Appendix 1. General information of the survey population.

Survey content	Level	Number of persons	Composition ratio (%)
Village	01	97	11.02
	02	76	8.64
	03	181	20.57
	04	86	9.77
	05	204	23.18
	06	236	26.82
Gender	male	443	50.34
	female	437	49.66
Age	≤20	6	0.68
	21~	152	17.27
	41~	516	58.64
	>60	206	23.41
Nation	Han	832	94.55
	Mongolian	7	0.80
	Daur	18	2.05
	other	23	2.61
Occupation	farmer	846	96.14
	herders	7	0.80
	livestock processing	7	0.80
	veterinary	5	0.57
	other	15	1.70
Marital status	married	859	97.61
	unmarried	15	1.70
	divorced	6	0.68
Education	elementary school and below	651	73.98
	junior high school	203	23.07
	high school and above	26	2.95
Family financial status (Ten thousand yuan/year)	<3	627	71.325
	3~	176	20.00
	6~	55	6.25
	≥9	22	2.50
Family resident	live alone	44	5.00
	with spouse	464	52.73
	have children	320	36.36
	with parents	52	5.91

Survey content	Level	Number of persons	Composition ratio (%)
Livestock breeding situation	yes	423	48.07
	no	457	51.93

Appendix 2. Baseline analysis of test tube agglutination assays.

Survey content	Options	Test tube agglutination experiment		χ^2	*P*
		Positive	Positive rate		
Village	01	20	20.62	42.728	<0.0001
	02	12	15.79		
	03	39	21.55		
	04	5	5.81		
	05	13	6.37		
	06	63	26.69		
Gender	male	100	22.57	16.802	<0.0001
	female	52	11.90		
Age	≤20	0	0.00	-	<0.0001[a]
	21~	40	26.32		
	41~	95	18.41		
	>60	17	8.25		
Nation	Han nationality	142	17.07	-	0.2748[a]
	Mongolian	0	0.00		
	Daur	3	16.67		
	other	7	30.43		
Occupation	farmer	142	16.78	-	0.1089[a]
	herders	4	57.14		
	livestock processing	1	14.29		
	veterinary	2	40.00		
	other	3	20.00		
Marital status	married	148	17.23	-	0.3326[a]
	unmarried	4	26.67		
	divorced	0	0.00		
Education	elementary school and below	110	16.90	-	0.6306[a]
	junior high school	36	17.73		
	high school and above	6	23.08		

Survey content	Options	Test tube agglutination experiment		χ^2	*P*
		Positive	Positive rate		
Family financial situation (Ten thousand yuan/year)	<3	103	16.43	-	0.1925 [a]
	3~	38	21.60		
	6~	6	10.91		
	≥9	5	22.72		
Family resident	live alone	4	9.09	6.618	0.0851
	with spouse	71	15.30		
	have children	65	20.31		
	with parents	12	23.08		
Livestock breeding situation	yes	112	26.48	47.065	<0.0001
	no	40	8.75		

[1] Analyzed using the Fisher exact probability method.

Appendix 3. Comparison of balance before and after matching.

Survey content	Data condition before matching			Data situation after matching		
	Average case	Control average	Average difference	Average case	Control average	Average difference
Distance	0.2133	0.1642	0.0491	0.2133	0.1994	0.0139
Village	4.1053	4.0495	0.0558	4.1053	4.0592	0.0461
Gender	1.3421	1.5288	-0.1867	1.3421	1.3860	-0.0439
Age	2.8487	3.0893	-0.2406	2.8487	2.8794	-0.0307
Nation	1.1776	1.1168	0.0609	1.1776	1.1513	0.0263
Occupation	1.3487	1.2005	0.1481	1.3487	1.2873	0.0614
Marital Status	1.0263	1.0316	-0.0053	1.0263	1.0219	0.0044
Education	1.3158	1.2843	0.0314	1.3158	1.3224	-0.0066
Financial situation	1.4276	1.3942	0.0334	1.4276	1.4342	-0.0066
Way of living	2.5592	2.4052	0.1540	2.5592	2.5219	0.0373

