L over 9 hrs	116	-	0.9% sodium chloride, water restriction	Rhabdomyolysis	Recovery - 12-24 hrs after venom exposure, she was somnolent, confused and agitated, and had painful muscle spasms. The next day she regained consciousness, and her serum Na normalised after 48 hrs. Rhabdomyolysis got worse, but began to recover by the 3rd day
191	Kawashima et al. 2015	Japan	Case report 1	1	22	M	Patient was found dead in his room. He had an intellectual disability and had been seen drinking considerable volumes of water and vomiting 10 days before his death	Unspecified	Chronic	Vomiting	Water	"Repeatedly drunk considerable amounts"	108	-	-	-	Death - autopsy revealed a congested brain weighing 1540 g, heart weighing 415 g, lungs weighing 670 g (left) and 750 g (right) and swelling and red-coloured fluid in the trachea and bronchi. The bladder was distended and contained 910 cc of urine. Lung

																	tissue was significantly congested with presence of oedema
192	Kawashima et al. 2015	Japan	Case report 2	1	23	M	Patient with an intellectual disability had a sudden fall and was found unconscious. He suffered from polydipsia and repeatedly drunk large volumes of water. His polydipsia was uncontrollable so his family had him admitted into an institution. He day following his admission, he was found unconscious and died despite transport to emergency	Antipsychotic medication	Chronic	Diarrhoea, vomiting	Water	"Repeatedly drunk considerable amounts"	< 100	-	-	-	Death - autopsy revealed a congested brain weighing 1383 g, heart weighing 328 g, and swollen lungs weighing 422 g (left) and 509 g (right). Intraperitoneal space contained 3100 cc of fluid. Oedema of the subarachnoid space was observed as well as protruded cardiac vessels and fluid in the bronchi
193	Kruse 1993	USA	Case report	1	54	M	Patient presented to emergency with hiccups He reported having tried "holding his breath and sugar on his tongue" but nothing helped to stop the hiccups. He had a medical history of hypertension, diabetes and a psychiatric disorder that he couldn't name. He also had a history of psychogenic polydipsia and the hiccups were caused by diaphragmatic seizures induced by his low serum Na levels	Lithium, chlorpromazine, benztropine mesylate	Unspecified	Hiccups, fatigue, agitation	Water	"Walked frequently to the water fountain"	124	-	Unspecified	-	Unspecified
194	Cosgray et al. 1993	USA	Cohort study	9	38	Unspecified	9 patients in a state hospital were placed into a special water intoxication program and monitored. They all had a history of schizophrenia and smoking. All patients had experienced hyponatraemia due to excessive water intake	Haldon, mellaril, proloxin, navane, thorazine	Unspecified	Unspecified	Water	"Excessive water intake"	124	-	Fluid restriction (3 L/day), behavioural therapy (water fountains turned off, bathrooms supervised, weight and electrolytes monitored)	-	Recovery - all patients' electrolytes were within normal ranges, and fluid intake was well controlled
195	Cortejoso et al. 2014	Spain	Case report	1	61	M	Patient presented to emergency semi-conscious with repetitive language and short-term memory loss. He had a history of type II diabetes, hypertension and a left foot ulcer	Metformin, indapamide	Chronic - 3 days	Semi-consciousness, repetitive language, short-term memory loss, depressive symptoms, lower limb oedema	Water	"High water intake for 3 days"	123	-	Fluid restriction, acyclovir, enoxaparin, amlodipine, insulin, metoclopramide, acetaminophen, acetylsalicylic acid, atorvastatin, enalapril	-	Recovery - after treatment with acyclovir was discontinued, sodium Na began to increase. Patient eventually recovered and was discharged after 6 days
196	Thomas et al. 2001	USA	Case report	1	48	M	Patient had a 21-yr history of intractable hiccups and had previously been admitted 4 times for hyponatraemia. He had a history of gastritis, hypocalcaemia, hypertension, pancreatitis and CPM. He reported drinking excessive amounts of water in order to prevent hiccups	Propranolol (20 mg twice daily), clonidine (0.1 mg twice daily), chlorpromazine (50 mg), benadryl (50 mg), pepcid (20 mg)	Chronic	Nausea, vomiting, epigastric pain, weight loss over 6 months, seizures, anxiety, irritability, euthymia	Water	10 L/day	105	-	Behavioural treatment	-	Recovery - patient was unable to restrict his fluid consumption previously, so was started on outpatient behavioural treatment. Over the 8-week treatment, he had weekly individual and family sessions where he was given education on causes of hiccups and consequences of excessive water intake. Since then, the patient has not had any further episodes of hyponatraemia
197	Scotney et al. 2015	Australia	Case report	1	Unspecified	Unspecified	Patient was a moderately experienced runner who participated in the Cradle Mountain Run. Patient completed the event in 11 hrs and 24 minutes	Diclofenac (150 mg)	Asymptomatic	Asymptomatic	Water and electrolyte solution	5.3 L/11 hrs	132	-	Unspecified	-	Unspecified
198	Nixon et al. 1982	USA	Case report	1	24	F	Patient had a history of 15 psychiatric admissions since she was 14 and had been hospitalised for 3 yrs with schizophrenia. She had experienced various episodes of hyponatraemia throughout the years. During 3 separate	Haloperidol, benztropine	Chronic	Seizures, postictal coma, vomiting	Fluids	15-20 L/day	115	-	Demeclocycline (1200 mg)	-	Recovery - treatment was effective in reducing patient's hyponatraemia

							episodes she set herself on fire and incurred severe burns									
199	Chong et al. 1997	Singapore	Retrospective cohort study	14	49	10 M, 4 F	Patients were inpatients at a mental hospital and all had a history of schizophrenia. All patients had experienced hyponatraemia related to excessive water drinking. 2 patients had a history of diabetes mellitus. Reasons for excessive fluid intake included thirst, pleasure, auditory hallucination commands and hunger	Chlorpromazine, lithium, carbamazepine, tolbutamide, tricyclic antidepressant	Unspecified	Unspecified	Fluids	"Excessive amounts"	125	-	Unspecified	-	Unspecified
200	Goldman 1999	USA	Case report	1	39	M	Patient had a 19-yr history of schizophrenia and had been hospitalised for over 7 yrs during which time he suffered various episodes of hyponatraemia. He was trialled on different types of treatments	Clozapine, trifluperazine, phenytoin, valproic acid, benztropine	Chronic	Delirium, seizures, aggression, thought disorder	Fluids	9-15 L/day	115	-	Cortisol	-	Ongoing - serum Na appeared to rise slightly during cortisol treatment, but the result was not significant and serum Na did not normalise over the course of treatment
201	Moskowitz 1992	USA	Case report	1	42	F	Patient had a history of schizophrenia and polydipsia, and had been hospitalised many times throughout the years. She presented to emergency with hyponatraemia. 7 years before the current admission, she jumped out of a car on a highway, and the following year was treated for a self-inflicted stab wound to the epigastrium	Haloperidol (5 mg), benztropine mesylate (2 mg)	Chronic	Collapsed, agitated, thrashing about in bed, unresponsive	Fluids	7 L/day	115	-	Foley catheter, 0.9% IV sodium chloride, water restriction	Rhabdomyolysis, nephrogenic diabetes insipidus	Ongoing - 3 L of urine was drained within 1 hr of admission. 7 hrs after admission, the patient's serum Na had normalised. However, after the Foley catheter was removed and she was given free access to cigarettes and water, she relapsed. Subsequent treatment helped to bring her serum Na back up, and she was discharged with an indwelling Foley catheter that was removed 2 months later. Follow-ups over the next 66 months revealed recurrent hyponatraemia
202	Simmons et al. 2007	USA	Case report	1	68	F	Patient presented to emergency with a change in mental status and abdominal pain. Her husband reported that she had been confused for 3 days prior to admission, but only in the evenings. She had experienced a syncopal episode with urinary incontinence the night before admission and had suffered from abdominal pain and distension for a week. She had a history of hypertension, epilepsy, depression, melanoma and colon cancer. She believed she had gastroenteritis and could "flush out" the infection by drinking large amounts of water	Sertraline, divalproex, lamotrigine, zonisamide, amlodipine, atorvastatin	Chronic	Altered mental status, abdominal pain, confusion	Water	2-3 gallons/day + 2 L over 3 hrs in emergency	118	-	Fluid restriction (2 L/day)	-	Recovery - patient's serum Na normalised and her mental status normalised. She was able to get an appendectomy for acute appendicitis discovered in emergency, and was discharged after 6 days in hospital
203	Lipsky et al. 1987	USA	Letter/case report	1	64	F	Patient was admitted with severe lower back pain, and had a history of thyroid disease. In preparation for a pelvic ultrasonagraphy, she drank 1350 mL of water over 1-2 hrs and subsequently developed symptoms of hyponatraemia	Carisoprodol-aspirin, ibuprofen, oxycodone-acetaminophen, L-thyroxine, dexamethasone	Acute - 2 hrs	Severe weakness, disoriented, aphasic	Water	1350 mL over 1-2 hrs	123	-	3% saline infusion, 5% glucose in normal saline	-	Recovery - patient's serum Na normalised after 14 hrs
204	Looi et al. 1995	Australia	Case report	1	43	M	Patient presented with anxiety and depressive symptoms. He had a history of multiple admissions for schizoaffective disorder and experienced auditory hallucinations telling him to commit suicide. He was also a smoker and suffered from chronic airflow limitation. Patient reported drinking excessive amounts of water out of habit rather than thirst. On	Clonazepam, lithium carbonate, nocte, chlorpromazine	Chronic	Low mood, weight loss, decreased appetite, concentration difficulties, slurred speech, disorientated, unsteady, tremulous, twitching feet, seizure	Water	4 glasses/hr or 16 L/day	120	-	Water restriction (1 glass/hr), IV normal saline, all psychotropic medications discontinued, IV midazolam	-	Recovery - patient recovered and was discharged after 13 days in hospital on clonazepam alone

							the 3rd day, he was diagnosed with diabetes insipidus										
205	Shiwach 1996	USA	Letter/case report	1	88	F	Patient was admitted with sudden onset acute confusion. Her family reported that she went to the bathroom to irrigate her colostomy bag, but emerged 2 hrs later talking gibberish and unable to identify any of her family members. She had a history of rectal carcinoma, peptic ulcer, breast cancer and gallstones. She later revealed that she had been having some trouble with her bowels and when 1 L of water didn't get her any results, she overirrigated with 4 L	Unspecified	Acute - 2 hrs	Confusion, disorientation, poor attention	Water	4 L/2 hrs	118	-	Hypertonic saline infusion	-	Recovery - patient's serum Na normalised and she was discharged after 2 days
206	Whitchurch et al. 2011	Australia	Letter/case report	1	42	F	Patient was an accountant with a long history of bipolar affective disorder. She presented to hospital with a psychotic manic relapse due to work stress and non-compliance with medication. Her family reported that she increased her intake of water since the onset of psychosis	Unspecified	Unspecified	Paranoid delusions, increased pressure of speech	Water	Several litres/day	123	-	Olanzapine, lorazepam, fluid restriction (2 L/day), oral sodium chloride tablets	-	Recovery - patient's serum Na normalised after 8 days (137 mmol/L), her psychosis abated significantly and she was transferred to a psychiatric unit. She was discharged a week later and showed continued improvement at an 8-month follow-up
207	Wicke et al. 2017	Germany	Case report	1	44	F	Patient was admitted to ICU with impaired consciousness and confusion. Her relatives reported that she may have taken medication in a suicide attempt. She had a history of major depressive disorder, and possibly psychogenic polydipsia	Venlafaxine, ibuprofen, opipramole	Unspecified	Impaired consciousness, confusion	Water	"In a hyperhydrated state likely due to psychogenic polydipsia"	102	-	Saline solutions	Central pontine myelinolysis	Recovery - upon admission, patient had a spontaneous diuresis of 3 L of urine/day so it was assumed that she was in a hyperhydrated state. Patient's serum Na normalised after 10 days, but she developed CPM. She was subsequently transferred to a specialised rehabilitation clinic, and at a 4-month follow-up she was able to walk on her own and perform most activities of daily living again
208	Noakes et al. 2001	South Africa	Case report	1	Unspecified	M	Patient was admitted to hospital with severe symptomatic hyponatraemia following the Comrades Marathon. He reported drinking around 1500 mL/hr during the 10 hrs and 28 minutes that he took to run the race. Once the race ended, he became confused and was admitted to hospital semi-comatose	Unspecified	Acute - 10 hrs	Confusion, semi-comatose	Fluids	15 L over 10 hrs	123	-	Furosemide, IV infusion of normal saline	-	Recovery - patient passed 6.1 L of urine in 36 hrs and his serum Na normalised to 141 mmol/L. He returned to work within a week of discharge
209	Kathol et al. 1985	USA	Case report 1	1	31	M	Patient had a history of chronic disorganised schizophrenia and had auditory hallucinations and thought disorder for many years. He consumed up to 10 L of water/day and had been doing this for around 7 years. Upon admission, his water intake was around 8 L/day. As a result of his excessive fluid intake, he developed megalocystis with renal insufficiency secondary to urinary reflux	Unspecified	Chronic	Unspecified	Water	8 L/day	125	-	Propranolol (160 mg/day), molindone HCL	-	Recovery - patient's water intake decreased to 1.5 L/day on propranolol and his serum Na normalised over time. He was transferred back to his psychiatric facility and a 12-month follow-up revealed maintenance of water intake and serum Na levels
210	Kathol et al. 1985	USA	Case report 2	1	42	M	Patient had a history of organic mental disorder with an IQ of 75, seizure disorder and auditory and visual hallucinations. He had suffered a skull fracture at 12-months of age and developed a large left parietal leptomeningial cyst. During the past 3 yrs of chronic institutionalisation, he was noted to drink excessive	Anticonvulsants, thiothixene (30 mg/day)	Chronic	Seizures, hallucinations, dereistic thinking	Water	18 L/day	123	-	Thiothixene discontinued, propranolol (480 mg/day), captopril (150 mg/day), haloperidol (170 mg/day), phenytoin (700 mg/day),	-	Ongoing - treatment with propranolol and haloperidol were unsuccessful. Treatment with captopril caused the patient's water intake to increase to 30 L/day. Patient was transferred back to his psychiatric facility with no improvement on phenytoin and primidone. Antipsychotic medications were discontinued as they didn't improve his symptoms. A 12-month

