



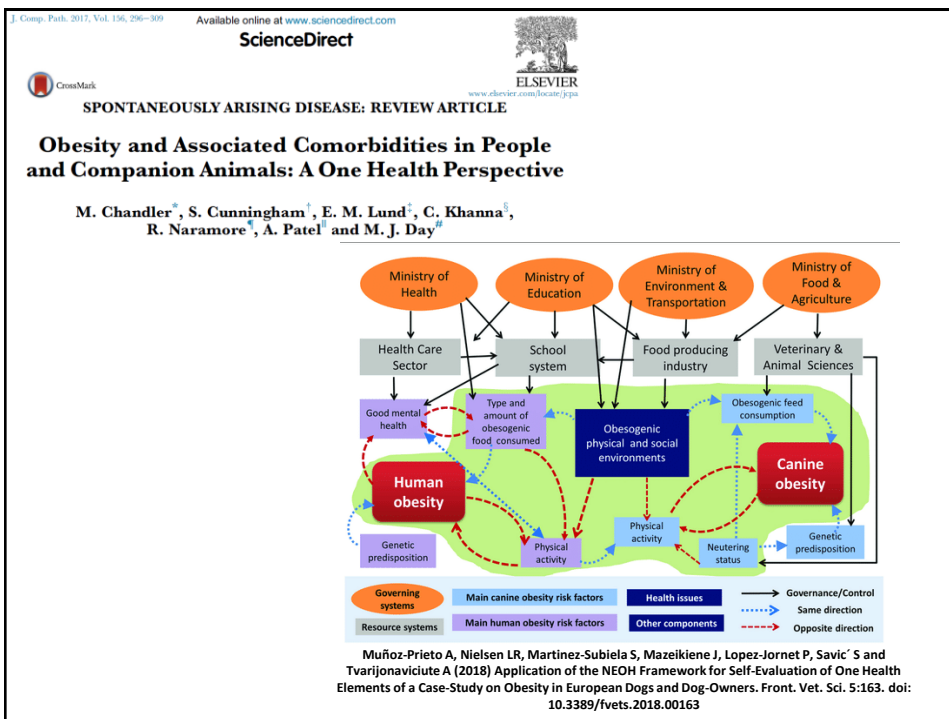
Błędy żywieniowe popełniane przez właścicieli psów i kotów

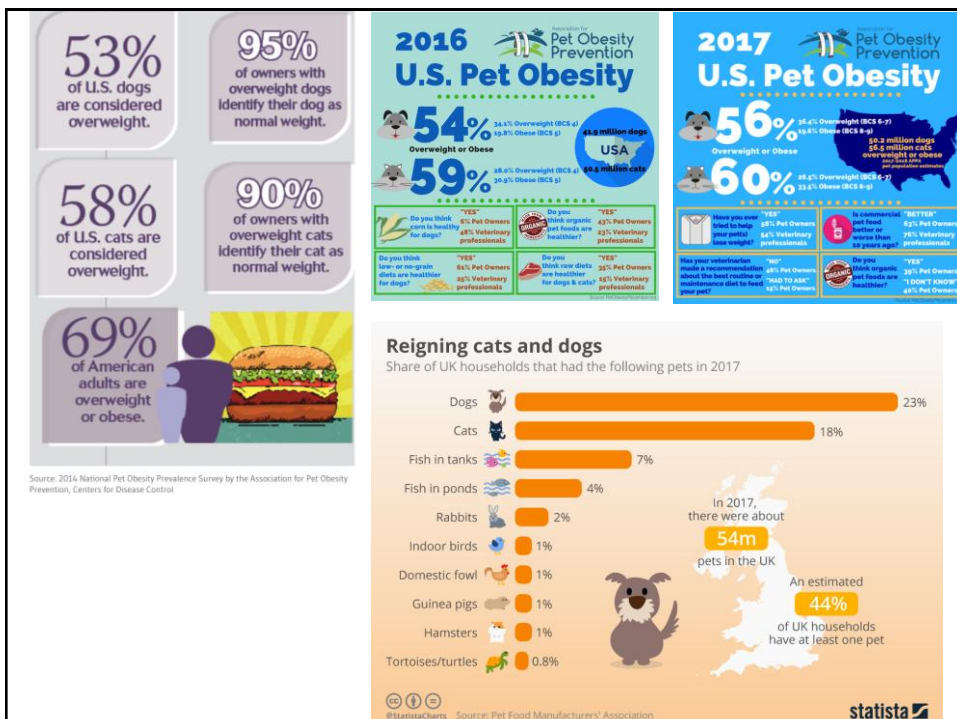
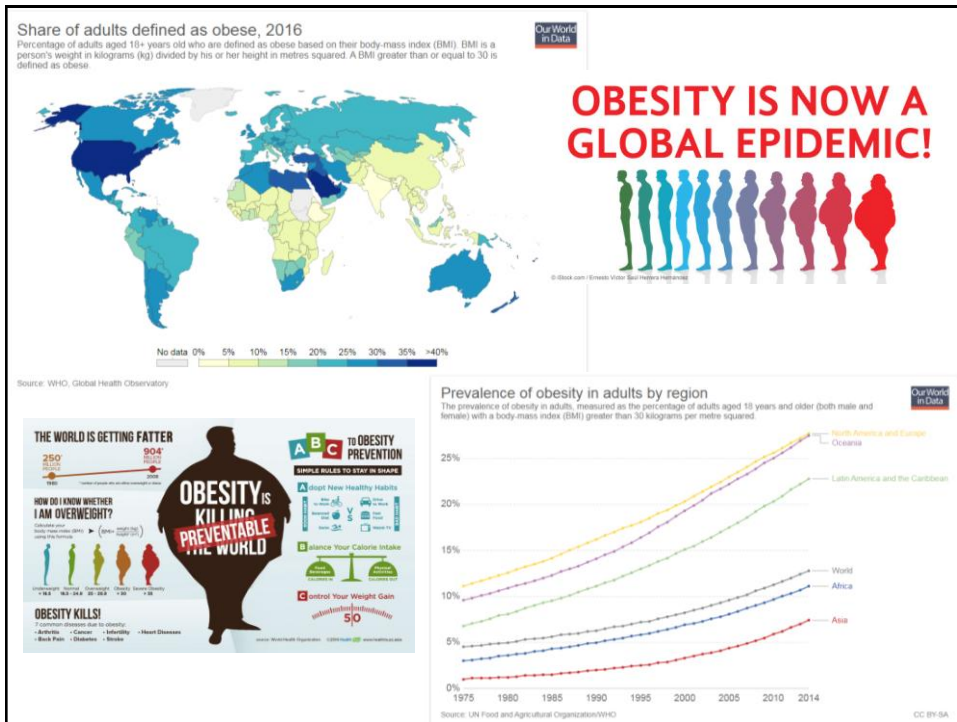
Olga Lasek

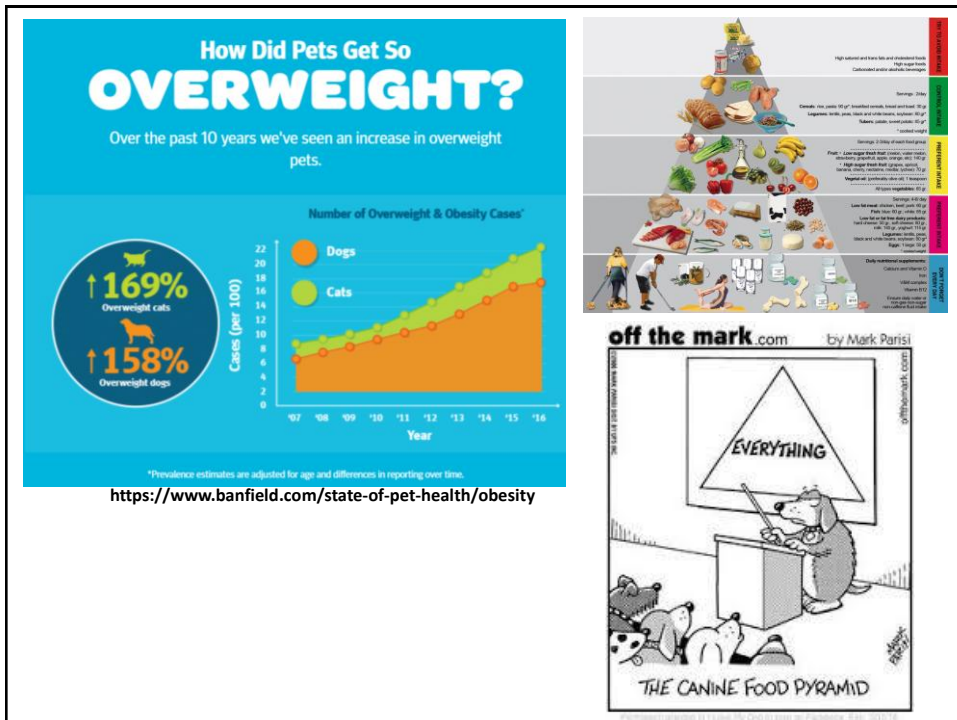
Uniwersytet Rolniczy w Krakowie
Wydział Hodowli i Biologii Zwierząt
Katedra Żywienia Zwierząt i Paszoznawstwa