Appendix 4. Equilibrium assessments of matched samples

Survey content	Options	Control	Case	*P*
Sample size		456	152	

Survey content	Options	Control	Case	*P*
Village	01	52	20	0.001
	02	45	12	
	03	94	39	
	04	43	5	
	05	89	13	
	06	133	63	
Gender	male	275	100	0.126
	female	190	52	
Age	≤20	6	0	0.102
	21~	88	40	
	41~	291	95	
	>60	71	17	
Nation	Han	425	142	0.462
	Mongolian	6	0	
	Daur	10	3	
	other	15	7	
Occupation	farmer	435	142	
	herders	3	4	
	livestock processing	6	1	0.638
	veterinary	3	2	
	other	9	3	
Marital status	married	448	148	0.391
	unmarried	6	4	
	divorced	62	0	
Education	elementary school and below	352	110	0.425
	junior high school	121	36	
	high school and above	10	6	
Family financial situation (Ten thousand yuan/year)	<3	323	103	0.221
	3~	87	38	
	6~	34	6	
	≥9	12	5	
Family resident	live alone	14	4	0.905
	with spouse	224	71	
	have children	188	65	
	with parents	30	12	

1 Statistical analysis was performed using Chi-square and Fisher exact probability assessments.

Appendix 5. Variable assignment of regression analysis

Variable name	**Variable name**	**Whether to set dummy variables**	**Assignment description**
Village	X1	yes	yes=1, no=0, 06 village as a reference
Gender	X2	no	male=1, female=2, 1 is the reference
Age	X3	no	grade variable 0-3, low age as reference
Nation	X4	yes	yes=1, no=0, Han nationality as reference
Occupation	X5	yes	yes=1, no=0, farmers are the reference
Marital status	X6	yes	yes=1, no=0, married as a reference
Education	X7	yes	yes=1, no=0, elementary school and below are reference
Family financial situation	X8	yes	yes=1, no=0, reference is less than 30,000
family resident	X9	yes	yes=1, no=0, living alone is the reference
Livestock breeding situation	X10	no	often=2, occasionally=1, no=0, 0 as reference
clean the pen	X11	no	often=2, occasionally=1, no=0, 0 as reference
Slaughter	X12	no	often=2, occasionally=1, no=0, 0 as reference
Lamb	X13	no	often=2, occasionally=1, no=0, 0 as reference
Immunize livestock	X14	no	often=2, occasionally=1, no=0, 0 as reference
Veterinary treatment	X15	no	often=2, occasionally=1, no=0, 0 as reference
Fur purchasing and processing	X16	no	yes=1, no=0, 0 is reference
Dairy processing and sales	X17	no	yes=1, no=0, 0 is reference
Livestock transportation	X18	no	yes=1, no=0, 0 is reference
Eat raw meat	X19	no	yes=1, no=0, 0 is reference
Drink raw milk	X20	no	yes=1, no=0, 0 is reference
Eat sick and dead meat	X21	no	yes=1, no=0, 0 is reference

Variable name	Variable name	Whether to set dummy variables	Assignment description
Indoor feeding of young lambs	X22	no	often=2, occasionally=1, no=0, 0 as reference
Livestock manure irrigating the land	X23	no	often=2, occasionally=1, no=0, 0 as reference
People and animals sharing wells	X24	no	often=2, occasionally=1, no=0, 0 as reference
SAT positive	Y		yes=1, no=0

Appendix 6. Single factor conditional logistic regression analysis of health-related behaviors on SAT positive individuals

Survey content	Regression coefficients	χ^2	*P*	OR	95%CI	
					Lower limit	Upper limit
Raising livestock	1.25922	33.4509	<0.0001	3.523	2.30	5.40
Cleaning pens	0.49864	20.6134	<0.0001	1.646	1.33	2.04
Slaughter	0.15726	0.5341	0.4649	1.170	0.77	1.78
Picking behavior	0.64296	35.2322	<0.0001	1.902	1.54	2.35
Vaccination	0.37387	11.7072	0.0006	1.453	1.17	1.80
Veterinary treatment	0.30903	7.6352	0.0057	1.362	1.09	1.70
Fur purchasing and processing	-0.34802	0.3923	0.5311	0.706	0.24	2.10
Dairy processing and sales	-0.28755	0.0662	0.7970	0.750	0.08	6.71
Livestock transportation	0.55821	1.6663	0.1968	1.748	0.75	4.08
Eat raw meat	-0.50941	0.2164	0.6418	0.601	0.07	5.14
Drink raw milk	0.40571	0.2195	0.6394	1.500	0.27	8.19
Eat infected meat	0.40571	0.3292	0.5661	1.500	0.38	6.00
Indoor feeding of young lambs	0.26060	4.5398	0.0331	1.298	1.02	1.65
Livestock manure irrigating the land	0.42663	14.5769	0.0001	1.532	1.23	1.91
People and animals sharing wells	0.26741	4.7540	0.0292	1.307	1.03	1.66