							amounts of water and developed chronic hyponatraemia as a result								primidone (1750 mg/day)		follow-up revealed that the patient was still consuming 17 L of water/day and maintaining a serum Na level of 125 mmol/L
211	Kathol et al. 1985	USA	Case report 3	1	56	M	Patient had a history of chronic disorganised schizophrenia and excessive water consumption (> 8 L/day). He would drink from toilets and urinals if left unattended but denied his excessive drinking behaviours. He also had a history of hypertension	Propranolol (240 mg,/day then 320 mg/day)	Chronic	Seizures	Fluid	> 8 L/day	120	-	Propranolol, demeclocycline (1200 mg), thiothixene (40 mg/day), locking patient in bedroom at night	-	Ongoing - increasing dosage of propranolol and administering demeclocycline were both unsuccessful in treating the patient's polydipsia. Thiothixene did help to improve the patient's mental status temporarily. Behavioural therapy was trialled by locking patient in his bedroom at night, but this proved to be impractical. A 1-yr follow-up revealed that the patient still drank 8 L of water/day and maintained a serum Na level of 125 mmol/L
212	Lyster et al. 1994	USA	Letter/case reports	4	48	3 M, 1 F	A retrospective chart review was conducted to identify patients with a history of excessive water drinking and clozapine treatment. All 4 patients had a history of schizophrenia and had been treated with various antipsychotics throughout the years. They all had polydipsia and 3 of the patients had experienced intermittent hyponatraemia	Chlorpromazine	Unspecified	Unspecified	Water	"Excessive water intake"	119	-	Clozapine	-	Recovery - patients' excessive water intake decreased significantly on clozapine. Only 1 patient still displayed some problems with excessive drinking, however was much improved compared to baseline
213	Worthley 1975	Australia	Case report	1	67	F	Patient was admitted for removal of a fissure-in-ano and had been in good health previously. She had a history of smoking (40 cigarettes/day) which was disallowed following surgery. On the 5th post-operative day, it was observed that she had begun drinking excessive amounts of water. She later obtained a packet of cigarettes and smoked 10 within 3 hrs, before being stopped. She recommenced drinking afterwards	Halothane anaesthesia	Acute - 24 hrs	Vomiting, loss of consciousness, grand mal seizure	Water	"Excessive amounts"	97	-	IV diazepam (30 mg), frusemide (120 mg), hypertonic saline	-	Recovery - patient's serum Na normalised after a few days. A water load conducted 3 days later showed that she responded normally to water ingestion in the absence of nicotine
214	Dubin et al. 2016	Israel	Case report	1	58	M	Patient had a 6-yr history of hypertension and dyslipidaemia, as well as a 32-yr history of schizophrenia. He was confused and agitated following excessive water intake and had been living in a hostel at time of admission. 5 yrs ago he had been admitted with generalised convulsions due to hyponatraemia	Lercanidipine, atorvastatin (10 mg/day), zuclopenthixol (200 mg every 2 weeks), olanzapine (15 mg/day)	Chronic	Confused, agitated	Water	"Excessive water drinking"	110	-	Hypertonic saline	Rhabdomyolysis	Recovery - patient's serum Na normalised within 48 hrs of treatment (136 mmol/L), however on the 4th day he developed burning pain, warmth and erythema in both legs. The following day, he developed severe pain, parasthesiae, non-pitting edema and muscle weakness. He was monitored closely and gradually recovered over time. Upon recovery, he was transferred to a rehabilitation centre and began using bilateral corrective bracing
215	Wicki et al. 1998	Switzerland	Case report	1	42	M	Patient had a history of paranoid schizophrenia and was admitted for an inaugural generalised seizure. He reported several days of excess water consumption before admission	Clozapine (300 mg/day), chloral hydrate (250 mg)	Chronic - several days	Seizure, drowsy, anxious, visual hallucinations	Water	"Compulsive water drinking"	120	-	Diazepam (5 mg), haloperidol (2 mg), desmopressin acetate, hyperosmolar sodium solution (240 mmol/L), clozapine restarted on day 10	-	Recovery - patient excreted 6 L of urine within 9 hrs of admission. His serum Na normalised after 13 hrs (140 mmol/L) and he was discharged after 19 days in hospital
216	Zaidi 2005	USA	Case report	1	50	M	Patient had a history of paranoid schizophrenia and psychogenic polydipsia and was seen for increasing restlessness and acute behavioural changes. He had	Ziprasidone (40 mg twice daily)	Chronic - 3 days	Restless, behavioural changes, seizures	Water	"Excessive water drinking"	112	-	Haloperidol (2 mg 3 times daily), 0.9% normal saline, 3% NaCl solution, water	Rhabdomyolysis	Recovery - patient excreted 6 L of urine within 12 hrs. After ziprasidone was withheld, his auditory hallucinations worsened. On day 3, the patient was found missing from the

							been residing in a long-term psychiatric facility and had been trialled on haloperidol, risperidone and olanzapine to no effect. He smoked 1/2 a pack of cigarettes/day for several yrs. 3 days before admission, he refused his medication and began drinking water excessively								restriction (< 1 L/day), ziprasidone restarted (80 mg twice daily)		ward and had reportedly drunk several cans of soda from a vending machine. Once ziprasidone was restarted, he showed improvements in mental status. He was transferred back to his psychiatry facility after 8 days with normal serum Na values (141 mmol/L)
217	Allon et al. 1990	USA	Case report 1	1	53	F	Patient had a history of schizophrenia and was admitted to hospital with worsening psychosis. While in hospital, it was noted that she drank excessive amounts of water and ate cigarette butts from ash trays. On the 6th days, she had a grand mal seizure	Loxapine	Chronic - 6 days	Grand mal seizure	Water	"Drank water excessively"	112	-	Loxapine discontinued, fluid restriction, loxapine restarted	-	Recovery - patient's serum Na normalised after a days and loxapine was restarted. She was observed for 6 days and during that time her serum Na remained normal
218	Allon et al. 1990	USA	Case report 2	1	39	M	Patient had a history of schizophrenia and presented to hospital following a grand mal seizure. He was a compulsive water drinker and heavy smoker	Unspecified	Unspecified	Grand mal seizure	Water	"Compulsive water drinker"	106	-	Fluid restriction	-	Recovery - patient's serum Na normalised within a few days
219	Ripley et al. 1989	Canada	Retrospective case-control study	17	Unspecified	M	17 patients were identified from a population of long-stay patients in a psychiatric hospital as having experienced self-induced water intoxication and hyponatraemia. All patients had a history of schizophrenia and no other notable illnesses. Another 17 patients had no history of polydipsia and were selected as a control group. 9 of the water intoxicated patients had a history of alcohol abuse	Unspecified	Unspecified	Seizures (9), incoordination, ataxia, confusion, disinhibition	Water	5-10 L/day	120	-	Unspecified	-	Unspecified
220	Armstrong et al. 1993	USA	Case report	1	21	M	A previously healthy patient participated in a research study that investigated the effects of dietary sodium restriction on heat acclimation and physical performance. For the purposes of the study, he lived for 17.5 days in a research facility that housed an environmentally controlled chamber and underwent intermittent exercise and ate food prepared by a team of nutritionists. Ad libitum water consumption was encouraged. The patient's body mass increased significantly due to water consumption and he eventually developed a rash and symptoms of hyponatraemia and was transferred to a nearby hospital	Unspecified	Acute - 10 hrs	Fatigue, nausea, skin rash, malaise	Plain water and flavoured water	Hyperhydration	122	-	Hypertonic saline (5%), overnight fluid restriction	-	Recovery - patient was discharged the following morning with no further symptoms. His skin rash resolved 4 days after discharge
221	Woodard et al. 1992	USA	Letter/case report	1	76	F	Patient had a history of diabetes mellitus and hypertension had been advised by her physician to "drink plenty of fluids" when she was hyperglycaemic. Following this advice, she drank excessive amounts of water and presented to emergency after 3-4 days with nausea and vomiting. She reported having drunk gallons of water because she believed her blood sugars were high (despite not having measured them)	Insulin, hydrochlorothiazide	Chronic - 3-4 days	Nausea, vomiting	Water	Gallons/day	114	-	Normal saline, hydrochlorothiazide discontinued, water restriction	-	Recovery - patient excreted significant amounts of urine within the 1st day of admission. After 24 hrs, patient was discharged with a serum Na value of 133 mmol/L. At a 1-month follow-up her serum Na had normalised to 142 mmol/L
222	Takagi et al. 2011	Japan	Cohort study	5	52	3 M, 2 F	Patients were identified from a population of inpatients at the National Centre of Neurology	Unspecified	Unspecified	Auditory hallucinations, epileptic seizures, loose associations, hyperactivity	Fluid	"Excessive fluid intake"	129	-	Acetazolamide	-	Recovery + ongoing - acetazolamide treatment improved polydipsia and serum Na in 4 of 5 patients

							and Psychiatry as having experienced excessive fluid intake and hyponatraemia. 3 patients had a history of schizophrenia, 1 had mental retardation and 1 had epilepsy and organic psychosis										
223	Friedman et al. 1983	Israel	Case report	1	28	M	Patient was admitted to hospital with acute urinary retention, having experienced terminal dribbling, dysuria and hesitancy on urination for 2 months. His treatment involved a 4 L/day water intake which resulted in some improvement. When he began to experience increasingly difficult urination resulting in complete retention, he was told to drink 30-40 glasses of water in 5 hrs. He subsequenty developed nausea, vomiting and restlessness and it was discovered that he had an undiagnosed lower urinary tract obstruction	Ampicillin	Acute - 5 hrs	Nausea, vomiting, restlessness, tonic clonic convulsions	Water	4 L/day + 30-40 glasses in 5 hrs	117	-	Suprapubic aspiration, diazepam (10 mg)	-	Recovery - patient had 1.1 L of urine drained over 2 hrs, then another 6.4 L over 19 hrs. He regained consciousness and his serum Na normalised after 48 hrs (140 mmol/L). At a 3-month follow-up, no further abnormalities were detected

Supplemental Data File 4: Excluded studies

Reference	Reason for exclusion
Maiocchi L, Bernardi E. Acute anterior compartment syndrome associated with psychogenic polydipsia. Australasian Psychiatry. 2012;20(2):159-61.	No serum sodium values
Anonymous. Update: Exertional hyponatremia, active component, U.S. Armed Forces, 1999-2011. MSMR. 2012;19(3):20-3.	No serum sodium values
Anonymous. Update: Exertional hyponatremia, active component, U.S. Armed Forces, 1999-2012. MSMR. 2013;20(3):25-8.	No serum sodium values
Armed Forces Health Surveillance C. Update: Exertional hyponatremia, active component, U.S. Armed Forces, 1999-2013. MSMR. 2014;21(3):18-21.	No serum sodium values
Anonymous. Update: Exertional hyponatremia, active component, U.S. Armed Forces, 1999-2014. MSMR. 2015;22(3):26-9.	No serum sodium values
Armed Forces Health Surveillance B. Update: Exertional hyponatremia, active component, U.S. Army, Navy, Air Force, and Marine Corps, 2000-2015. MSMR. 2016;23(3):25-8.	No serum sodium values
Armed Forces Health Surveillance B. Update: Exertional hyponatremia, active component, U.S. Armed Forces, 2001-2016. MSMR. 2017;24(3):19-24.	No serum sodium values
Liberman RP, Marshall BD, Jr. Polydipsia and hyponatremia. Hospital & Community Psychiatry. 1993;44(2):184; author reply 5-6.	No serum sodium values
Matsuo SI, Ninomiya H, Takasiba T, Sasaki Y. Anetholtrithion stabilizes body weight fluctuation caused by excessive water drinking in a patient with schizophrenia: A case report [2]. Journal of Clinical Psychiatry. 1999;60(10):706.	No serum sodium values
Ohsawa H, Kishimoto T, Hirai M, Shimayoshi N, Matsumura K, Oribe H, et al. An epidemiological study on hyponatremia in psychiatric patients in mental hospitals in Nara Prefecture. Japanese Journal of Psychiatry and Neurology. 1992;46(4):883-9.	No serum sodium values
Gupta B, Patel A, Kar SK. Polydipsia and anxiety as early warning signs of relapse in schizophrenia. Asian Journal of Psychiatry. 2018;31:81.	No serum sodium values
Bollmann DA. Water intoxication. US. 1991;Pharmacist. 16(8):H-18-H-20.	No serum sodium values
Nishikawa T, Tsuda A, Tanaka M, Nishikawa M, Koga I, Uchida Y. Involvement of the endogenous opioid system in the drinking behavior of schizophrenic patients displaying self-induced water intoxication: a double-blind controlled study with naloxone. Clinical Neuropharmacology. 1996;19(3):252-8.	No serum sodium values
Nishikawa T, Tsuda A, Tanaka M, Nishikawa M, Koga I, Uchida Y. Naloxone attenuates drinking behavior in a schizophrenic patient displaying self-induced water intoxication. Clinical Neuropharmacology. 1992;15(4):310-4.	No serum sodium values
Nishikawa T, Tsuda A, Tanaka M, Nishikawa M, Koga I, Uchida Y. Naloxone attenuates drinking behavior in psychiatric patients displaying self-induced water intoxication. Prog Neuropsychopharmacol Biol Psychiatry. 1994;18(1):149-53.	No serum sodium values
Ginsberg DL. Losartan treatment of psychogenic polydipsia. Primary Psychiatry. 2004;11(12):23-4.	No serum sodium values