„Otyłość i nadwaga u psów i kotów – przyczyny, konsekwencje, zapobieganie”

Kraków, 19 stycznia 2019







The epidemiology of canine and feline obesity

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WALTHAM Focus Vol 16 No 1 • 2006

Table 1.
Incidence rate of obesity in canine and feline populations

REFERENCES	COUNTRY	DOG DATA	SAMPLE SIZE	CAT DATA	SAMPLE SIZE
Mason (15)	UK	28%	1000		
Anderson (7)	UK	-	-	9 (6-12)%	429
Edney (16)	UK	34%	1134		
Meyer, et al (1)	Germany	30%	266		
Steininger (17)	Austria	44%	-		
Edney and Smith (3)	UK	24%	8268		
Scarlett, et al (8)	USA	-	-	25%	2000
Armstrong and Lund (5)	USA	25%	22000	24%	10000
Lund, et al (19)	USA	28%	30517	19%	644
Robertson (20)	Australia	-	-	19%	644
Jerico and Scheffer (21)	Brazil	17%	648		
Robertson (2)	Australia	25%	860		

Table 2. Summary of main risk factors

DOG	RISK FACTORS	CAT
		
Labrador Retriever, Caim Terrier, Scottish Terrier, Basset Hound, Cavalier King Charles Spaniel, Cocker Spaniel, Longhaired Dachshund, Beagle, and longhaired giant breeds	BREED and other genetic factors	Domestic short hair
Constant increase in incidence up to 12 years, followed by a decline	AGE	Maximal risk in middle aged animals, decreasing after 10 to 12 years of age
More common in females (60%), especially neutered	GENDER AND NEUTERING	More common in males, especially neutered
Significant factor	SEDENTARY LIFESTYLE	Major risk factor in the cat
Diabetes, hypothyroidism, hyperadrenocorticism	ENDOCRINE DISEASES	Uncommon
Relationships observed	DRUGS AND CONTRACEPTIVE TREATMENT	Progestins
Miscalculation of requirements, hence excessive intake (ad lib feeding, inadequate control, various supplements)	FEEDING	Miscalculation of requirements, hence excessive intake (ad lib feeding, inadequate control, various supplements)
Excessive anthropomorphism	SOCIOLOGICAL FACTORS	Feeding = means of communication with the animal
Risk greater if only one animal in household	NUMBER OF ANIMALS	Risk increased if 1 or 2 cats in the household.

Badania ankietowe 2013-2018 realizowane w Katedrze Żywienia i Dietetyki Zwierząt Uniwersytetu Rolniczego w Krakowie

- Analiza żywienia psów na podstawie badań ankietowych – Joanna Karolina Kucińska, 2013 (n=152)
- Żywienie kotów dorosłych – Agnieszka Wnęk, 2013, (n=100)
- Żywienie psów otyłych – Aleksandra Nycz, 2014 (n=101)
- Analiza żywienia psów pacjentów gabinetu weterynaryjnego – badania ankietowe - Paulina Trąba, 2014 (n=200)
- Analiza żywienia psów chorych – Justyna Chrabąszcz, 2016 (n= 695)
- Żywienie psów gończych i wyżłów – Mirella Nowak, 2016 (n=213)
- Wpływ rodzaju żywienia psów na poziom glukozy we krwi – Karolina Koper, 2017 (n=114)
- Weryfikacja oceny kondycji psów przez ich właścicieli – Katarzyna Żurek, 2018 (n=100; n=60)
- Sposoby żywienia kotów domowych – Katarzyna Płacheta, 2018 (n= 100)

Analiza żywienia psów na podstawie badań ankietowych – Joanna Karolina Kucińska, 2013 (n=152)

☐ Ankieta (N=200)

- ☐ Lecznica weterynaryjna, Włocławek, ul. Broniewskiego10
- ☐ Maj- grudzień 2012
- ☐ Psy z widoczną nadwagą lub otyłością

☐ Masa ciała, BCS

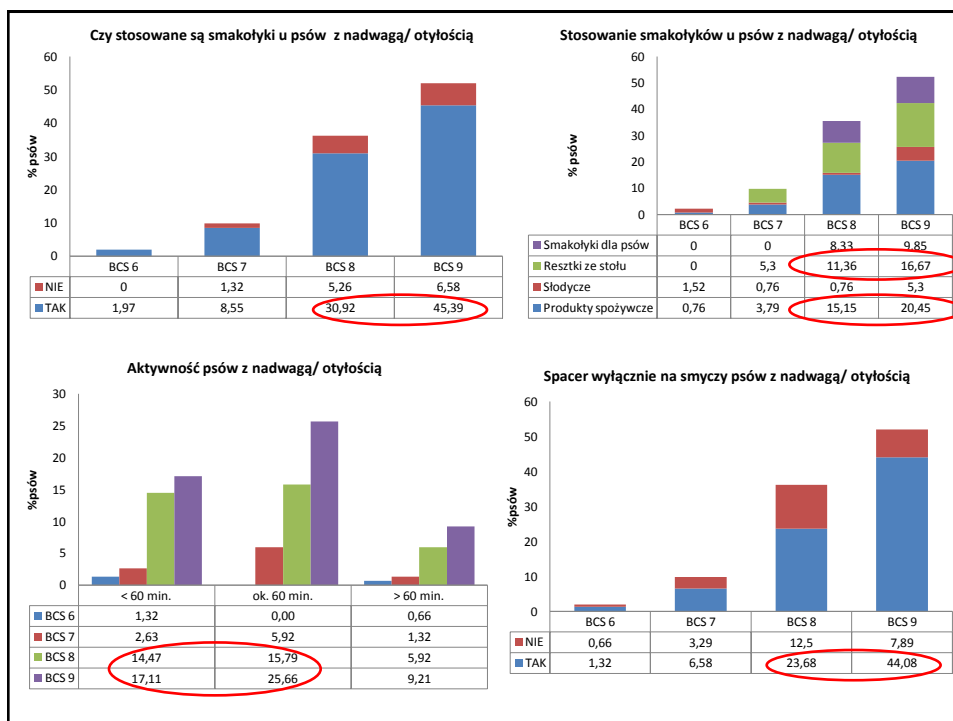
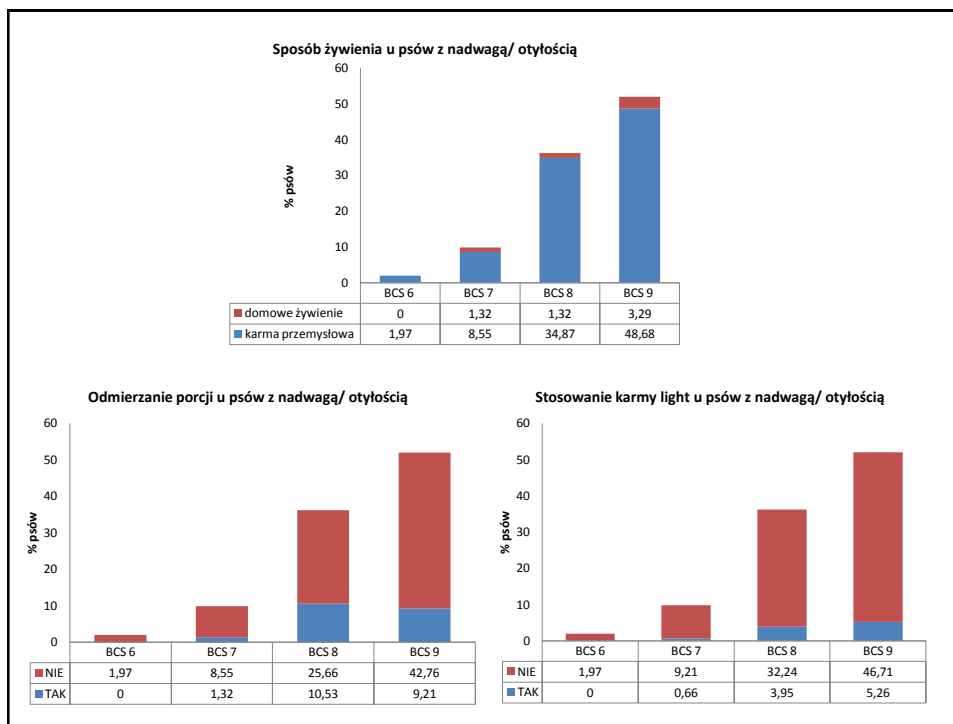


