Supplemental material 1: CONSORT flow diagram showing recruitment, inclusion, randomization and lost to follow-up.
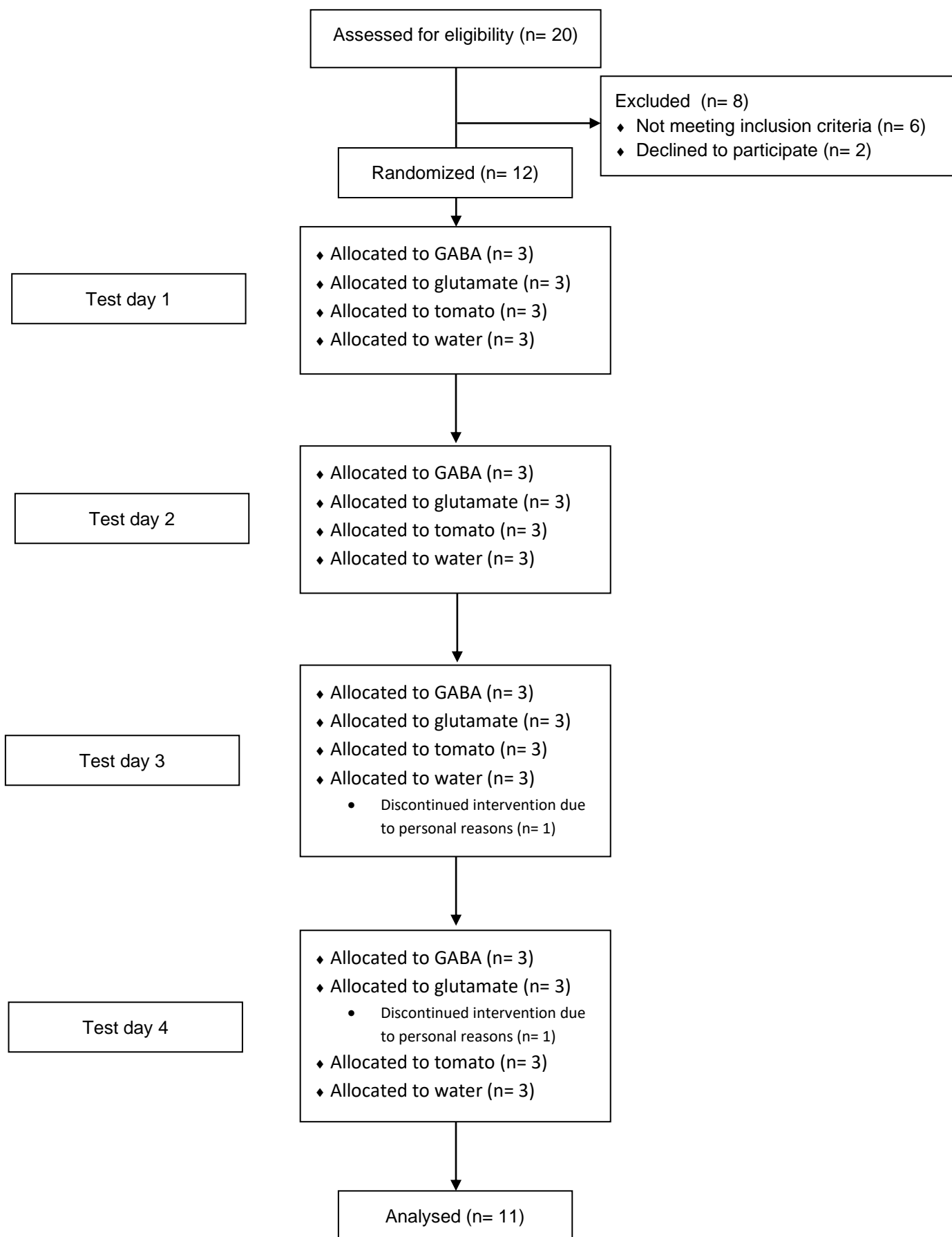
Assessed for eligibility (n= 20)

Excluded (n= 8)
- ♦ Not meeting inclusion criteria (n= 6)
- ♦ Declined to participate (n= 2)

Randomized (n= 12)

Test day 1

- ♦ Allocated to GABA (n= 3)
- ♦ Allocated to glutamate (n= 3)
- ♦ Allocated to tomato (n= 3)
- ♦ Allocated to water (n= 3)

Test day 2

- ♦ Allocated to GABA (n= 3)
- ♦ Allocated to glutamate (n= 3)
- ♦ Allocated to tomato (n= 3)
- ♦ Allocated to water (n= 3)

Test day 3

- ♦ Allocated to GABA (n= 3)
- ♦ Allocated to glutamate (n= 3)
- ♦ Allocated to tomato (n= 3)
- ♦ Allocated to water (n= 3)
  - • Discontinued intervention due to personal reasons (n= 1)

Test day 4

- ♦ Allocated to GABA (n= 3)
- ♦ Allocated to glutamate (n= 3)
  - • Discontinued intervention due to personal reasons (n= 1)
- ♦ Allocated to tomato (n= 3)
- ♦ Allocated to water (n= 3)

Analysed (n= 11)

Supplemental material 2: Composition of standardized meals A) the day before each test day and B) on each test day. The day before each test day the participants were not limited to specific times to eat the products. Participants were received either a large (L) or an extra-large (XL) diet, depending on their energy requirement.

A

Products	Unit	L (n=7)	XL (n=4)
Whole wheat bread	Slice	8	10
Light butter	10 gr	4	5
Cheese spread	15 gr	2	3
Nutella	15 gr	2	3
Strawberry jam	15 gr	2	2
Paté	15 gr	2	2
Granola with yoghurt and fruit	170 gr	1	1
Orange juice	200 mL	1	1
Semi-skimmed milk	200 mL	1	2
Apple	1	1	1
Tangerine	1	2	2
Nuts	30 gr	1	1
Tandoori chicken	450 gr	1	1
Custard	135 mL	2	2

B

Products	Unit	L (n=7)	XL (n=4)
t=4			
Low-protein bread	35 gr	3	4
Light butter	10 gr	1	2
Fruit sprinkles	20 gr	2	2
Nutella	15 gr	1	2
Ice tea	200 mL	1	1
Apple	1	1	1
t=7			
Apple	1	1	1
Soft drink (Dubbelfris)	200 mL	1	1
t=10			
Nasi goreng (rice, ham, leek, egg)	grams	550	650
Skimmed yoghurt with fruit taste	grams	175	200
t=12			
Soft drink (Coca Cola/Sinas)	330 mL	1	1

Supplemental material 3: plasma kinetic parameters of GABA excluding the outlier.
Parameters are calculated from plasma kinetics after ingestion of the GABA solution and pureed tomato. The 10-hour area under the curve shown is corrected for the area under the curve after taking placebo.

| | Test product | | | | |
| | GABA solution | | Pureed tomato | | |
GABA	Mean	SEM	Mean	SEM	P-value
C_{max} (ng/mL)	68.6	9.4	84.1	12.4	0.074
t_{max} (h)	0.52	0.04	0.38	0.04	0.051
AUC (ng/mL^{-1}.h)	53.1	8.4	78.3	15.7	0.061