Bhatia MS, Goyal A, Saha R, Doval N. Psychogenic Polydipsia - Management Challenges. Shanghai Arch Psychiatry. 2017;29(3):180-3.	No serum sodium values
Kawai N, Baba A, Suzuki T. Risperidone failed to improve polydipsia-hyponatremia of the schizophrenic patients. Psychiatry Clin Neurosci. 2002;56(1):107-10.	No serum sodium values
Kishi Y, Kurosawa H, Endo S. Is propranolol effective in primary polydipsia? International Journal of Psychiatry in Medicine. 1998;28(3):315-25.	No serum sodium values
Fuller MA, Jurjus G, Kwon K, Konicki PE, Jaskiw GE. Clozapine reduces water-drinking behavior in schizophrenic patients with polydipsia. Journal of Clinical Psychopharmacology. 1996;16(4):329-32.	No serum sodium values
Takeuchi K, Nagatani T, Okumura E, Wakabayashi T. A novel method for managing water and electrolyte balance after transsphenoidal surgery: preliminary study of moderate water intake restriction. Nagoya Journal of Medical Science. 2014;76(1-2):73-82.	Water intoxication not induced by oral water intake; caused by IV infusion during surgery
Eaton J. Detection of hyponatremia in the PACU. Journal of Perianesthesia Nursing. 2003;18(6):392-7.	Water intoxication not induced by oral water intake; caused by IV infusion during surgery
Mansberger AR, Jr., Boyd DR. "Too much water". American Surgeon. 1969;35(10):719-24.	Water intoxication not induced by oral water intake; caused by IV
Rebelo F, Conseiller C, Hazemann P. EEG study of a case of water intoxication. Electroencephalogr Clin Neurophysiol. 1971;30(3):254.	Water intoxication not induced by oral water intake; caused by surgery
Gardner LB, Preston RA. University of Miami Division of Clinical Pharmacology Therapeutic Rounds: the water-intolerant patient and perioperative hyponatremia. American Journal of Therapeutics. 2000;7(1):23-30.	Water intoxication not induced by oral water intake; caused by IV infusion during surgery
Anonymous. Postoperative water intoxication with hypercapnia. Anesth Analg. 1972;51(3):368-70.	Water intoxication not induced by oral water intake; caused by IV infusion during surgery
Russell JT. The dangers of overhydration during and after operations. Two case reports. Samj, S. 1968;42(40):1076-8.	Water intoxication not induced by oral water intake; caused by IV infusion during surgery
Moen V, Irestedt L. Water intoxication following labour and surgery: blaming oxytocin--the easy way out?...Acta Anaesthesiol Scand. 2009 Jul;53(6):826-7. Acta Anaesthesiologica Scandinavica. 2009;53(9):1226-.	Water intoxication not induced by oral water intake; caused by IV infusion during labour
Wakui H, Nishimura S, Watahiki Y, Endo Y, Nakamoto Y, Miura AB. Dramatic recovery from neurological deficits in a patient with central pontine myelinolysis following severe hyponatremia. Japanese Journal of Medicine. 1991;30(3):281-4.	Water intoxication not induced by oral water intake; caused by IV treatment
Hughes PD, McNicol D, Mutton PM, Flynn GJ, Tuck R, Yorke P. Postoperative hyponatraemic encephalopathy: water intoxication. Aust N Z J Surg. 1998;68(2):165-8.	Water intoxication not induced by oral water intake; caused by IV infusion during surgery
Miles AI, Needle MA. Fixed hyponatremia with normal responses to varying salt and water intakes. New England Journal of Medicine. 1971;284(1):26-8.	Water intoxication not induced by oral water intake; hyponatremia induced by tube feeding
Piton G, Hamza S, Fichet A, Vincent J, Minello A, Leverve X, et al. Sodium lactate in the treatment of severe hyponatremia in cirrhotic patients. Cases report. Fundamental and Clinical Pharmacology. 2012;26 (SUPPL.1):85-6.	Water intoxication not induced by oral water intake; hyponatremia associated with renal failure
Malhotra I, Gopinath S, Janga KC, Greenberg S, Sharma SK, Tarkovsky R. Unpredictable nature of tolvaptan in treatment of hypervolemic hyponatremia: Case review on role of vaptans. Case Reports in Endocrinology. 2014;2014 (no pagination).	Water intoxication not induced by oral water intake; hyponatremia induced by diuretics
Castello L, Pirisi M, Sainaghi PP, Bartoli E. Quantitative treatment of the hyponatremia of cirrhosis. Dig Liver Dis. 2005;37(3):176-80.	Water intoxication not induced by oral water intake; hyponatraemia caused by water retention/Na depletion related to liver cirrhosis
Perucca E, Garratt A, Hebdige S, Richens A. Water intoxication in epileptic patients receiving carbamazepine. J Neurol Neurosurg Psychiatry. 1978;41(8):713-8.	Water intoxication not induced by oral water intake; mainly caused by drugs
Dandan W, Jianbo L, Shaojia L, Manli H, Shaohua H, Yi X, et al. Rapid-onset hyponatremia and delirium following duloxetine treatment for postherpetic neuralgia: Case report and literature review. Medicine. 2018;97(46):1-5.	Water intoxication not induced by oral water intake; hyponatremia caused by duloxetine and possible SIADH
Kahn T. Reset osmostat and salt and water retention in the course of severe hyponatremia. Medicine. 2003;82(3):170-6.	Water intoxication not induced by oral water intake; caused by reset osmostat
Delva NJ, Crammer JL, Lawson JS, Lightman SL, Sribney M, Weier BJ. Vasopressin in chronic psychiatric patients with primary polydipsia. British Journal of Psychiatry. 1990;157:703-12.	Water intoxication not entirely induced by oral water intake; hyponatremia caused by SIADH

Zhang L, Fu P, Wang L, Cai G, Zhang L, Chen D, et al. Hyponatraemia in patients with crush syndrome during the Wenchuan earthquake. Emergency Medicine Journal. 2013;30(9):745-8.	Water intoxication not entirely induced by oral water intake; hyponatremia caused by non-osmotic release of vaspressin and impaired urinary excretion
Arinzon Z, Feldman J, Peisakh A, Zuta A, Berner Y. Water and sodium disturbances predict prognosis of acute disease in long term cared frail elderly. Arch Gerontol Geriatr. 2005;40(3):317-26.	Water intoxication not induced by oral water intake; caused by SIADH, incorrect hydration and continuous diuretic treatment
Rondon-Berrios H, Berl T. Vasopressin receptor antagonists in hyponatremia: uses and misuses. Frontiers in Medicine. 2017;4:141.	Water intoxication not induced by oral water intake; caused by SIADH
Correia L, Ferreira R, Correia I, Lebre A, Carda J, Monteiro R, et al. Severe hyponatremia in older patients at admission in an internal medicine department. Arch Gerontol Geriatr. 2014;59(3):642-7.	Water intoxication not induced by oral water intake alone; hyponatremia caused by drug iatrogeny and SIADH
Ashraf N, Locksley R, Arieff AI. Thiazide-induced hyponatremia associated with death or neurologic damage in outpatients. American Journal of Medicine. 1981;70(6):1163-8.	Water intoxication not induced by oral water intake; hyponatremia caused by thiazide diuretics/urinary retention
Hillary SL, Hemead H, Berthoud M, Balasubramanian SP. A case report on acute severe hyponatraemia following parathyroid surgery for primary hyperparathyroidism - A rare but life threatening complication. International Journal of Surgery Case Reports. 2016;21:136-8.	Water intoxication not induced by oral water intake; hyponatremia caused by IV infusion
Scoccia B, Scommegna A. Carbamazepine-induced hyponatremia after transabdominal follicular ultrasound examination. Fertil Steril. 1988;50(6):984-5.	Water intoxication not entirely induced by oral water intake; mainly caused by antidiuretic action of CBZ
Herfel R, Stone CK, Koury SI, Blake JJ. Iatrogenic acute hyponatraemia in a college athlete. British Journal of Sports Medicine. 1998;32(3):257-8.	Water intoxication not entirely induced by oral water intake; hyponatremia caused by IV infusion
Ballardie FW, Mucklow JC. Partial reversal of carbamazepine-induced water intolerance by demeclocycline. Br J Clin Pharmacol. 1984;17(6):763-5.	Water intoxication not entirely induced by oral water intake; mainly caused by antidiuretic action of CBZ
Kageyama K, Suda T. A case of hyponatremia after cervical spinal cord injury. Endocrine Journal. 2011;58(5):369-72.	Water intoxication not induced by oral water intake; hyponatremia as a complication of neurosurgical condition
Roos J. Iatrogenic water-intoxication. Neth J Surg. 1981;33(2):75-8.	Water intoxication not induced by oral water intake; caused by IV infusion during surgery
Moolten SE. Fatal brain swelling and overhydration. J Med Soc N J. 1971;68(6):509-12.	Water intoxication not induced by oral water intake; caused by overdose of insulin
Sechi G, Manca S, Deiana GA, Corda DG, Pisu A, Rosati G. Acute hyponatremia and neuroleptic malignant syndrome in Parkinson's disease. Prog Neuropsychopharmacol Biol Psychiatry. 1996;20(3):533-42.	Water intoxication not induced by oral water intake; hyponatremia as a complication of brain damage
Lipsmeyer E, Ackerman GL. Irreversible brain damage after water intoxication. Jama. 1966;196(3):286-8.	Water intoxication not induced by oral water intake; hyponatremia caused by IV administration of large amounts of solute-free water
Giordano M, Ciarambino T, Castellino P, Malatino L, Cataliotti A, Rinaldi L, et al. Seasonal variations of hyponatremia in the emergency department: Age-related changes. American Journal of Emergency Medicine. 2017;35(5):749-52.	Doesn't mention excess water intake
Canuso CM, Goldman MB. Clozapine restores water balance in schizophrenic patients with polydipsia-hyponatremia syndrome. J Neuropsychiatry Clin Neurosci. 1999;11(1):86-90.	Doesn't mention excess water intake
Traub SJ, Hoffman RS, Nelson LS. The "ecstasy" hangover: hyponatremia due to 3,4-methylenedioxymethamphetamine. Journal of Urban Health. 2002;79(4):549-55.	Doesn't mention excess water intake
Godleski LS, Vieweg WVR, Leadbetter RA, Hundley PL, Harrington DP, Yank GR. Day-to-day care of chronic schizophrenic patients subject to water intoxication. Annals of Clinical Psychiatry. 1989;1(3):179-85.	Doesn't mention excess water intake + irrelevant intervention
Ting JY. Rhabdomyolysis and polydipsic hyponatraemia. Emergency Medicine Journal. 2001;18(6):520.	No mention of oral water intake as a cause of hyponatremia
Nagamine T. 'Ultimatum Game' in a patient with Psychogenic Polydipsia. International Medical Journal. 2015;22(4):346.	No mention of oral water intake as a cause of hyponatremia
Koren MJ, Hamad A, Klasen S, Abeyratne A, McNutt BE, Kalra S. Efficacy and safety of 30-minute infusions of conivaptan in euvolemic and hypervolemic hyponatremia. American Journal of Health-System Pharmacy. 2011;68(9):818-27.	No mention of oral water intake as a cause of hyponatremia