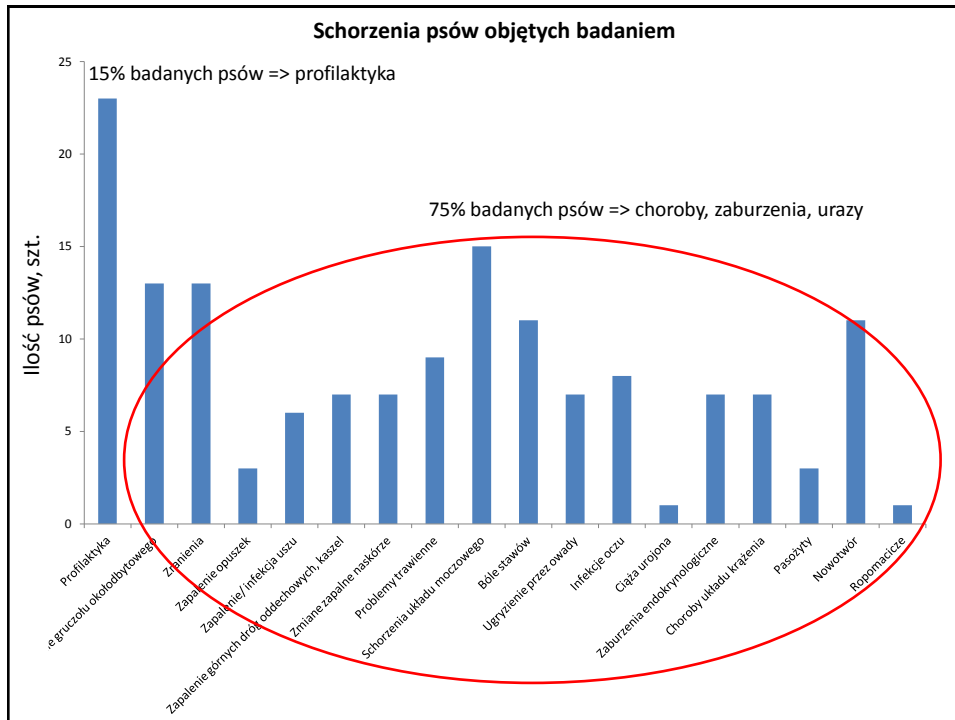
☐ 152 psy rasowe

☐ Analiza statystyczna danych (STATISTICA, 2010)

- ☐ Tabele wielodzzielcze
- ☐ Test χ^2
- ☐ Korelacja rang Spearmana







Preventive Veterinary Medicine 96 (2010) 132–141

Contents lists available at ScienceDirect

Preventive Veterinary Medicine

journal homepage: www.elsevier.com/locate/prevetmed

Our main objective was to obtain baseline data on daily metabolisable energy (ME) intake activity, and risk factors for obesity in a population of 460 privately owned Swedish dogs in 1999. A previously validated mail-and-telephone questionnaire was used (Sallander et al., 2001a). The dogs were of 124 breeds, 1–3 years old, and had body weights (BW) between 1 and 75 kg. The ME intakes of this population could be described with the equation $ME_{intake} (kilojoules, kJ/d) = 554BW^{0.66}$ ($r^2 = 0.73$, $P = 0.0001$). The energy intake originating from commercial foods was 79% (median, range 45–97). Table foods generally had a higher fat content (median 13 g/megajoule, MJ, range 1–122) than commercial foods (median 8 g/MJ, range 2–18; $P = 0.0001$). The median energy density was 73 kJ/100 g (median, range 1106–2105).

Energy-intake and activity risk factors for owner-perceived obesity in a defined population of Swedish dogs

Marie Sallander^{a,*}, Malin Hagberg^a, Åke Hedhammar^b, Margareta Rundgren^a, Jan E. Lindberg^a

Table 7
Univariable analysis of possible risk factors for obesity in 460 Swedish insured-dogs in 1999, categorical variables.

Variable	Response	Obese dogs		Non-obese dogs		P-Value ^a
		n	% obese	n	% of non-obese	
Demographic variables						
	Sex (no. dogs, %)					
	Male	28	38	220	57	0.004
	Female	45	62	167	43	
Dietary variables						
	Appetite					0.023
	Very bad + bad	4	5	60	15	
	Good + very good	69	95	327	85	
	Home-made diet/table scraps					0.098
	Yes	64	88	307	79	
	No	9	12	80	21	

Table 4
Most commonly performed outdoor activities from a Swedish survey of 460 insured-dogs in 1999.

Activity	Performed this activity (%)	Amount of time spent on activities (min/d) ^b			P-Value ^a	
		Min	Median	Max		
Walking					0.006	
	Weekdays	95	1	60		300
	Weekends	93	1	90	300	
Running beside a bicycle					0.202	
	Weekdays	28	2	12		120
	Weekends	18	2	16	120	
Jogging with owner					0.742	
	Weekdays	15	2	12		480
	Weekends	12	2	15	210	
Other training activities in total ^c						
	Obedience	60	1	35	146	
	Hunting	31	2	17	129	
	Tracking (human/game)	27	1	26	146	
	18	1	9	69		

most efficient and primary way to reduce BW. Table foods or home-made diets given to dogs were often sources of high fat intake, and it would be essential to reduce the type and/or amount of these fatty ingredients if an individual needs to reduce in BW. If "light" products are used for BW reduction, it is essential to stress that nothing else is to be given.

Preventive Veterinary Medicine 112 (2013) 439–442

Contents lists available at ScienceDirect

Preventive Veterinary Medicine

journal homepage: www.elsevier.com/locate/prevetmed

Prevalence and risk factors for canine obesity surveyed in veterinary practices in Beijing, China

Junfu Mao^a, Zhaofer Xia^{a,*}, Jiangnan Chen^a, Jinhai Yu^b

^a Internal Medicine Laboratory, Department of Veterinary Clinical Medicine, College of Veterinary Medicine, China Agricultural University, Beijing, China

^b Animal Department, Beijing Aquarium, Beijing, China

An epidemiological survey of canine obesity was carried out in Beijing, China. Cases ($n=2391$, 7 districts) were collected at 14 animal hospitals between April 2008 and April 2011. The body condition score (scales of 1–5) was used to assess obesity of the dogs

survey reported canine obesity in developed countries, such as the USA (34.1%, $n=21,754$) (Lund et al., 2006), Sweden (9%, $n=10,993$) (Krook et al., 1960), the United Kingdom (28%, $n=1000$) (Mason, 1970), and Australia (25%, $n=860$; 41.1%, $n=1093$) (McGreedy et al., 2005; Robertson, 2003). Obesity in dogs may be associated with dysfunction

Table 2
Canine obesity by multivariable logistic regression analysis.

Risk factor category	Risk factor	B	S.E.	P	OR	OR (95% CI)
Age	1–2 y	–0.812	0.192	<0.001	0.444	0.305–0.646
	3–4 y	–0.322	0.202	0.11	0.725	0.488–1.076
	5–6 y	0.041	0.201	0.837	1.042	0.703–1.546
	7–8 y	0.202	0.218	0.354	1.224	0.798–1.876
	≥9 y	–	–	–	1	–
Breed	Purebred	–0.014	0.004	0.001	0.986	0.978–0.994
	Crossbred	–	–	–	1	–
Neutering	Intact	–0.463	0.145	0.001	0.629	0.474–0.835
	Neutered	–	–	–	1	–
Food type	Feeding non-commercial food	0.320	0.149	0.032	1.377	1.028–1.844
	Feeding commercial food	–	–	–	1	–
Sex	Male	–0.466	0.122	<0.001	0.628	0.479–0.797
	Female	–	–	–	1	–
Feeding frequency	Once per day	–0.653	0.194	0.001	0.521	0.356–0.761
	Twice per day	–0.039	0.174	0.83	0.962	0.680–1.361
	Several times per day	–	–	–	1	–
Activity control	Free	–0.378	0.163	0.02	0.685	0.497–0.944
	Restricted	–	–	–	1	–
	Constant	1.421	0.317	–	–	–

Table 1
Canine obesity rates analyzed by univariate chi-square (χ^2) test.

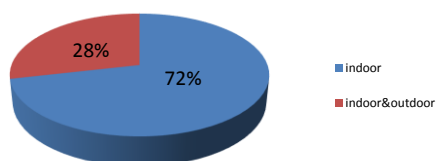
Risk factors	Samples (n)	Prevalence of obesity (%)	χ^2	P
Age	1–2 y	32.3	93.70	<0.01
	3–4 y	48.9		
	5–6 y	47.0		
	7–8 y	55.2		
	≥9 y	44.4		
Breed	Crossbred	48.1	2.46	0.117
	Purebred	43.7		
Sex	Female	52.1	31.09	<0.01
	Male	41.1		
Neutering	Neutered	58.7	48.58	<0.01
	Intact	41.8		
Food control	Free feeding	47.9	4.08	<0.05
	Controlled feeding	43.2		
Feeding frequency	Once per day	37.1	27.30	<0.01
	Twice per day	47.2		
	Several times per day	49.4		
Food type	Commercial dog food	37.6	32.36	<0.01
	Non-commercial sources	48.3		
Nutritional supplements	Yes	46.3	1.89	0.17
	No	43.4		
Living environment	Apartment building	44.4	20.79	<0.01
	Single story building	43.4		
	Cage	67.4		
Pet number	Single	45.7	3.18	0.074
	More than one	41.8		
Feeding purpose	Working	37.2	3.72	0.054
	Non-working	44.9		
Activity control	Restricted	51.3	8.67	<0.01
	Free	43.1		
Exercise status	Yes	43.5	6.41	0.011
	No	51.7		
Exercise duration	<0.5 h/d	49	14.38	<0.01
	0.5 h–1 h/d	47.1		
	>1 h/d	39.2		
Exercise type	Walking only	50.4	22.86	<0.01
	Walking and other exercises	46.1		

Żywnienie kotów dorosłych – Agnieszka Wnęk, 2013 (n= 100)

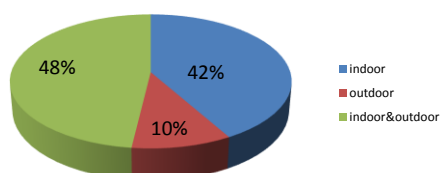
□ Ankieta (n=100)

□ Internet, województwo małopolski

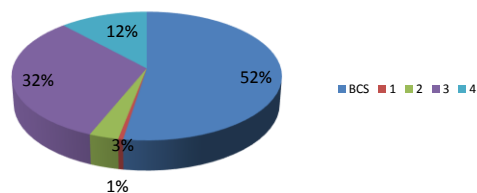
Tryb życia-koty rasowe



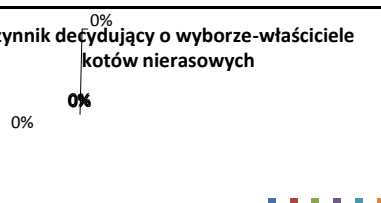
Tryb życia-koty nierasowe



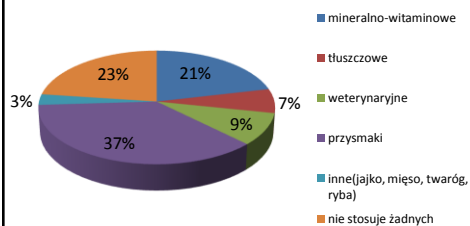
Czynnik decydujący o wyborze-właściele kotów rasowych



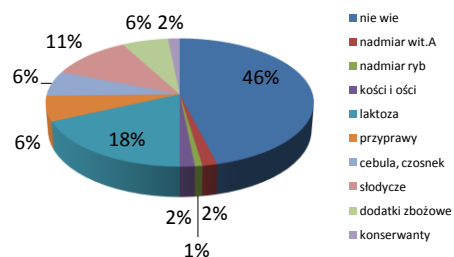
Czynnik decydujący o wyborze-właściele kotów nierasowych

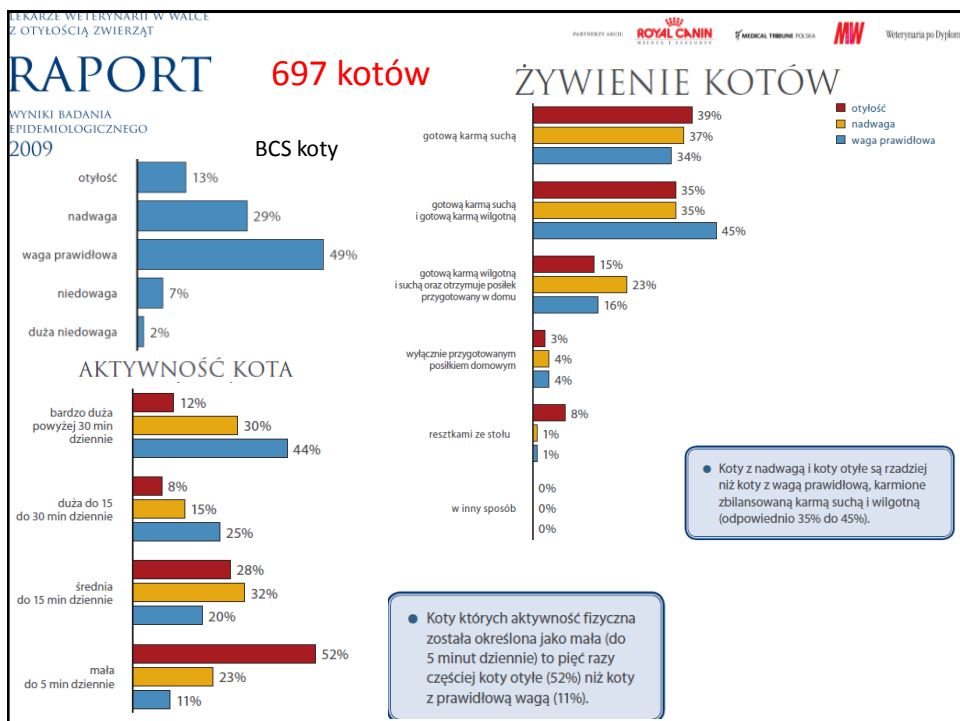
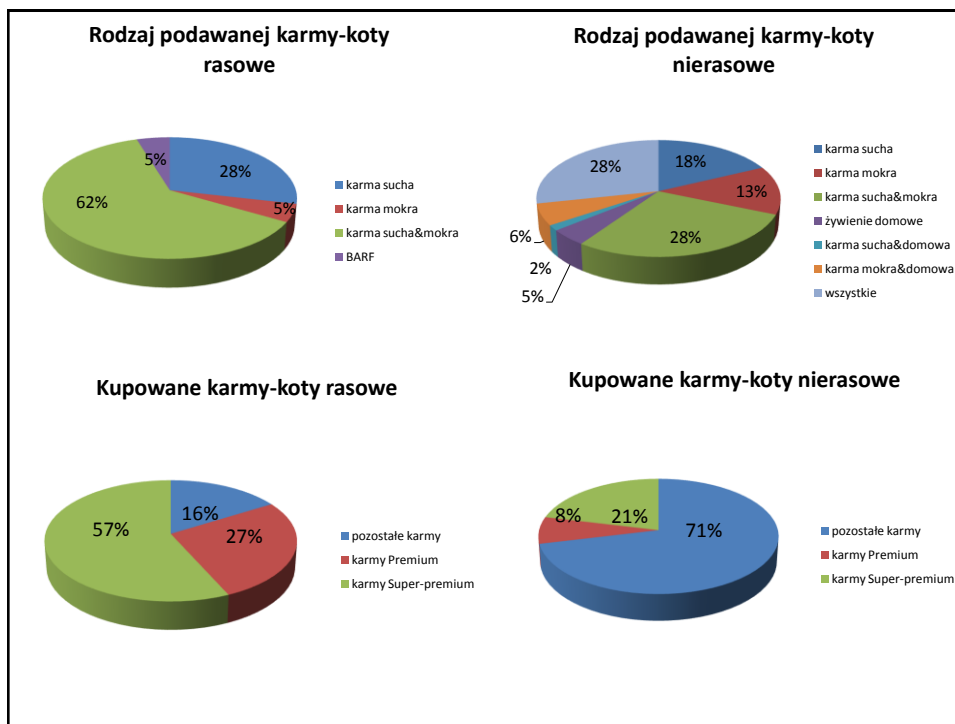


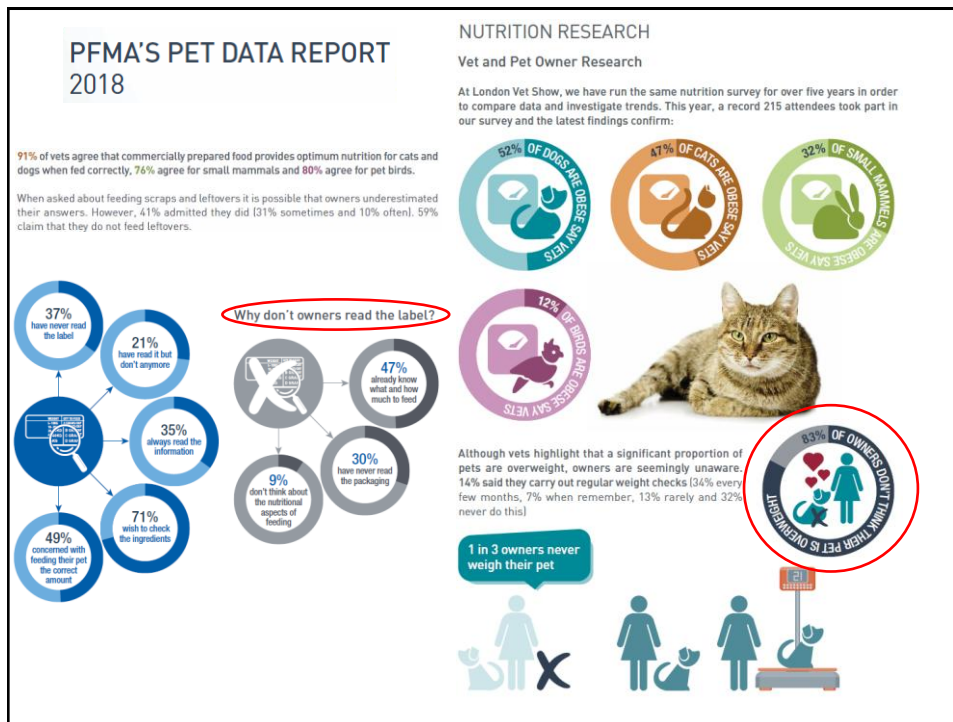
Stosowane dodatki



Składniki szkodliwe







Żywnienie psów otyłych - Aleksandra Nycz, 2014 (n=101)