Henderson DC, Goff DC. Clozapine for polydipsia and hyponatremia in chronic schizophrenics. Biological Psychiatry. 1994;36(11):768-70.	Only vague information about water intake
Rice V. Overhydration. CINA: Official Journal of the Canadian Intravenous Nurses Association. 1991;7(3):4-6.	Only vague information about water intake
Muller RJ, Lann HD. Thiazide diuretics and polydipsia in schizophrenic patients. American Journal of Psychiatry. 1991;148(3):390.	Predominantly beverages other than water (3-4 quarts of beer + 6 L of soft drink)
Tomiyama J, Kametani H, Kumagai Y, Adachi Y, Tohri K. Water intoxication and rhabdomyolysis. Japanese Journal of Medicine. 1990;29(1):52-5.	Predominantly beverages other than water (tea + alcohol)
Schroppel B, Segerer S, Keuneke C, Cohen CD, Schlondorff D. Hyponatremic encephalopathy after preparation for colonoscopy. Gastrointestinal Endoscopy. 2001;53(4):527-9.	Predominantly beverages other than water (tea + bowel prep solution)
Kruse D, Pantelis C, Rudd R, Quek J, Herbert P, McKinley M. Treatment of psychogenic polydipsia: Comparison of risperidone and olanzapine, and the effects of an adjunctive angiotensin-II receptor blocking drug (irbesartan). Australian and New Zealand Journal of Psychiatry. 2001;35(1):65-8.	Predominantly beverages other than water (20 L of cola)
Rizzieri DA. Rhabdomyolysis after correction of hyponatremia due to psychogenic polydipsia. Mayo Clin Proc. 1995;70(5):473-6.	Predominantly beverages other than water (64 ounces of beer/week)
Frizzell RT, Lang GH, Lowance DC, Lathan SR. Hyponatremia and ultramarathon running. Jama. 1986;255(6):772-4.	Predominantly beverages other than water (12 L of ERG and 8 L of cola)
Bugle C, Andrew S, Heath J. Early detection of water intoxication. Journal of Psychosocial Nursing & Mental Health Services. 1992;30(11):31-4.	Not a study; discussion paper on strategies for early detection of water intoxication risk
Flear CT, Gill GV, Burn J. Hyponatraemia: mechanisms and management. Lancet. 1981;2(8236):26-31.	Not a study; discussion paper on mechanisms and management of hyponatraemia
Kear TM. Fluid and Electrolyte Management Across the Age Continuum. Nephrology Nursing Journal. 2017;44(6):491-7.	Not a study; discussion paper on disorders of fluid and electrolytes and nursing implications
Vachharajani TJ, Zaman F, Abreo KD. Hyponatremia in critically ill patients. Journal of Intensive Care Medicine. 2003;18(1):3-8.	Not a study; discussion paper on approach to diagnosis and management of hyponatraemia
Nagler EV, Haller MC, Van Biesen W, Vanholder R, Craig JC, Webster AC. Interventions for chronic non-hypovolaemic hypotonic hyponatraemia. Cochrane Database of Systematic Reviews. 2018(6).	Not a study; systematic review on interventions for hyponatraemia
Guppy PBM, Mickan SM, Del Mar CB, Thorning S, Rack A. Advising patients to increase fluid intake for treating acute respiratory infections. Cochrane Database of Systematic Reviews. 2011(2).	Not a study; systematic review on increasing fluid intake for treating acute respiratory infections
Narins RG. Hyponatraemia - Review of a controversial case. Nephrology Dialysis Transplantation. 2001;16(SUPPL. 6):36-7.	Not a study; review with questions
Speedy DB, Noakes TD, Schneider C. Exercise-associated hyponatremia: a review. Emerg Med (Fremantle). 2001;13(1):17-27.	Not a study; review on exercise-associated hyponatraemia
Peters EM. Nutritional aspects in ultra-endurance exercise. Current Opinion in Clinical Nutrition and Metabolic Care. 2003;6(4):427-34.	Not a study; review on fluid homeostasis during ultra-endurance exercise
Illowsky BP, Kirch DG. Polydipsia and hyponatremia in psychiatric patients. American Journal of Psychiatry. 1988;145(6):675-83.	Not a study; review on polydipsia and hyponatremia in psychiatric patients
Rolls BJ, Phillips PA, Phil D. Aging and disturbances of thirst and fluid balance. Nutrition Reviews. 1990;48(3):137-44.	Not a study; review on aging and fluid balance
Andreucci VE, Russo D, Cianciaruso B, Andreucci M. Some sodium, potassium and water changes in the elderly and their treatment. Nephrology Dialysis Transplantation. 1996;11 Suppl 9:9-17.	Not a study; review on water changes in elderly
Hwang KS, Kim GH. Thiazide-induced hyponatremia. Electrolyte Blood Press. 2010;8(1):51-7.	Not a study; review of thiazide-induced hyponatremia
Ali SN, Bazzano LA. Hyponatremia in Association With Second-Generation Antipsychotics: A Systematic Review of Case Reports. Ochsner Journal. 2018;18(3):230-5.	Not a study; systematic review on effect of second-generation antipsychotics on incidence of hyponatremia
Miller M. Hyponatremia in the elderly: risk factors, clinical consequences, and management. Clinical Geriatrics. 2009;17(9):34-9.	Not a study; discussion paper on risk factors, consequences and management of hyponatremia in the elderly
Humes HD, Narins RG, Brenner BM. Disorders of water balance. Hosp Pract. 1979;14(3):133-45.	Not a study; review of disorders of water balance

De Leon J, Verghese C, Tracy JI, Josiassen RC, Simpson GM. Polydipsia and water intoxication in psychiatric patients: A review of the epidemiological literature. Biological Psychiatry. 1994;35(6):408-19.	Not a study; review on mechanisms of polydipsia and water intoxication in psychiatric patients
Lown B. The Water Craze. South African Family Practice. 2009;51(5):393-4.	Not a study; discussion paper on fluid intake recommendations
Miller GT, Garcia TB. Case of the month. The delicate balance of hydration. JEMS: Journal of Emergency Medical Services. 2006;31(8):36-40.	Not a study; discussion paper on approach to management of hyponatraemia
Hajjar RR. Age-related issues in volume overload and hyponatremia in the elderly. J Nutr Health Aging. 1997;1(3):146-50.	Not a study; review of age on risk of hyponatremia
Moritz ML, Ayus JC. Management of hyponatremia in various clinical situations. Current Treatment Options in Neurology. 2014;16(9):310.	Not a study; discussion paper on management of hyponatremia
Noakes TD. Running, the kidneys and drinking too much - The hyponatraemia of exercise. South African Medical Journal. 2001;91(10 I):843-4.	Not a study; editorial on exercise and hyponatraemia
Akram M, Hamid A. A comprehensive review on water balance. Biomedicine and Preventive Nutrition. 2013;3(2):193-5.	Not a study; review on water balance
Siegel AJ. Fatal water intoxication and cardiac arrest in runners during marathons: prevention and treatment based on validated clinical paradigms. American Journal of Medicine. 2015;128(10):1070-5.	Not a study; review on exercise and water intoxication
Zetterstrom R. Voluntary and therapeutic causes of water intoxication and hypertonic dehydration: Perinatal risks in mother and offspring. Scandinavian Journal of Nutrition/Naringsforskning. 2003;47(3):108-10.	Not a study; review of water intoxcation in mothers and offspring
Jose CJ, Barton JL, Perez-Cruet J. Hyponatremic seizures in psychiatric patients. Biological Psychiatry. 1979;14(5):839-43.	Not a study; review of case reports from other literature
Vieweg WV, Karp BI. Severe hyponatremia in the polydipsia-hyponatremia syndrome. Journal of Clinical Psychiatry. 1994;55(8):355-61.	Not a study; review of polydipsia-hyponatremia syndrome
Box SA, Prescott LF, Freestone S. Hyponatraemia at a rave. Postgraduate Medical Journal. 1997;73(855):53-4.	Not a study; note with questions and answers
Gardner LB. Hyponatremia: artifact or emergency? Emergency Medicine (00136654). 1991;23(8):117-24.	Not a study; case studies, not case reports
Chen X, Huang G. Autopsy case report of a rare acute iatrogenic water intoxication with a review of the literature. Forensic Science International. 1995;76(1):27-34.	Not a study; case report didn't provide information on serum sodium values
Åkefeldt A. Water intake and risk of hyponatraemia in Prader-Willi syndrome. Journal of Intellectual Disability Research. 2009;53(6):521-8.	Mix of children and adults
Oades RD, Daniels R. Subclinical polydipsia and polyuria in young patients with schizophrenia or obsessive-compulsive disorder vs normal controls. Prog Neuropsychopharmacol Biol Psychiatry. 1999;23(8):1329-44.	Not directly related to hyponatraemia + mix of children and adults
Balcioglu YH, Seren Kirlioglu S, Ozdemir EF, Oncu F. Co-occurrence of primary polydipsia and bipolar disorder: Can it be a sign of HPA axis dysfunction? Anadolu Psikiyatri Dergisi. 2017;18(Supplement 1):8-10.	Not directly related to hyponatraemia
Hawken ER, Crookall JM, Reddick D, Millson RC, Milev R, Delva N, et al. Mortality over a 20-year period in patients with primary polydipsia associated with schizophrenia: a retrospective study. Schizophrenia Research. 2009;107(2/3):128-33.	Not directly related to hyponatraemia
Tam N, Nolte HW, Noakes TD. Changes in total body water content during running races of 21.1 km and 56 km in athletes drinking ad libitum. Clinical Journal of Sport Medicine. 2011;21(3):218-25.	Not directly related to hyponatraemia
Ridpath A, Driver CR, Nolan ML, Karpati A, Kass D, Paone D, et al. Illnesses and deaths among persons attending an electronic dance-music festival - New York City, 2013. MMWR: Morbidity & Mortality Weekly Report. 2014;63(50):1195-8.	Not directly related to hyponatraemia
Perrier E, Klein A. Short-term Physiological Effects of Increased Water Intake in a Clinical Setting. Nutrition Today. 2013:S32-5.	Not directly related to hyponatraemia
Hayashi T, Nishikawa T, Koga I, Uchida Y, Horiguchi J, Yamawaki S. Involvement of the alpha2-adrenergic system in polydipsia in schizophrenic patients: a pilot study. Psychopharmacology (Berl). 1997;130(4):382-6.	Not directly related to hyponatraemia
Duraiswamy K, Rao NP, Venkatasubramanian G, Behere RV, Varambally SS, Gangadhar BN. Psychogenic polydipsia in bipolar affective disorder--a case report. General Hospital Psychiatry. 2011;33(1):84.e9-10.	Not directly related to hyponatremia
Greendyke RM, Bernhardt AJ, Tasbas HE, Lewandowski KS. Polydipsia in chronic psychiatric patients: Therapeutic trials of clonidine and enalapril. Neuropsychopharmacology. 1998;18(4):272-81.	Not directly related to hyponatremia

Shutty MS, Jr., Briscoe L, Sautter S, Leadbetter RA. Neuropsychological manifestations of hyponatremia in chronic schizophrenic patients with the syndrome of psychosis, intermittent hyponatremia and polydipsia (PIP). Schizophrenia Research. 1993;10(2):125-30.	Irrelevant outcomes
Shalev E, Goldstein D, Zuckerman H. Compulsive water drinking in pregnancy. Int J Gynaecol Obstet. 1980;18(6):465-7.	Irrelevant outcomes
Vieweg WVR, Harrington DP, Westerman PS, McKelway RB, Hundley PL, Yank GR. Seasonal stability of water balance among schizophrenic patients subject to water intoxication. Progress in Neuro-Psychopharmacology and Biological Psychiatry. 1990;14(2):215-22.	Irrelevant outcomes
Nagashima T, Inoue M, Kitamura S, Kiuchi K, Kosaka J, Okada K, et al. Brain structural changes and neuropsychological impairments in male polydipsic schizophrenia. BMC Psychiatry. 2012;12:210.	Irrelevant outcomes
de Leon J, Dadvand M, Canuso C, Odom-White A, Stanilla J, Simpson GM. Polydipsia and water intoxication in a long-term psychiatric hospital. Biological Psychiatry. 1996;40(1):28-34.	Irrelevant outcomes
Mears SA, Shirreffs SM. Voluntary water intake during and following moderate exercise in the cold. International journal of sport nutrition and exercise metabolism. 2014;24(1):47-58.	Irrelevant outcomes
De Leon J. Polydipsia: A study in a long-term psychiatric unit. European Archives of Psychiatry and Clinical Neuroscience. 2003;253(1):37-9.	Irrelevant outcomes
Knechtle B, Senn O, Imoberdorf R, Joleska I, Wirth A, Knechtle P, et al. Maintained total body water content and serum sodium concentrations despite body mass loss in female ultra-runners drinking ad libitum during a 100 km race. Asia Pacific Journal of Clinical Nutrition. 2010;19(1):83-90.	Irrelevant outcomes
Schnur DB, Frick S, Smith S. Temporal stability of polydipsia-hyponatremia. Schizophrenia Research. 1997;26(2-3):199-202.	Irrelevant outcomes
Galun E, Tur-Kaspa I, Assia E, Burstein R, Strauss N, Epstein Y, et al. Hyponatremia induced by exercise: a 24-hour endurance march study. Miner Electrolyte Metab. 1991;17(5):315-20.	Serum sodium values not indicative of hyponatraemia
Vieweg WVR, David JJ, Rowe WT. Psychogenic polydipsia and water intoxication - Concepts that have failed. Biological Psychiatry. 1985;20(12):1308-20.	Irrelevant intervention/outcomes + serum sodium values not indicative of hyponatraemia
Canuso CM, Goldman MB. Does minimizing neuroleptic dosage influence hyponatremia? Psychiatry Research. 1996;63(2-3):227-9.	Irrelevant intervention/outcomes
Kopala LC, Good KP, Koczapski AB, Honer WG. Olfactory deficits in patients with schizophrenia and severe polydipsia. Biological Psychiatry. 1998;43(7):497-502.	Irrelevant intervention/outcomes
Verghese C, Levitan I, Nair C, Abraham G, Garber SS, Josiassen RC. Impaired lymphocyte volume regulation in schizophrenic patients with polydipsia-hyponatremia. Biological Psychiatry. 1997;42(8):733-6.	Irrelevant intervention/outcomes
Frisbie JH. Salt wasting, hypotension, polydipsia, and hyponatremia and the level of spinal cord injury. Spinal Cord. 2007;45(8):563-8.	Irrelevant intervention/outcomes
Williams ST, Kores RC. Psychogenic polydipsia: comparison of a community sample with an institutionalized population. Psychiatry Research. 2011;187(1-2):310-1.	Irrelevant intervention/outcomes
Lindeman E, Fredriksson I. Ecstasy-associated hyponatremia: Treat them like marathon runners. Clinical Toxicology. 2019;57 (6):511.	Abstract only
Siregar P, Susalit E, Wirawan R, Setiati S, Waspadji S. Optimal water intake for the elderly: Prevention of hyponatremia. Nephrology. 2010;15:94.	Abstract only
Bosworth KV, Gohil S, Ikram U. Insatiable thirst: is obstetric hyponatraemia under recognised? International Journal of Obstetric Anesthesia. 2019;39 (Supplement 1):59.	Astract only
Forde H, O'Shea T, Davenport C, Smith D. Acute symptomatic hyponatraemia following sodium picosulfate/magnesium citrate as bowel preparation for colonoscopy-a case series. Irish Journal of Medical Science. 2014;183(9):S469.	Abstract only
Vieweg WV, Rowe WT, David JJ, Spradlin WW. Oral sodium chloride in the management of schizophrenic patients with self-induced water intoxication. Journal of Clinical Psychiatry. 1985;46(1):16-9.	Unable to obtain text in time

Verhoeven A, Musch W, Decaux G. Treatment of the polydipsia-hyponatremia syndrome with urea. Journal of Clinical Psychiatry. 2005;66(11):1372-5.	Unable to obtain text in time
Tanneau RS, Henry A, Rouhart F, Bourbigot B, Garo B, Mocquard Y, et al. High incidence of neurologic complications following rapid correction of severe hyponatremia in polydipsic patients. Journal of Clinical Psychiatry. 1994;55(8):349-54.	Unable to obtain text in time
Spears NM, Leadbetter RA, Shutty MS, Jr. Clozapine treatment in polydipsia and intermittent hyponatremia. Journal of Clinical Psychiatry. 1996;57(3):123-8.	Unable to obtain text in time
Munn NA. Resolution of polydipsia and hyponatremia in schizophrenic patients after clozapine treatment. Journal of Clinical Psychiatry. 1993;54(11):439.	Unable to obtain text in time
Gibbs CJ, Lee HA. Severe hyponatraemia in a quadriplegic. British Journal of Clinical Practice. 1994;48(1):53-4.	Unable to obtain text in time

Supplemental Data File 5: Full risk of bias assessment

Author	Risk of bias								
	Selection	Ascertainment		Causality (adverse drug effects only)				Reporting	Score
	Is the patient/cohort representative of typical cases? (Yes = 1, No = 0)	Was the exposure adequately ascertained? (Yes = 1, No = 0) - excess water intake	Was the outcome adequately ascertained? (Hyponatraemia/serum Na) (Yes = 1, No = 0)	Were alternative causes of the outcome ruled out? (Yes = 1, No = 0) - medication only	Was there a challenge/re-challenge phenomenon? (Yes = 1, No = 0) - medication only	Was there a dose response effect? (Yes = 1, No = 0) - medication only	Was follow-up long enough for outcome to occur? (Yes = 1, No = 0) - resolution of hyponatraemia	Was the case described with enough detail to allow other investigators to replicate the search or to allow practitioners to make inferences related to their own practice? (Yes = 1, No = 0) - related to treatment and outcome	
Kashiura et al. 2017	Yes, patients were all admitted to hospital with hyponatraemia and polydipsia	Yes, patients all drank > 6 L/day	Yes, average serum Na = 110.5 mmol/L	Yes, underlying mental disorders with relevant treatments	No	No	No, unclear	Yes, adequate detail provided	5
Pal et al. 2017	Yes, the patient presented to outpatient department with hyponatraemia	Yes, the patient consumed 12-15 L of water/day	Yes, serum Na = 94 mmol/L	No	Yes, levodopa therapy from 100-400 mg/day over a period of 2 weeks	Yes, patient improved drastically with levodopa therapy	Yes, 2 weeks. Repeat MRI done after 1 month	Yes, adequate detail provided	7
Suzuki et al. 2016	No, patient was found dead	Yes, patient repeatedly drank a large amount of water	Yes, serum Na = 85 mmol/L and vitreous humor = 105 mmol/L right eye and 107 mmol/L left eye	No	No	No	No	No, patient died	2
De Soto et al. 1985	Yes, patient was admitted to hospital for a prostate biopsy where he experienced a grand mal seizure due to hyponatraemia caused by excessive fluid intake	Yes, patient drank between 20-30 L of fluid/day	Yes, serum Na = 119 mmol/L	Yes, lithium carbonate and fluphenazine for schizoaffective disorder	Yes, lithium carbonate and fluphenazine were discontinued in favour of carbamazepine. Fluphenazine was continued again after 3 weeks	Yes, symptoms resolved	Yes, 4 weeks	Yes, adequate detail provided	8
Narci 2013	Yes, patient was admitted to hospital with hyponatraemia	Yes, patient drank > 10 L of water over several hrs	Yes, serum Na = 129 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Shutty et al. 1993	Yes, patient was admitted to psychiatric department with hyponatraemia	Yes, patient drank 2.6 L of water/hr	Yes, serum Na = 118 mmol/L	Yes, schizophrenia + hyperthyroidism treated with methimazole	Yes, patient was trialled on thiothixene and lithium	Yes, medication appeared to be ineffective as patient continued to periodically drink excessive amounts of water	Yes, 10 months	Yes, adequate detail provided	8
Porter et al. 2007	Yes, patient was admitted to hospital following a hyponatraemia-induced seizure	Yes, patient estimated intake of 10 L of water/day	Yes, serum Na = 112 mmol/L	No	No	No	No	Yes, adequate detail provided	4
O'Brien et al. 2001	Yes, patients were all admitted to hospital with hyponatraemia	Yes, all patients consumed large quantities of water	Yes, serum Na ranged from 121-128 mmol/L	No	No	No	No	No, 1 patient's outcome was not reported and no details were provided regarding types of treatment for any of the patients	3
Sato et al. 2018	Yes, patient was admitted to hospital with hyponatraemia	Yes, patient consumed 1 L of water over 6 hrs	Yes, serum Na = 120 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Noakes et al. 1985	Yes, patients were all admitted to hospital with hyponatraemia	Yes, all patients consumed large quantities of water ranging from ~6-12.5 L over 7-10 hrs	Yes, serum Na ranged from 115-125 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Rae 1976	Yes, patient experienced chronic hyponatraemia caused by excessive water intake	Yes, patient consumed 6.2 L of water/day	Yes, serum Na = 111 mmol/L	Yes, schizophrenia treated with trifluoperazine	No	No	No	Yes, adequate detail provided	5
Chapman et al. 2008	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed > 4 L of water/day	Yes, serum Na = 111 mmol/L	No	No	No	Yes, 2 weeks	Yes, adequate detail provided	5
Davis et al. 2001	Yes, patients experienced hyponatraemia due to excess water intake	No, unclear	Yes, serum Na = ~125 mmol/L	No	No	No	No	No, limited detail regarding volume of water consumed	2
Goldman 1994	No, unclear	No, unclear	Yes, serum Na = 119 mmol/L	Yes, schizophrenia treated with lithium and lorazepam	Yes, lithium was discontinued and then restarted	Yes, her psychiatric symptoms improved temporarily	No	No, limited detail regarding volume of water consumed and potential causes of death	4
Budisavljevic et al. 2003	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank "a lot" of water due to excessive thirst after ecstasy ingestion	Yes, serum Na = 124 mmol/L	Yes, MDMA caused excessive thirst in the patient	No	No	No	Yes, adequate detail provided	5
Parkinson et al. 2013	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 5-7 L of water over the course of 24 hrs	Yes, serum Na = 127 mmol/L	No	No	No	No	Yes, adequate detail provided	4

Adetoki et al. 2013	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed "copious quantities" of water	Yes, serum Na = 109 mmol/L	Yes, poor compliance with olanzapine, clonazepam and pipotiazine palmitate	No	No	No	Yes, adequate detail provided	5
Hsu et al. 2005	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patients consumed from 2.5-10 L of water per day	Yes, serum Na = ~115 mmol/L	Yes, MDMA, haloperidol, amisulpride, clonazepam, hydrochlorothiazide, amiloride	No	No	No	Yes, adequate detail provided	5
Akasaki et al. 1993	Yes, patient was admitted to hospital following a hyponatraemia-induced convulsion and coma	Yes, patient consumed a "large quantity of water during the previous 2 years"	Yes, serum Na = 116 mmol/L	Yes, spiperone	No	No	No	Yes, adequate detail provided	5
Vieweg et al. 1985	No, unclear	No, unclear	Yes, serum Na = ~111 mmol/L	Yes, schizophrenia treated with antipsychotic agents	No	No	No	No, limited detail regarding type and volume of fluid, treatment types and potential causes of death	2
Algahtani et al. 2008	Yes, patient was admitted to hospital with hyponatraemia	Yes, patient had been restricting her diet to only drinking the holy water, Zamzam as recommended by an alternative medicine practitioner	Yes, serum Na = 109 mmol/L	No	No	No	No	No, patient died	3
Hiramatsu et al. 2007	Yes, patient was admitted to hospital with hyponatraemia	Yes, patient drank 4 L of water in 3 hrs	Yes, serum Na = 124 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Pavalonis et al. 1992	Yes, patient experienced intermittent hyponatraemia throughout the years	Yes, patient drank up to 35 L of water per day, with an average consumption of 10 L	Yes, serum Na = ~130 mmol/L	No	Yes, patient was treated with a combination of lithium and phenytoin	No	Yes, 23 weeks	Yes, adequate detail provided	6
Tallis 1989	Yes, patients all presented to hospital with hyponatraemia	Yes, patients all consumed large amounts of water	Yes, serum Na = ~114 mmol/L	Yes, antipsychotic medication	No	No	No	Yes, adequate detail provided	5
Chondrogiannis et al. 2009	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed 8-10 L of water/day	Yes, serum Na = 126 mmol/L	Unclear	No	No	No	Yes, adequate detail provided	4
Phull et al. 2011	Yes, patient presented to hospital with hyponatraemia secondary to paranoid schizophrenia	Yes, patient consumed excess water to 'flush' out his kidneys and also potentially drank extra water from the toilet	Yes, serum Na = 90 mmol/L	Yes, poor compliance with antidepressant and anticholinergic medication	Yes, olanzapine velotabs and intramuscular injections	Yes, psychiatric symptoms improved	Yes, 155 days	Yes, adequate detail provided	8
Chamberlain 2012	Yes, patient presented to hospital with hyponatraemia secondary to paranoid schizophrenia	Yes, patient consumed excess water to 'flush' out his system and prevent another kidney stone	Yes, serum Na = 115 mmol/L	Yes, poor compliance with antipsychotic medication	Yes, frequent doses of lorazepam and haloperidol	Yes, psychiatric symptoms improved	Yes, > 1 week	Yes, adequate detail provided	8
de Leon et al. 1995	Yes, patients presented with hyponatraemia	Yes, patients consumed excessive amounts of water	Yes, serum Na = 116 mmol/L	Yes, schizophrenia treated with haloperidol, loxapine, lithium, phenytoin and propranolol	Yes, patients were trialled on clozapine at varying doses	Yes, polydipsia improved	Yes, > 1 year	Yes, adequate detail provided	8
Young et al. 1987	Yes, patient presented with hyponatraemia	Yes, patient consumed excessive amounts of water	Yes, serum Na = 123 mmol/L	No	No	No	No	Yes, adequate detail provided	4
el-Mallakh et al. 1990	Yes, patient presented with hyponatraemia	Yes, patient was noted to "binge drink" water	Yes, serum Na = ~127 mmol/L	Yes, schizophrenia treated with fluphenazine and banztropine	Yes, patient was treated with a combination of lithium and a neuroleptic	Yes, psychiatric symptoms improved	No, unclear	Yes, adequate detail provided	7
Shah et al. 1992	Yes, patients presented with hyponatraemia	Yes, patients were noted to engage in "excessive water intake"	Yes, serum Na = ~115 mmol/L	Yes, psychiatric comorbidities treated with carbamazepine and diuretics	No	No	Yes, 9 months	Yes, adequate detail provided	6
Nardone et al. 2010	Yes, patient presented to neurology with hyponatraemia	No, unclear	Yes, serum Na = 107 mmol/L	Yes, schizophrenia treated with clozapine	No	No	Yes, 4 weeks	Yes, adequate detail provided	5
Primavera et al. 1995	Yes, patient presented multiple times with seizures related to hyponatraemia	Yes, patient consumed "several litres of water daily for some days"	Yes, serum Na = 90 mmol/L	Yes, diuretics	Yes, patient was treated with benzodiazepines, phenobarbital and amytriptiline	Yes, psychiatric symptoms improved	Yes, 1 year	Yes, adequate detail provided	8
Shesser et al. 1985	Yes, patient presented with seizures related to hyponatraemia	Yes, it was estimated that the patient consumed more than 29 L of water over 24 hrs	Yes, serum Na = 105 mmol/L	Yes, lithium carbonate and fluphenazine for schizoaffective disorder	No	No	No	Yes, adequate detail provided	5
Emsley et al. 1984	Yes, patient presented with a seizure related to hyponatraemia	Yes, patient was noted to be "drinking large volumes of water"	Yes, serum Na = 119 mmol/L	Yes, phenobarbitone and hydrochlorothiazide were disontinued	Yes, patient was treated with phenytoin	Yes, psychiatric symptoms improved	Yes, 5 weeks	Yes, adequate detail provided	8
Katsarou et al. 2010	Yes, patient presented with a seizure related to hyponatraemia	Yes, patient consumed 8-10 L of diet coke/day, 15-20 cups of coffee/day and several cups of water every few minutes	Yes, serum Na = 104 mmol/L	Yes, risperidone was discontinued	Yes, patient was treated with phenytoin. Antipsychotic medication was restarted on day 5	Yes, symptoms resolved	Yes, 11 days	Yes, adequate detail provided	8
Nagasawa et al. 2014	No, patient was found dead	Yes, patient consumed large amounts of water	Yes, serum Na = 83 mmol/L and vitreous humor = 113	Yes, haloperidol, risperidone and olanzapine	No	No	No	No, patient died	3