Ankieta (N=101)

- Marsz Jamników, Kraków, 8 września 2013
- Październik 2016 – marzec 2017

25% badanych psów

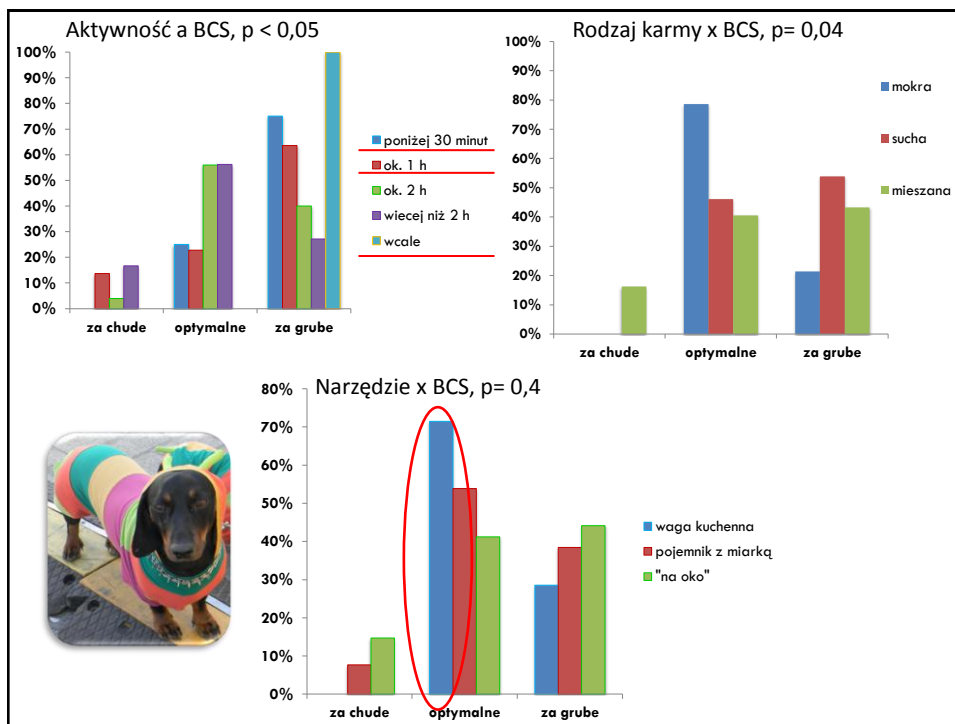
- zważono, zmierzono oraz zweryfikowano BCS ustalony przez właściciela



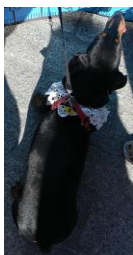
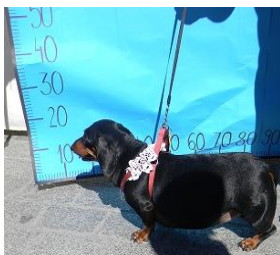
Analiza statystyczna danych (STATISTICA, 2010)

- Tabele wielodzielcze
- Test χ^2
- Korelacja rang Spearmana

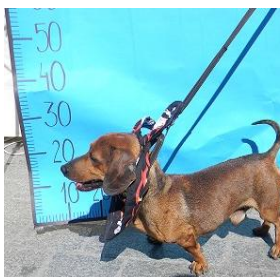




Weryfikacja oceny BCS



Płeć	samica	Wiek	1-7lat
Pies rasowy	nie	Kastracja/sterylizacja	Tak
Masa ciała określona przez właściciela	>10kg	Przyzane punkty BCS przez właściciela	6/9
Masa ciała określona podczas ważenia zwierzęcia	10,5kg	Przyznane punkty BCS przez osoby przeszkolone	8/9



Płeć	samiec	Wiek	1-7lat
Pies rasowy	nie	Kastracja/sterylizacja	Nie
Masa ciała określona przez właściciela	>5kg	Przyzane punkty BCS przez właściciela	2/9
Masa ciała określona podczas ważenia zwierzęcia	7,15kg	Przyznane punkty BCS przez osoby przeszkolone	4/9

Size of food bowl and scoop affects amount of food owners feed their dogs

M. Murphy, A. L. Lusby, J. W. Bartges and C. A. Kirk

Department of Small Animal Clinical Sciences, University of Tennessee College of Veterinary Medicine, Knoxville, TN, USA

Journal of Animal Physiology and Animal Nutrition **96** (2012) 237–241

We hypothesized that an owner would unknowingly place a larger amount of dry dog food in a bowl when asked to visually estimate their pet's normal meal using large bowls and scoops as compared with using small bowls and scoops. If proved true, these data would help formulate recommendations for pet owners regarding proper bowl size depending on the amount of food given at each meal.



Fig. 3 Large bowl (80 ounces), large scoop (28.8 ounces), small scoop (12 ounces) and small bowl (38 ounces). © 2010 The University of Tennessee.

Table 1 Comparison of daily energy requirement (DER) portioned out by 46 dog owners and calculated DER. Calculated DER is the product of resting energy requirement (RER) calculated using Kleiber (Kleiber, 1961) formula and a lifestyle factor based on reproductive status where standard (s) for intact is 1.8 and neutered is 1.6 and modified (m) for intact is 1.6 and neutered is 1.4. Data are mean $\pm$ SD kcal/metabolizable energy/day

	SS ^a	SL ^{b,c}	LS ^b	LL ^c
Portioned Amount – 3615 kcal/kg Diet	1007 $\pm$ 538	1157 $\pm$ 644	1150 $\pm$ 739	1251 $\pm$ 702
Per cent Above (+) or Below (–) sDER (%)	–16 $\pm$ 37	–5 $\pm$ 33	–7 $\pm$ 42	+1 $\pm$ 37
Per cent Above (+) or Below (–) mDER (%)	–4 $\pm$ 42	+8 $\pm$ 37	+7 $\pm$ 48	+15 $\pm$ 42
Portioned Amount – 4000 kcal/kg Diet	1114 $\pm$ 574	1280 $\pm$ 713	1272 $\pm$ 818	1384 $\pm$ 797
Per cent Above (+) or Below (–) sDER (%)	–7 $\pm$ 41	+5 $\pm$ 36	+3 $\pm$ 46	+11 $\pm$ 41
Per cent Above (+) or Below (–) mDER (%)	+7 $\pm$ 47	+20 $\pm$ 41	+18 $\pm$ 53	+27 $\pm$ 47

SD, standard deviation; SS, small bowl, small scoop; SL, small bowl, large scoop; LS, large bowl, small scoop; LL, large bowl, large scoop.

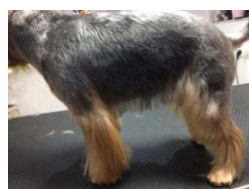
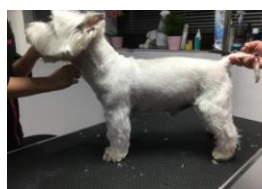
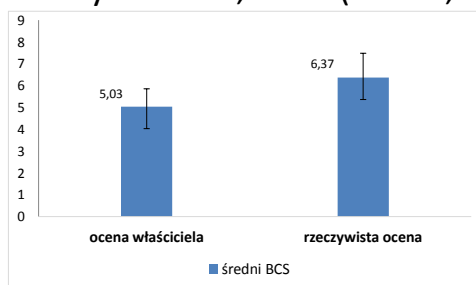
Calculated Standard DER (sDER) = 1213 $\pm$ 459. Calculated Modified DER (mDER) = 1062 $\pm$ 405.

Columns of means bearing different superscripts differ significantly ($p < 0.05$).

Kleiber, 1961 *The Fire of Life*. John Wiley & Sons, New York.

Weryfikacja oceny kondycji psów przez ich właścicieli –

Katarzyna Żurek, 2018 (n=100; n=60)

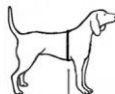


Płeć	samiec	Ocena właściciela	4/9	Płeć	samiec	Ocena właściciela	3/9
Pies rasowy	Nie, w typie West Shire Teriera	Rzeczywista ocena	6/9	Pies rasowy	Nie, w typie Yorkshire Teriera	Rzeczywista ocena	6/9



Analiza żywienia psów pacjentów gabinetu weterynaryjnego – badania ankietowe - Paulina Trąba, 2014 (n=200)

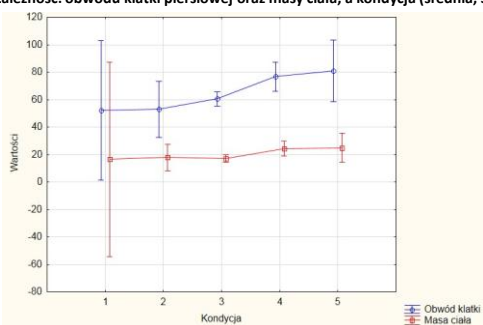
- ☐ Ankieta (N=200)
- ☐ Gabinet Weterynaryjny „Cztery łapy” w Bochni, Przychodnia Weterynaryjna w Bochni, Lecznica Weterynaryjna LuxVet24, Kraków,
- ☐ grudzień 2013 – marzec 2014
- ☐ Oznaczono masę ciała, obwód klatki piersiowej za łopatkami, BCS (skala 5-cio punktowa)



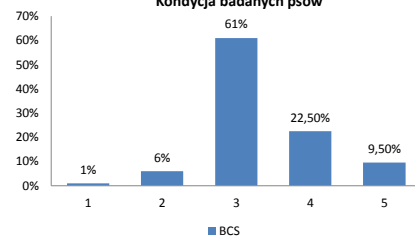
- ☐ Analiza statystyczna danych (STATISTICA, 2010)
 - ☐ Tabele wielodzielcze
 - ☐ Test Chi²
 - ☐ Korelacja rang Spearmana



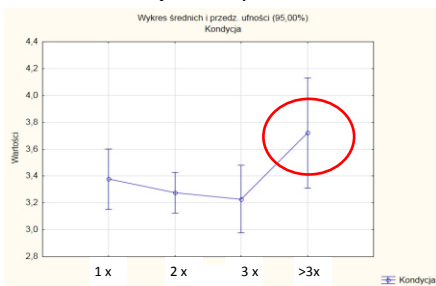
Zależność: obwodu klatki piersiowej oraz masy ciała, a kondycja (średnia, SD)



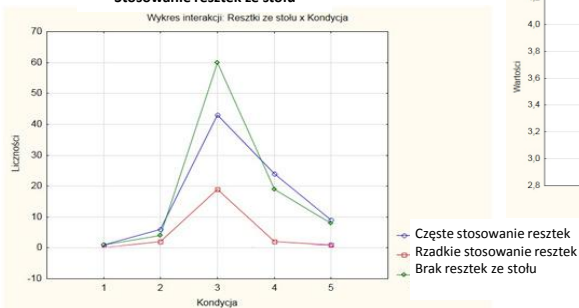
Kondycja badanych psów



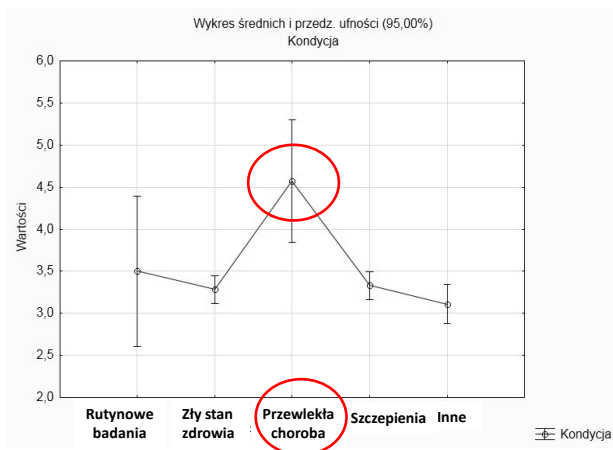
Częstotliwość żywienia



Stosowanie resztek ze stołu



Interakcja: kondycja a przyczyna wizyty w gabinecie



OPEN

European dog owner perceptions of obesity and factors associated with human and canine obesity

www.nature.com/scientificreports

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Alberto Muñoz-Prieto¹, Liza Rosenbaum Nielsen², Roman Dąbrowski³,
Charlotte Reinhold Bjørnvad⁴, Josefín Söder⁵, Elsa Lamy⁶, Ingrida Monkeviciene⁷,
Blanka Beer Ljubić⁸, Josif Vasilić⁹, Sara Savić¹⁰, Francesca Busato¹¹, Zeki Yılmaz¹²,
Antonio F. Bravo-Cantero¹³, Malin Öhlund¹⁴, Sónia Lucena¹⁵, Rasa Zelvyte¹⁶, Jasna Aladrović¹⁷,
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in 11 European countries. In total, 3,185 responses from ten countries were included in multivariable analyses. Between 19.1% and 48.8% of the dog owners reported to be overweight/obese. Owner-reported overweight/obesity in dogs ranged from 6.0% to 31.3% based on body condition score charts, and 31.8% to 69.4% based on body fat index charts. Common factors associated with obesity in owners and their dogs were age, gender and owners' attitudes to diet and physical activity. Dog owners who did not consider obesity to be a disease were more likely to have obese dogs.

GDP Group	Country	Humans, %			Dogs, %				
		Underweight (BMI <= 18.5)	Normal weight (BMI 18.5–25)	Overweight/obese (BMI >= 25)	Underweight (BCS 1–2)	Normal weight (BCS 3)	Overweight/obese (BCS 4–5)	Normal weight (BFI 20%)	Overweight/obese (BFI 30–70%)
Low	Croatia	3.0	59.9	37.0	9.1	70.4	20.6	45.7	54.3
	Romania	10.6	58.7	30.7	7.8	64.7	27.5	33.5	66.5
	Serbia	3.1	66.7	30.2	8.8	60.0	31.3	40.5	59.5
	Lithuania	7.4	64.0	28.6	15.3	63.8	20.8	30.6	69.4
Medium	Poland	6.4	70.8	22.8	18.9	55.7	25.4	42.4	57.6
	Portugal	5.4	72.8	21.8	9.8	60.1	30.2	41.9	58.1
High	Spain	4.8	51.5	33.7	12.0	63.9	24.1	37.5	62.5
	Italy	10.3	70.6	19.1	20.6	57.9	21.4	40.5	59.5
Very High	Denmark	2.6	48.6	48.8	14.6	71.0	14.4	58.3	41.7
	Sweden	2.9	53.9	43.2	18.1	75.9	6.0	68.2	31.8
Total		5.7	61.8	31.6	13.5	64.3	22.2	43.9	56.1

Table 2. Percent of underweight, normal weight and overweight/obese humans and dogs in different countries and in total. Chi-square analysis showed statistically significant differences ($P < 0.05$) in the distribution of underweight, normal weight and overweight/obese individuals (humans and pets) across different GDP (gross domestic product) groups.

	β (ET)	OR (95%CI OR) ^a	P-value
Underweight (BCS 1–2)			
Dog age [per year increase]	−0.051 (0.024)	0.95 (0.91–0.99)	0.033
Reproductive status			
Neutered at ≥ 12 months	Ref.		
Intact	0.412 (0.186)	1.51 (1.05–2.18)	0.027
Neutered at < 11 months	0.136 (0.266)	1.15 (0.68–1.93)	0.61
Household			
House/apartment with access to garden	Ref.		
Rural zone; almost the whole day outside	0.419 (0.207)	1.52 (1.01–2.28)	0.043
Rural zone; almost the whole day in the house	0.247 (0.16)	1.28 (0.94–1.75)	0.122
Diet			
Mixed	Ref.		
Home-made food/ Food scraps	0.522 (0.257)	1.67 (1.02–2.79)	0.042
Commercial pet food	0.118 (0.171)	1.13 (0.81–1.57)	0.491
Overweight/obese (BCS 4–5)			
GDP [per gross domestic product increase]	−0.01 (0.003)	0.99 (0.97–0.99)	0.002
Number of family members	0.164 (0.057)	1.18 (1.05–1.32)	0.004
Monthly family income [per increase in national minimum wage]	−0.141 (0.056)	0.87 (0.78–0.97)	0.011
Influence of taking care of the pet on owner's physical activity (No vs. Yes)	0.406 (0.158)	1.50 (1.10–2.05)	0.01
Dog age [per year increase]	0.051 (0.02)	1.05 (1.01–1.10)	0.011
Number of meals per day [per number increase]	−0.221 (0.104)	0.80 (0.654–0.98)	0.034
Daily exercise [per hour increase]	−0.365 (0.078)	0.77 (0.66–0.90)	0.001
Time spent with a pet each day [per hour increase]	−0.143 (0.055)	0.87 (0.78–0.97)	0.009
Sharing food with the dog while eating (Yes vs. No)	0.253 (0.063)	1.29 (1.14–1.46)	<0.001
Reproductive status			
Neutered at ≥ 12 months	Ref.		
Intact	−0.995 (0.152)	0.37 (0.28–0.50)	<0.001
Neutered at < 11 months	−0.485 (0.207)	0.62 (0.41–0.92)	0.019
Pet food rewards (None vs. Some)	0.469 (0.166)	1.60 (1.15–2.21)	0.005
Physical activity (None vs. Some)	0.705 (0.309)	2.02 (1.10–3.71)	0.023

Table 4. Final multinomial logistic regression (forward-Wald) models of the underweight and overweight/obesity-associated factors in dogs according to owners-estimated body condition score (BCS). Variable levels in brackets after the categorical variables describe which groups were compared in the analysis. For non-categorical variables, the estimates (β) and OR-values correspond to one unit increase in the variable. The units are given in hard brackets after the variable name. Model chi-square = 404.33, df = 96, $P = < 0.001$. Nagelkerke R^2 : 0.22. ^aThe reference level used for the outcome of the multivariable logistic regression is dog with normal weight.