			mmol/L right eye and 111 mmol/L left eye						
Chen et al. 2016	Yes, patient experienced intermittent hyponatraemia	Yes, patient frequently over-consumed water	Yes, serum Na = 120 mmol/L	Yes, first or second generation antipsychotics	Yes, zotepine, valporate and clonazepam	Yes, psychiatric symptoms improved	Yes, years	Yes, adequate detail provided	8
Lee et al. 2016	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed several litres of water throughout the day	Yes, serum Na = 123 mmolL	No	No	No	No	Yes, adequate detail provided	4
Roche et al. 2018	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed 3 L of water daily	Yes, serum Na = 119 mmol/L	Yes, cortisol deficiency	No	No	No	Yes, adequate detail provided	5
Snell et al. 2008	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed > 6 L of water/day	Yes, serum Na = 114 mmol/L	Yes, non-compliant with adrenal replacement therapy	No	No	No	Yes, adequate detail provided	5
Coler et al. 2012	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed 3 L of water over 9 hrs	Yes, serum Na = 120 mmol/L	Yes, hydrochlorothiazide	No	No	No	Yes, adequate detail provided	5
Ledochowski et al. 1986	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed a large amount of tap water	Yes, serum Na = 101 mmol/L	No	No	No	No	No, limited detail regarding volume of water consumed	3
Itoh et al. 1997	Yes, patient experienced intermittent hyponatraemia	Yes, patient displayed continuous water drinking behaviours	Yes, serum Na = 130 mmol/L	No	No	No	No	No, vague details surrounding volume of water, past presentations of hyponatraemia and serum Na values	3
Salathe et al. 2018	Yes, patient presented to hospital with hyponatraemia	Yes, patient stated that she remembered being "very thirsty and drinking lots of water"	Yes, serum Na = 122 mmol/L	Yes, MDMA	No	No	No	Yes, adequate detail provided	5
Putterman et al. 1993	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed several litres of tap water during his hike and more afterwards	Yes, serum Na = 115 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Christenson et al. 1985	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 1.5-2 L of water over the morning	Yes, serum Na = 122 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Onozaki et al. 2001	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 20-27 L of water daily	Yes, serum Na = 124 mmol/L	Yes, trichlormethiazide and triamterene	No	No	No	Yes, adequate detail provided	5
Mavragani et al. 2005	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 6 L of water daily	Yes, serum Na = 124 mmol/L	Yes, oxcarbazepine	Yes, trialled on diphenyldantoin	Yes, polydipsia resolved	Yes, 2 weeks	Yes, adequate detail provided	8
Gutmann et al. 2002	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed 10-12 L of water over 2-3 hrs	Yes, serum Na = 123 mmolL	No	No	No	No	No, patient died	3
Lai et al. 2016	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 12 L of water within a few hrs	Yes, serum Na = 120 mmol/L	No	Yes, trialled on risperidone and aripiprazole	Yes, her psychiatric symptoms improved temporarily	No, follow-up was lost	Yes, adequate detail provided	6
Santos-Soares et al. 2008	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed 8 L of water over a few hrs	Yes, serum Na = 123 mmolL	No	No	No	No	Yes, adequate detail provided	4
Yalcin-Cakmakli et al. 2010	Yes, patients both presented to hospital with hyponatraemia	Yes, patients consumed 5-6 L of water and 3 L of water in 1.5 hrs, respectively	Yes, serum Na = ~124 mmol/L	Yes, escitalopram	No	No	No	Yes, adequate detail provided	5
Kowalski et al. 2014	Yes, patients both presented to hospital with hyponatraemia	Yes, patients over-consumed water	Yes, serum Na = ~118 mmol/L	No, unclear	No	No	No	No, limited detail regarding volume of water consumed	3
Vieweg et al. 1985	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patients over-consumed water for many years	Yes, serum Na = ~112 mmol/L	No, unclear	No	No	No	No, limited detail regarding type and volume of fluid, treatment types and treatment outcome	3
Yong et al. 2015	Yes, patients were all admitted to hospital with hyponatraemia	Yes, patients consumed an abundance of water due to advice from public health warnings	Yes, one patient's serum Na = 106 mmol/L	Yes, thiazide diuretics, loop diuretics, spironolactone	No	No	No, unclear	No, limited detail regarding treatment outcomes	4
Gillum et al. 1984	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed "copious amounts of tap water"	Yes, serum Na = 118 mmol/L	Yes, lithium carbonate	No	No	No	Yes, adequate detail provided	5
Cheng et al. 1990	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patients were all observed at some point to have consumed > 400 mL of water per hr beyond their physiologic need	Yes, serum Na = ~110 mmol/L	Yes, thiazide diuretics and other antipsychotic medication	No	No	Yes, many years	Yes, adequate detail provided	6
Issa et al. 1997	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patient consumed > 6 L of water over 3 hrs	Yes, serum Na = 118 mmol/L	No	No	No	No	Yes, adequate detail provided	4

Mirvis et al. 2015	Yes, both patients experienced hyponatraemia due to excess water intake	Yes, patients consumed 3 L of water per day	Yes, serum Na = ~119 mmol/L	Yes, medication for multiple myeloma (e.g. cyclophosphamide)	No	No	No	Yes, adequate detail provided	4
Strachan et al. 2007	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 10-12 L of water/day	Yes, serum Na = 110 mmol/L	Yes, lithium carbonate, risperidone	No	No	No	Yes, adequate detail provided	5
Noonan et al. 1977	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed excessive amounts of water straight from the bath faucet	Yes, serum Na = 127 mmol/L	No, unclear	No	No	No	Yes, adequate detail provided	4
Hayashi et al. 2005	No, patient was found dead	Yes, patient was noted to "drink running water excessively"	Yes, serum Na = 92 mmol/L	No, unclear	No	No	No	No, limited detail regarding volume of water consumed or whether cause of dead was even water intoxication	2
Vanhaebost et al. 2018	No, patient was found dead	Yes, patient was seen compulsively drinking water	Yes, vitreous humor = 117 mmol/L	Yes, paliperidone, aripiprazole, venlafaxine	No	No	No	No, patient died	3
Cronin 1987	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patients drank large quantities of water (10-12 gallons/day)	Yes, serum Na = ~108 mmol/L	No, unclear	No	No	No	Yes, adequate detail provided	4
Bremner et al. 1991	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patients drank excessively	Yes, serum Na = ~121 mmol/L	Yes, carbamazepine, haloperidol	Yes, demeclocycline and flupenthixole	Yes, psychiatric symptoms improved	No, unclear	Yes, adequate detail provided	7
Grainger et al. 1992	Yes, patient experienced hyponatraemia due to excess water intake	Yes, 4 L over 12 hrs	Yes, serum Na = 109 mmol/L	Yes, non-compliance with haloperidol	Yes, haloperidol was discontinued and chlorpromazine commenced	Yes, psychiatric symptoms improved	Yes, 18 days	Yes, adequate detail provided	8
Peh et al. 1990	Yes, patient experienced hyponatraemia due to excess water intake	Yes, 9 patients consumed around 3 L/day	Yes, serum Na = ~120 mmol/L	Yes, antipsychotic medication	No, unclear	No	No, unclear	No, limited detail regarding treatment types and outcomes	4
Ismail et al. 2010	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient significantly increased his water intake	Yes, serum Na = 125 mmol/L	Yes, varenicline	Yes, discontinuation of varenicline	Yes, psychiatric symptoms improved	Yes, 5 weeks	Yes, adequate detail provided	8
Prim 1988	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank > 20 cups of water/ day	Yes, serum Na = 123 mmol/L	Yes, haloperidol	Yes, reduction in haloperidol	Yes, psychiatric symptoms improved	Yes, 5 months	Yes, adequate detail provided	8
Lin et al. 2011	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank > 10 bottles of water/ day (1500 mL/bottle)	Yes, serum Na = 112 mmol/L	Yes, poor compliance with antipsychotic medication	No	No	No	Yes, adequate detail provided	5
Peh et al. 1990	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank tap water excessively	Yes, serum Na = 109 mmol/L	Yes, fluphenazine, chlorpromazine	Yes, trifluoperazine, benzhexol	No, unclear	Yes, 5 months	No, patient died	6
Finkel 2004	Yes, patient presented for evaluation of a urine sample	Yes, patient consumed 6-8 L of water/day	Yes, serum Na = 124 mmol/L	Yes, fat-burning pills	No	No	No	No, limited detail regarding treatment types and outcomes	4
Finlayson et al. 1989	Yes, patient was admitted to hospital following complaints of abdominal burning	Yes, patient consumed 5-10 L of water/day	Yes, serum Na = 106 mmol/L	Yes, antidepressants, neuroleptics	Yes, lithium, isocaboxazid, L-tryptophan	Yes, psychiatric symptoms improved	Yes, 5 weeks	Yes, adequate detail provided	8
Howe et al. 1983	Yes, patient was admitted to hospital with hyponatraemia	Yes, patient consumed water directly from 2 L jugs and also drank his own bath water	Yes, serum Na = 125 mmol/L	No, unclear	Yes, phenytoin and haloperidol	No	No, unclear	No, patient remained hyponatraemic	4
Koczapski et al. 1989	Yes, patients all experienced hyponatraemia due to excess water intake	Yes, patient's fluid intake ranged from 6.2-21.7 L/day	Yes, serum Na = ~127 mmol/L	Yes, neuroleptics	No	No	No	No, unclear	4
Kato et al. 2008	Yes, patient presented to outpatient clinic with hyponatraemia	Yes, patient consumed > 2 L of fluid in the 12 hrs prior to readmission	Yes, serum Na = 108 mmol/L	Yes, low-dose CY	Yes, discontinuation of CY	Yes, hyponatraemia resolved	Yes, > 2 years	Yes, adequate detail provided	8
Windpessl et al. 2017	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed 4 L of tea and water within 2 hrs	Yes, serum Na = 122 mmol/L	Yes, diclofenac	No	No	No	Yes, adequate detail provided	5
Kushnir et al. 1990	Yes, patient presented to hospital in a coma due to hyponatraemia	Yes, patient consumed water frequently and on the day of admission could not be separated from the garden hose	Yes, serum Na = 120 mmol/L	Yes, non-compliance with haloperidol and artane	No	No	No	No, patient died	4
Korzets et al. 1996	Yes, patient was admitted to ICU in a coma due to hyponatraemia	Yes, patient's mother reported patient drinking excessively	Yes, serum Na = 109 mmol/L	Yes, fluphenazine, perphenazine	No	No	Yes, 12 days	Yes, adequate detail provided	6
Caputo et al. 2001	Yes, patient presented to hospital with semi-consciousness due to hyponatraemia	Yes, patient consumed 4-5 L of water + 120-144 g of alcohol per day	Yes, serum Na = 95 mmol/L	Yes, theophylline, ace-inhibitors, diuretics, alprazolam	No	No	No	Yes, adequate detail provided	5