In this study, the main drivers of obesity among dog owners and their pets were of a social nature, including lack of exercise and diet-related factors. This is in accordance with previously reported findings for humans and dogs, respectively^{25,26}. Furthermore, dogs owned by smokers were more prone to being overweight in this study.

In conclusion, the results indicate that the self-reported occurrence of obesity among dog owners may be lower than in the general human population. The main factors associated with obesity in both owners and their dogs were increasing age, poor diet and low physical activity. Furthermore, the owners that did not consider obesity to be a disease were more likely to have obese dogs.

An epidemiological study of environmental factors associated with canine obesity

E. A. COURCIER, R. M. THOMSON*,
D. J. MELLOR AND P. S. YAM*

Journal of Small Animal Practice (2010)
51, 362–367

DOI: 10.1111/j.1748-5827.2010.00933.x

Accepted: 3 February 2010; Published
online: 06 April 2010

RESULTS: In total, data from 696 questionnaires were evaluated.

Out of those data evaluated, 35.3% of dogs (n=246) were classed as an ideal body shape, 38.9% (n=271) were overweight, 20.4% (n=142) were obese and 5.3% (n=37) were underweight. Identified risk factors associated with obesity included owner age, hours of weekly exercise, frequency of snacks/treats and personal income.

Table 2. Final multivariable multinomial logistic regression model results

		Obese (n=142)		Overweight (n=271)		Underweight (n=37)	
		RRR(95% CI)	P value	RRR(95% CI)*	P value	RRR(95% CI)*	P value
Frequency of snacks/treats	Never						
	Monthly	2.82(0.9, 8.81)	0.074	3.79(1.56, 9.25)	0.003	0.83(0.19, 3.65)	0.804
	Weekly	1.47(0.46, 4.76)	0.519	1.94(0.77, 4.87)	0.160	1.3(0.31, 5.47)	0.721
	Daily	1.94(0.51, 7.43)	0.334	2.45(0.86, 7)	0.093	0.37(0.03, 3.99)	0.410
Age of owner (years)	18 to 35						
	36 to 50	0.98(0.47, 2.05)	0.960	0.78(0.46, 1.32)	0.352	0.68(0.25, 1.82)	0.440
	51 to 65	2.76(1.23, 6.22)	0.014	1.52(0.79, 2.93)	0.211	0.21(0.03, 1.81)	0.160
	>65	6.99(1.97, 24.8)	0.003	4.34(1.38, 13.61)	0.012	2.13(0.33, 13.73)	0.426
Income of the owner	<£10,000						
	£10,000 to 20,000	1.31(0.6, 2.84)	0.500	2.36(1.22, 4.58)	0.011	1.12(0.28, 4.56)	0.872
	£20,000 to 40,000	0.36(0.17, 0.77)	0.009	0.77(0.43, 1.36)	0.366	0.88(0.29, 2.68)	0.820
	>£40,000	0.29(0.1, 0.84)	0.023	1.32(0.7, 2.5)	0.400	0.71(0.18, 2.92)	0.640
Exercise	Per hour per week	0.96(0.92, 0.99)	0.008	0.98(0.96, 1)	0.081	0.99(0.94, 1.03)	0.580

RRR Relative risk ratio

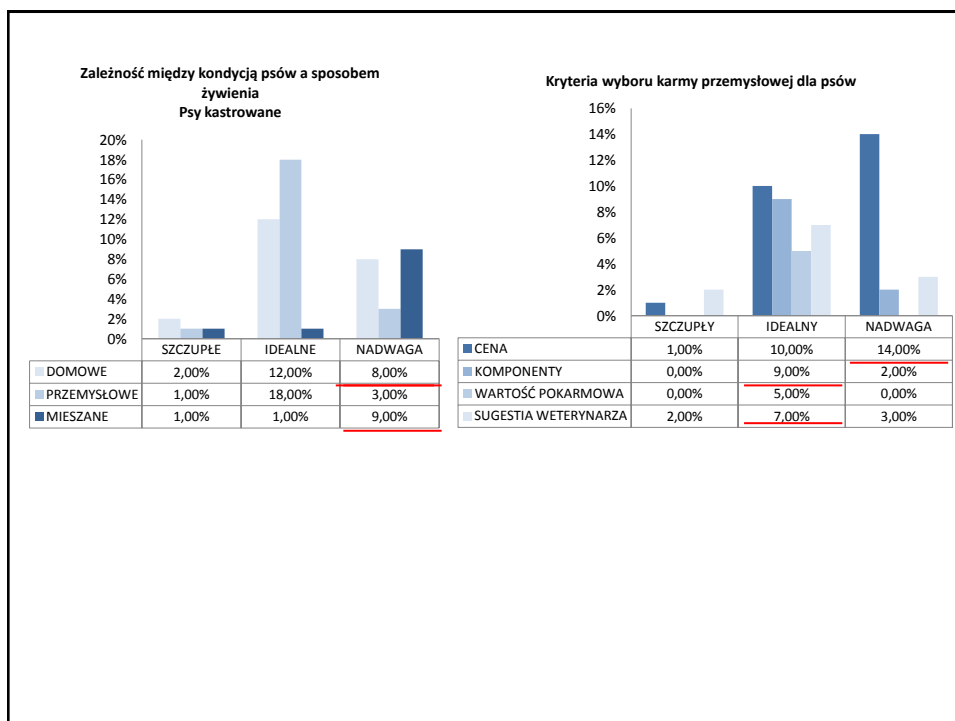
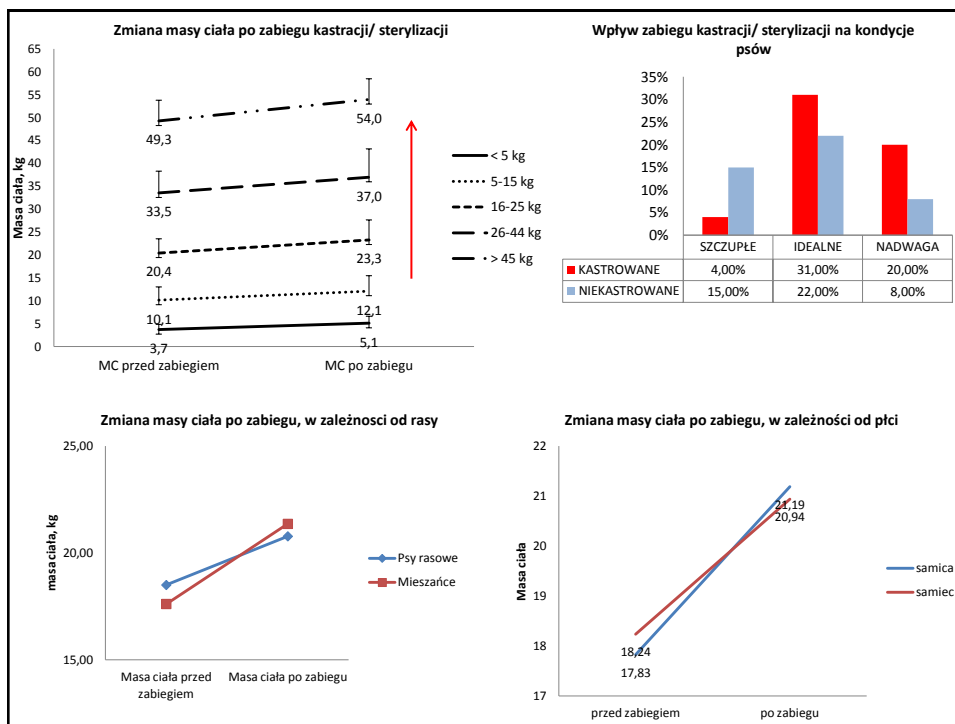
Analiza żywienia psów chorych - Justyna Chrabąszcz, 2016 (n= 695, n=100)