Inoue et al. 1985	Yes, patients all experienced hyponatraemia due to excess water intake	Yes, patients were all observed to drink water excessively	Yes, serum Na = ~120 mmol/L	Yes, psychotherapeutic medications	Yes, discontinuation of baclofen and additional administration of pimozide	Yes, hyponatraemia worsened	Yes, years	Yes, adequate detail provided	8
Beresford 1970	Yes, patients were admitted to hospital with hyponatraemia	Yes, patients consumed copious amounts of water	Yes, serum Na = ~115 mmol/L	Yes, thioridazine hydrochloride, hydrochlorothiazide	No	No	No	Yes, adequate detail provided	5
Goldman et al. 1988	Yes, patients all experienced hyponatraemia in the past due to excess water intake	Yes, patients all had a history of excessive drinking	Yes, serum Na = ~133 mmol/L	Yes, chlorpromazine, other neuroleptics	No	No	No, unclear	Yes, adequate detail provided	5
Gleadhill et al. 1982	Yes, all patients were admitted to hospital with hyponatraemia	Yes, patients drank excessively	Yes, serum Na = ~115 mmol/L	Yes, antipsychotic medication (thioxanthene, phenothiazine)	No, unclear	No	No, unclear	Yes, adequate detail provided	5
Shapira et al. 1988	Yes, patient presented to hospital with hyponatraemia	Yes, patient drank 4 L overnight	Yes, serum Na = 119 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Basnyat et al. 2000	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed 10 L/day	Yes, serum Na = 122 mmol/L	Yes, valproate	No	No	No	Yes, adequate detail provided	5
Bhananker et al. 2004	Yes, patient presented to hospital with hyponatraemia	Yes, patient consumed 4 L of water before surgery and 6 L after	Yes, serum Na = 120 mmol/L	Yes, benzodiazepines	No	No	No	Yes, adequate detail provided	5
Vieweg et al. 1984	Yes, patients all experienced intermittent hyponatraemia due to excess water intake	Yes, patients consumed on average 25 L/day	Yes, serum Na = ~115 mmol/L	Yes, haloperidol	Yes, increased doses	No	Yes, years	Yes, adequate detail provided	7
DiMaio et al. 1980	No, patient was found dead	Yes, patient consumed large quantities of water	Yes, serum Na = 110 mmol/L and vitreous humor = 115 mmol/L	Yes, haloperidol, trihexyphenidyl	No	No	No	No, patient died	4
Lydakis et al. 2005	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient consumed 9-12 L of water/day	Yes, serum Na = 110 mmol/L	Yes, NSAIDs, verapamil hydrochloride	Yes, trialled on risperidone and benzodiazepines	No, unclear	Yes, 2 follow-ups conducted within 1 yr	No, patient died	6
Pupic-Bakrac et al. 2017	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient consumed large amounts of water	Yes, serum Na = 98 mmol/L	Yes, schizophrenia treated with carbamazepine, haloperidol etc.	No	Yes, symptoms improved with neuropsychiatric therapy	No, unclear	Yes, adequate detail provided	6
Mukherjee et al. 2005	Yes, patient presented to hospital unconscious from water intoxication	Yes, patient drank large quantities of water	Yes, serum Na = 108 mmol/L	No	Yes, venlafaxine, then quetiapine	Yes, mental status improved	No	Yes, adequate detail provided	6
Solomon et al. 2019	Yes, patients both presented to hospital with hyponatraemia	Yes, patients drank excessive amounts of water to deal with contractions	Yes, serum Na = ~119 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Vishwajeet et al. 2005	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient drank around 6 L of fluid over 4 hrs	Yes, serum Na = 119 mmol/L	No	No	No	No, unclear	Yes, adequate detail provided	4
Goldman et al. 1985	Yes, patients were all inpatients at a psychiatric facility and had all experienced hyponatraemic episodes due to excess water intake	Yes, patients were identified by staff as compulsive water drinkers	Yes, serum Na = ~127 mmol/L	Yes, schizophrenia treated with neuroleptics and anticholinergic medication	Yes, demeclocycline	Yes, hyponatraemic episodes reduced	No, unclear	Yes, adequate detail provided	7
Chen et al. 2014	Yes, patient presented to emergency with hyponatraemia	Yes, patients drank 4 L of water over several hrs	Yes, serum Na = 120 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Yonemura et al. 1987	Yes, patient presented to hospital with hyponatraemia	Yes, patient drank 10-15 L of water/day	Yes, serum Na = 117 mmol/L	No	No	No	No	No, unclear	3
Nolte et al. 2019	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank 800 mL of water/hr for ~8 hrs (6.4L over 8 hrs)	Yes, serum Na = 134 mmol/L	No	No	No	No	No, unclear	3
Farrell et al. 2003	No, patient was found dead	Yes, patient drank 30-40 glasses of water the night before her death	Yes, vitreous humor = 92 mmol/L	No	No	No	No	No, patient died	2
Losonczy et al. 2016	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank 4-5 L of water over several hrs	Yes, serum Na = 114 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Sarvesvaran 1984	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank plenty of water following the accidental ingestion of bleach	Yes, serum Na = 111 mmol/L	No	No	No	No	No, patient died	3

Cicognani et al. 2013	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient was a compulsive water drinker	Yes, serum Na = 112 mmol/L	Yes, psychogenic polydipsia and anxiety	No	Yes, low dose of citalopram controlled anxiety	Yes, 1 week	Yes, adequate detail provided	7
Hanihara et al. 1997	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patients were all compulsive water drinkers	Yes, serum Na = ~121 mmol/L	Yes, schizophrenia treated with neuroleptics	No	No	No	Yes, adequate detail provided	5
Santonastaso et al. 1998	Yes, patient presented to emergency with hyponatraemia	Yes, patient consumed 6 L of water the day before weighing to maintain her target weight	Yes, serum Na = 113 mmol/L	Yes, anorexia nervosa treated with haloperidol	No	No	No	Yes, adequate detail provided	5
Ramirez et al. 1993	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient consumed 2-3 gallons of water/day	Yes, serum Na = 111 mmol/L	No	Yes, gamma-aminobutyric acid analog baclofen	Yes, reduction in compulsive drinking	Yes, 8 months	Yes, adequate detail provided	7
Kott et al. 1985	Yes, patient presented to emergency with hyponatraemia	Yes, patient consumed 30 glasses of water, one after the other	Yes, serum Na = 127 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Zilles et al. 2010	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 3 L of mineral water within 30 minutes	Yes, serum Na = 112 mmol/L	Yes, schizophrenia treated with quetiapine and lorazepam	Yes, trialled on olanzapine	No, unclear	No	Yes, adequate detail provided	6
Tenyi et al. 2006	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient was a compulsive water drinker	Yes, serum Na = 113 mmol/L	Yes, schizophrenia treated with clozapine	Yes, trialled on olanzapine	Yes, symptoms resolved and no recurrence of rhabdomyolysis	Yes, 6 months	Yes, adequate detail provided	8
Mor et al. 1987	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient drank an excessive amount of water due to feeling unusually thirsty	Yes, serum Na = 119 mmol/L	Yes, depression treated with levomepromazine and oxazepam	No	No	No	Yes, adequate detail provided	5
Johansson et al. 2002	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patients drank several litres of water and juice/ > 8 L of water over 23 hrs	Yes, serum Na = 122 mmol/L	Yes, oxytocin during labour	No	No	No	No, limited detail regarding treatment types and outcomes	4
Goldman et al. 1994	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patients drank ~4.9 L of water/day	Yes, serum Na = 132 mmol/L	Yes, schizophrenia treated with chlorpromazine, lithium and clonazepam	No	No	No	Yes, adequate detail provided	5
Raskind 1974	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient drank copious amounts and spent most of her time in the bathroom or by the water fountain	Yes, serum Na = 111 mmol/L	Yes, schizophrenia and depression. On hydroflumethiazide, thioridazine and hydrochloride	No	No	No	No, patient died	4
Musch et al. 2003	Yes, patients all experienced hyponatraemia due to excess water intake	Yes, patients drank > 4 L of either water or beer/day	Yes, serum Na = ~126 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Mercier-Guidez 1998	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank up to 13 L of fluids/day	Yes, serum Na = ~110 mmol/L	Yes, schizophrenia treated with neuroleptics	No	No	Yes, 6 months	Yes, adequate detail provided	6
Gopal et al. 2000	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient drank several litres + another 3 L over 1 hr in preparation for a pelvic ultrasound examination	Yes, serum Na = 118 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Moshiri et al. 2014	Yes, patient presented with hyponatraemia related to excess water intake	Yes, patient began drinking excessive amounts of water after her physician told her it was beneficial	Yes, serum Na = 122 mmol/L	Yes, quetiapine, hydrochlorothiazides	Yes, discontinuation of hydrochlorothiazide	Yes, improvement in hyponatraemia	No, unclear	Yes, adequate detail provided	7
Lightenberg et al. 1998	Yes, patient was admitted to hospital with hyponatraemia related to excess water intake	Yes, patient drank > 6 L over several hrs	Yes, serum Na = 114 mmol/L	No	No	No	No	No, patient died	3
Gardner 2002	Yes, patients all presented to hospital with hyponatraemia related to excess water intake	Yes, patients drank 20 quarts/6 canteens/1 gallon of water	Yes, serum Na = ~120 mmol/L	No	No	No	No	No, patients died + no detail regarding treatment for patient who survived	3
Kipps et al. 2011	Yes, patients developed hyponatraemia post-marathon	Yes, patients drank around 843 mL of water or sports drink/hr	Yes, serum Na = ~132 mmol/L	No	No	No	No	No, limited detail regarding treatment types and outcomes	3
Tilley et al. 2011	Yes, patient developed hyponatraemia due to excess water intake	Yes, patient drank around 14 L of water within 3 hrs	Yes, serum Na = 122 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Hariprasad et al. 1980	Yes, patients all experienced hyponatraemia due to excess water intake	Yes, patients drank around 7-43 L of fluid/day	Yes, serum Na = ~111 mmol/L	Yes, antipsychotic medication	Yes, increased doses	Yes, psychiatric symptoms improved	No	Yes, adequate detail provided	7

Noakes et al. 2004	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank as much as possible + 750 mL/hr during the cycling leg	Yes, serum Na = 127 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Oh et al. 2018	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patients drank 4.5-6 quarts of water in 2-2.5 hrs	Yes, serum Na = ~128 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Tanneau et al. 1993	Yes, patients experienced hyponatraemia due to excess water intake	Yes, patients were either compulsive water drinkers, or drank persistently	Yes, serum Na = ~110 mmol/L	Yes, thiazide diuretics, spironolactone	No	No	No	Yes, adequate detail provided	5
Madero et al. 2015	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient drank a significant amount of water while on a flight	Yes, serum Na = 116 mmol/L	Yes, thiazide diuretics	No	No	No	Yes, adequate detail provided	5
Rosenbaum et al. 1979	Yes, patients presented to hospital with hyponatraemia due to excess water intake	Yes, patients drank significant amounts of water (20 glasses/drinking from shower heads)	Yes, serum Na = ~112 mmol/L	Yes, thioridazine and other psychotropic medications	No	No	No	Yes, adequate detail provided	5
Garigan et al. 1999	Yes, patient presented to hospital In acute respiratory distress due to hyponatraemia	Yes, patient drank ~20 quarts of water within 4 hrs	Yes, serum Na = 115 mmol/L	No	No	No	No	No, patient died	3
Sjoblom et al. 1997	Yes, patient presented to emergency with hyponatraemia due to excess water intake	Yes, patient drank directly from the tap for 3-4 hrs	Yes, serum Na = 106 mmol/L	No	No	No	No	No, patient died	3
Ellinas et al. 1993	Yes, patients were all admitted to hospital with hyponatraemia and polydipsia	Yes, patients were all compulsive water drinkers (except 1 who was a chronic alcoholic)	Yes, serum Na = ~115 mmol/L	Yes, neuroleptics	No	No	No	Yes, adequate detail provided	5
Cosgray et al. 1990	Yes, patient was transferred to hospital following a hyponatraemia-induced seizure	Yes, patient made frequent trips to the water fountain	Yes, serum Na = 103 mmol/L	No, unclear	No	No	No	Yes, adequate detail provided	4
Rao et al. 2011	Yes, patient presented with hyponatraemia related to excess water intake	Yes, patient drank around 8 L of water/day	Yes, serum Na = 123 mmol/L	Yes, discontinuation of antipsychotic medication	Yes, trialled on risperidone and trihexyphenidyl	Yes, psychiatric symptoms improved	Yes, 6 weeks	Yes, adequate detail provided	8
Radojevic et al. 2012	Yes, patient presented to emergency with symptoms of hyponatraemia	Yes, patient drank excessive amounts of water	Yes, serum Na = ~105 mmol/L	Yes, schizophrenia treated with neuroleptic	No	No	No	No, patients died	4
McDaniel et al. 2010	Yes, patients suffered from psychiatric illnesses and intermittent hyponatraemia	Yes, patients all consumed large amounts of water	Yes, serum Na = ~123 mmol/L	Yes, bipolar disorder and depression treated with lithium, fluphenazine, fluoxetine and lorazepam	Yes, resuming regular doses of lithium and increasing lorazepam doses	Yes, psychiatric symptoms improved	No	Yes, adequate detail provided	7
Chen et al. 2006	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient consumed 6 L of water in preparation for a colonoscopy	Yes, serum Na = 118 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Iwazu et al. 2007	Yes, patient presented to hospital with symptoms of hyponatraemia	Yes, patient consumed 6 L of water and Japanese tea/day to ease throat discomfort	Yes, serum Na = 123 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Speedy et al 2000	Yes, patients experienced mild hyponatraemia due to excess fluid intake	Yes, patients consumed around 9.5 L of fluids throughout the course of the race (12.6 hrs)	Yes, serum Na = 131 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Shevitz et al. 1980	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient consumed around 15 quarts of water/day	Yes, serum Na = 114 mmol/L	No, unclear	Yes, thioridazine and propranolol	Yes, her psychiatric symptoms improved	No	Yes, adequate detail provided	6
Tolan et al. 2001	Yes, patients presented with hyponatraemia related to excess water intake	Yes, patients consumed 10 glasses of water/day and 3 L after drinking alcohol	Yes, serum Na = ~110 mmol/L	Yes, olanzapine and sertraline	Yes, medication discontinued. Trialled on clozapine	Yes, hyponatraemia resolved	No	Yes, adequate detail provided	7
Penders et al. 2015	Yes, patient presented to emergency with altered mental status related to hyponatraemia	Yes, patient consumed 8 L of water/day	Yes, serum Na = 101 mmol/L	Yes, schizoaffective disorder treated with antipsychotic medication	Yes, discontinuation of clozapine	Yes, psychiatric symptoms improved	Yes, 3 months	Yes, adequate detail provided	8
Olapade-Olaopa et al. 1997	Yes, patients presented with hyponatraemia related to excess water intake	Yes, patients consumed 7 L of fluid in 6 hrs, and 15-18 L of fluid in 24 hrs, respectively	Yes, serum Na = ~115 mmol/L	No	No	No	No	No, limited detail regarding treatment type	3

Funayama et al. 2011	Yes, patient was admitted to hospital with mild disorientation related to hyponatraemia	Yes, patient consumed > 10 L of water/day	Yes, serum Na = 100 mmol/L	Yes, schizophrenia treated with haloperidol	Yes, discontinuation of haloperidol	Yes, hyponatraemia and symptoms both resolved	Yes, 2 years	Yes, adequate detail provided	8
Fleischhacker et al. 1987	Yes, patient was admitted following vomiting and a seizure related to hyponatraemia	Yes, patient was found drinking large quantities of water from the washbasin	Yes, serum Na = 101 mmol/L	Yes, schizophrenia treated with neuroleptics	Yes, discontinuation of neuroleptics	No, unclear	Yes, 16 days	Yes, adequate detail provided	7
Bayir et al. 2012	Yes, patient was admitted with altered consciousness related to hyponatraemia	Yes, patient consumed 12 L of tap water in 4 hrs	Yes, serum Na = 107 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Weiss 2004	Yes, patient presented with hyponatraemia related to excess water intake	Yes, patient consumed up to 8 L of water/day	Yes, serum Na = 116 mmol/L	Yes, hydrochlorothiazide	Yes, discontinuation of hydrochlorothiazide	Yes, hyponatraemia resolved	Yes, months	Yes, adequate detail provided	8
Diamond et al. 2003	Yes, patient presented with symptomatic hyponatraemia related to excess water intake	Yes, patient consumed 5 gallons of water over a few hrs	Yes, serum Na = 114 mmol/L	Yes, arbutin	No	No	No	Yes, adequate detail provided	5
Su et al. 2012	Yes, patient presented with confusion and difficulty speaking secondary to hyponatraemia	Yes, patient consumed 3 L of water over 4 hrs	Yes, serum Na = 114 mmol/L	Yes, tricyclic antidepressant therapy	Yes, discontinuation of mirtazapine and ramipril	No, unclear	No	Yes, adequate detail provided	6
Leban et al. 2016	Yes, patient presented to emergency with hyponatraemia related to excess water intake	Yes, patient consumed 6 L over ~9 hrs	Yes, serum Na = 116 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Kawashima et al. 2015	No, patients were found dead	Yes, patients repeatedly consumed considerable amounts of water	Yes, serum Na = ~104 mmol/L	Yes, antipsychotic medication	No	No	No	No, patients died	3
Kruse 1993	Yes, patient presented to emergency with hyponatraemia related to excess water intake	Yes, patient had psychogenic polydipsia and walked frequently to the water fountain	Yes, serum Na = 124 mmol/L	Yes, lithium, chlorpromazine	No	No	No	No, limited detail regarding treatment types and outcomes	4
Cosgray et al. 1993	Yes, all patients had a history of hyponatraemia related to excess water intake	Yes, patients engaged in excessive water drinking behaviours	Yes, serum Na = ~124 mmol/L	Yes, neuroleptics	No	No	No	Yes, adequate detail provided	5
Cortejoso et al. 2014	Yes, patient presented with hyponatraemia related to excess water intake	Yes, patient had a high water intake for 3 days before presentation	Yes, serum Na = 123 mmol/L	Yes, acyclovir	Yes, discontinued acyclovir and trialled on acetylsalicylic acid, atorvastatin, amlodipine and enalapril	Yes, hyponatraemia resolved	No	Yes, adequate detail provided	7
Thomas et al. 2001	Yes, patient presented with intractable hiccups and a history of hyponatraemia due to excess water intake	Yes, patient consumed around 10 L of water/day	Yes, serum Na = ~105 mmol/L	Yes, propranolol, clonidine, chlorpromazine	No	No	Yes, 8 weeks	Yes, adequate detail provided	6
Scotney et al. 2015	Yes, patient developed hyponatraemia due to excess water intake	Yes, patient consumed around 5.3 L of water and electrolyte solution in ~11 hrs	Yes, serum Na = 132 mmol/L	Yes, NSAIDs	No	No	No	No, limited detail regarding treatment types and outcomes	4
Nixon et al. 1982	Yes, patient experienced chronic hyponatraemia caused by excessive water intake	Yes, patient consumed 10-15 L/day	Yes, serum Na = ~115 mmol/L	Yes, haloperidol, benztropine	Yes, trialled on demeclocyline	Yes, hyponatraemia reduced	Yes, ~20 weeks	Yes, adequate detail provided	8
Chong et al. 1997	Yes, all patients had a history of hyponatraemia related to excess water intake	Yes, patients consumed "excessive amounts" of fluids	Yes, serum Na = ~125 mmol/L	Yes, neuroleptics	No	No	No	No, limited detail regarding treatment types and outcomes	4
Goldman 1999	Yes, patient had a history of symptomatic hyponatraemia related to excess water intake	Yes, patient consumed ~9-15 L of fluids/day	Yes, serum Na = ~115 mmol/L	Yes, trifluperazine, benztropine	Yes, trialled on cortisol	No	Yes, 4 weeks	Yes, adequate detail provided	7
Moskowitz 1992	Yes, patient had a history of symptomatic hyponatraemia related to excess water intake	Yes, patient consumed 7 L of fluids/day	Yes, serum Na = 115 mmol/L	Yes, haloperidol, benztropine mesylate	No	No	Yes, 66 months	Yes, adequate detail provided	6
Simmons et al. 2007	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 2-3 gallons of water/day	Yes, serum Na = 118 mmol/L	Yes, depression treated with sertraline, divalproex and lamotrigine	No	No	No	Yes, adequate detail provided	5
Lipsky et al. 1987	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 1350 mL over 1-2 hrs	Yes, serum Na = 123 mmol/L	No	No	No	No	Yes, adequate detail provided	4

Looi et al. 1995	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient consumed 16 L of water/day	Yes, serum Na = 120 mmol/L	Yes, clonazepam, lithium, chlorpromazine	Yes, all psychotropic medication discontinued. Then clonazepam re-introduced	Yes, psychiatric symptoms improved	Yes, 13 days	Yes, adequate detail provided	8
Shiwach 1996	Yes, patient presented with hyponatraemia related to excess water intake	Yes, patient consumed 4 L over 2 hrs	Yes, serum Na = 118 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Whitchurch et al. 2011	Yes, patient presented with hyponatraemia related to excess water intake	Yes, patient consumed several litres/day	Yes, serum Na = 123 mmol/L	No, unclear	Yes, olanzapine, lorazepam	Yes, psychiatric symptoms improved	Yes, 8 months	Yes, adequate detail provided	7
Wicke et al. 2017	Yes, patient presented to ICU with hyponatraemia	Yes, patient was assumed to have consumed excessive amounts of water due to psychogenic polydipsia	Yes, serum Na = 102 mmol/L	Yes, venlafaxine, opipramole	No	No	No	Yes, adequate detail provided	5
Noakes et al. 2001	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient consumed around 15 L of fluids over ~10 hrs	Yes, serum Na = 123 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Kathol et al. 1985	Yes, patients presented to hospital with hyponatraemia due to excess water intake	Yes, patients drank ~11 L of water/day	Yes, serum Na = ~123 mmol/L	Yes, propranolol, thiothixene	Yes, discontinuation of thiothixene. Trialled on demeclocycline, captopril, haloperidol	No	Yes, 1 yr	Yes, adequate detail provided	7
Lyster et al. 1994	Yes, patients were identified as having experienced hyponatraemia due to excess water intake	Yes, patients drank excessive amounts of water	Yes, serum Na = 119 mmol/L	Yes, chlorpromazine	Yes, clozapine	Yes, hyponatraemia and symptoms both improved	No, unclear	Yes, adequate detail provided	7
Worthley 1975	Yes, patient suffered a seizure due to hyponatraemia	Yes, patient drank excessive amounts of water due to not being able to smoke	Yes, serum Na = 97 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Dubin et al. 2016	Yes, patient was admitted with hyponatraemia due to excess water intake	Yes, patient drank excessive amounts of water	Yes, serum Na = 110 mmol/L	Yes, zuclopenthixol, olanzapine	No	No	No	Yes, adequate detail provided	5
Wicki et al. 1998	Yes, patient was admitted with hyponatraemia due to excess water intake	Yes, patient was a compulsive water drinker	Yes, serum Na = 120 mmol/L	Yes, clozapine	Yes, clozapine withheld and replaced with haloperidol. Clozapine then restarted on day 10	Yes, hyponatraemia and symptoms both resolved	Yes, 19 days	Yes, adequate detail provided	8
Zaidi 2005	Yes, patient was admitted to hospital following a hyponatraemia-induced seizure	Yes, patient drank excessive amounts of water	Yes, serum Na = 112 mmol/L	Yes, ziprasidone	Yes, ziprasidone withheld and replaced with haloperidol. Ziprasidone then restarted later on	Yes, psychiatric symptoms improved	Yes, 8 days	Yes, adequate detail provided	8
Allon et al. 1990	Yes, patients presented to hospital with hyponatraemia due to excess water intake	Yes, patients drank excessive amounts of water	Yes, serum Na = ~109 mmol/L	Yes, loxapine	Yes, loxapine discontinued and then restarted	Yes, hyponatraemia and symptoms both resolved	Yes, 6 days	Yes, adequate detail provided	8
Ripley et al. 1989	Yes, patients all experienced hyponatraemia due to excess water intake	Yes, patients drank around 5-10 L of water/day	Yes, serum Na = ~120 mmol/L	No, unclear	No	No	No	No, limited detail regarding treatment types and outcomes	3
Armstrong et al. 1993	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient drank ad libitum in a hot environment and became hyperhydrated	Yes, serum Na = 122 mmol/L	No	No	No	No	Yes, adequate detail provided	4
Woodard et al. 1992	Yes, patient presented to hospital with hyponatraemia due to excess water intake	Yes, patient drank gallons of water/day	Yes, serum Na = 114 mmol/L	Yes, hydrochlorothiazide	Yes, hydrochlorothiazide discontinued	Yes, hyponatraemia resolved	No	Yes, adequate detail provided	7
Takagi et al. 2011	Yes, patients all experienced hyponatraemia due to excess fluid intake	Yes, patients drank excessive amounts of fluid	Yes, serum Na = ~129 mmol/L	No, unclear	No	No	No	Yes, adequate detail provided	4
Friedman et al. 1983	Yes, patient experienced hyponatraemia due to excess water intake	Yes, patient drank 4 L of water/day for a week and then 30-40 glasses over 5 hrs	Yes, serum Na = 117 mmol/L	No	No	No	Yes, 3 months	Yes, adequate detail provided	5