- ☐ Analiza dokumentacji weterynaryjnej (N=695) i ankieta (n=100)
 - ☐ Gabinet weterynaryjnym „Citowet” we wsi Górno
 - ☐ lipiec 2015 – wrzesień 2015
- ☐ Analiza masy ciała przed i po zabiegu kastracji (n=66)



- ☐ Analiza statystyczna danych (STATISTICA, 2010)
 - ☐ Tabele wielodzzielcze
 - ☐ Test Chi²
 - ☐ Korelacja rang Spearmana







Short communication

Dog obesity: Veterinary practices' and owners' opinions on cause and management

L.M. Bland^a, A. Guthrie-Jones, R.D. Taylor, J. Hill^a School of Agriculture and Food Systems, Faculty of Land and Food Resources, University of Melbourne, Parkville 3010, Victoria, Australia

The study reported in this paper builds on the earlier study of Bland et al. (2009). In his study on the responses from dog owners and veterinary practices on the routine care and management of overweight and obese dogs, Bland et al., evaluated 550 responses of dog owners in Victoria, Australia during July–August 2007. In a concurrent study, 419 questionnaires were distributed to veterinary practices (located in both rural and urban areas) in Victoria. The

Table 1

Opinion of veterinarians: causes of dog obesity. Information from 153 veterinary practices based in Victoria, Australia who responded to a questionnaire survey during July–August 2007.

Categorised responses	Number	%
Total responses listed by respondents	419	
<i>Dog related causes</i>	12	3
De-sexing (neutering/spaying)	7	2
Dogs health	5	1
<i>Human related causes</i>	407	97
<u>Dog owner</u>	141	34
Human obesity	34	8
Human–dog relationship	18	4
Sedentary owner	23	6
Busy owner lifestyle	22	5
Owner perception of ideal weight	12	3
Lack of owner education of dog	11	3
Over-pampering	8	2
Affluent society	7	2
Owner ignorance	6	1
<u>Diet</u>	151	36
Overfeeding	51	12
Treat feeding	29	7
Commercial food	36	9
Diet (other)	35	8
<u>Exercise</u>	88	21
Lack of exercise	75	18
Small yard size and/or inside dog	13	3
Other	27	6

Preferences of owners of overweight dogs when buying commercial pet food

L. Suarez², C. Peña¹, E. Carretón¹, M. C. Juste¹, I. Bautista-Castaño² and J. A. Montoya-Alonso¹¹ Veterinary Medicine Service, Faculty of Veterinary Medicine, University of Las Palmas de Gran Canaria, Las Palmas, Spain, and² Department of Clinical Sciences, Faculty of Medicine, University of Las Palmas de Gran Canaria, Las Palmas, Spain

Journal of Animal Physiology and Animal Nutrition 96 (2012) 655–659 © 2011 Blackwell Verlag GmbH

The aim of this study was to compare the preferences of owners of overweight and normal weight dogs, in relation to the importance of certain qualities when buying commercial pet food.

The study design was a multi-centred cross-sectional study on a group of 198 owners of urban household dogs on the island of Gran Canaria (Canary Islands, Spain). These owners and their dogs came from several veterinary centres visited for routine consultations, the owners giving their consent to participate in this study. The research meets ethical guidelines, including adherence to the legal requirements of European legislation.

In our study, obese dogs are more likely to have been fed inexpensive rather than more expensive foods; these results agree with other studies which determined that the lower price of the dog food was more important for owners of obese dogs than for owners of normal dogs (Kienzle et al., 1998;

Table 1 Importance of certain qualities of prepared dog food in owners of normal and obese dogs

Variable scaling from 1 = not important to 5 = very important	Owner of dogs		p-Value (Mann–Whitney U-test)
	Overweight dogs N = 137	Normal dogs N = 61	
	Mean (SD)	Mean (SD)	
Low price	3.01 (1.42)	2.28 (1.45)	<0.001
Special offers of commercial dog food	2.88 (1.47)	2.28 (1.42)	0.008
Dog preferences	3.80 (1.53)	3.79 (1.39)	0.482 (NS)
Presentation	2.15 (1.52)	2.61 (1.59)	0.028
Colour and odour	2.75 (1.63)	3.08 (1.57)	0.213 (NS)
Quality of ingredients	3.94 (1.41)	4.48 (1.01)	0.007
<u>Nutritional composition</u>	<u>3.50 (1.53)</u>	<u>4.51 (0.96)</u>	<u><0.001</u>
Quality of Trademark	3.50 (1.54)	3.85 (1.31)	0.183 (NS)
Available at the nearest supermarket	3.43 (1.61)	3.10 (1.66)	0.193 (NS)
Advertises	1.75 (1.16)	1.80 (1.27)	0.903 (NS)
Easy storage	2.34 (1.50)	2.59 (1.59)	0.359 (NS)
Package friendly to the environment	1.31 (0.77)	1.48 (0.95)	0.171 (NS)
Out of date time	3.64 (1.57)	3.61 (1.70)	0.869 (NS)
Recommended by veterinarians	3.88 (1.45)	3.85 (1.45)	0.855 (NS)
Recommended by other owners	2.17 (1.40)	2.26 (1.32)	0.496 (NS)

NS, no significant.

Żywnienie psów gończych i wyżłów – Mirella Nowak, 2016 (n=213)

☐ Ankieta (n=213)

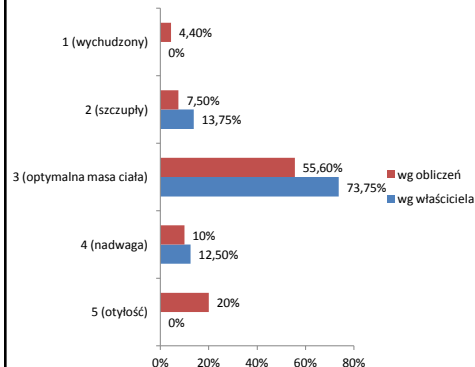
- ☐ Internetu, grupy tematyczne: SOS dla wyżłów, Psy Myśliwskie, Setery w Potrzebie. Ankieta została skierowana także do zarządu Polskiego Związku Łowieckiego okręgu w Krakowie oraz Tarnowie
- ☐ Psów rasowe z dwóch grup FCI: psy gończe (grupa VI) oraz wyżły (grupa VII)
- ☐ 53 ankiety => psy myśliwskie
- ☐ 116 ankiet => psy towarzyszące



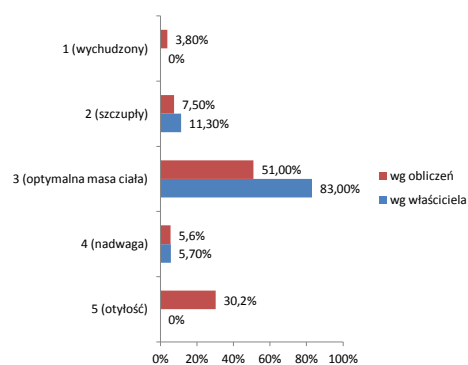
☐ Analiza statystyczna danych (STATISTICA, 2010)

- ☐ Tabele wielodzielcze
- ☐ Test Chi²
- ☐ Korelacja rang Spearmana

Weryfikacja kondycji psów towarzyszących



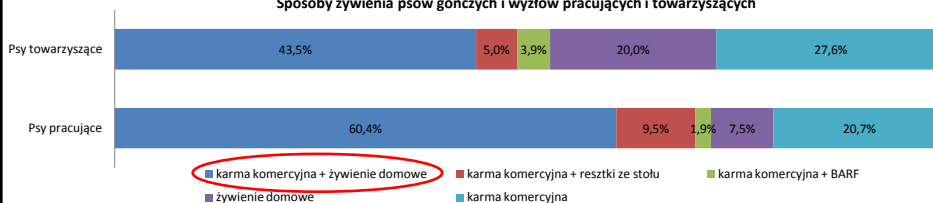
Weryfikacja kondycji psów pracujących



Struktura płciowa i wiekowa ankietowanych psów oraz poddanie zabiegowi kastracji.

	Płeć		Wiek			Kastracja/sterylizacja	
	♀	♂	<1	1-7	>7	Tak	Nie
Ogółem %	48,3	51,7	8	63,8	28,2	34,7	65,3
Pracujące %	53	47	3,8	71,7	24,5	7,5	92,5
Towarzyszące %	52	48	8,7	62,5	28,8	43,9	56,1

Sposoby żywienia psów gończych i wyżłów pracujących i towarzyszących



A Comparison of the Feeding Behavior and the Human-Animal Relationship in Owners of Normal and Obese Dogs¹

Ellen Kienzle,^{2*} Reinhold Bergler^{2*} and Anja Mandemach

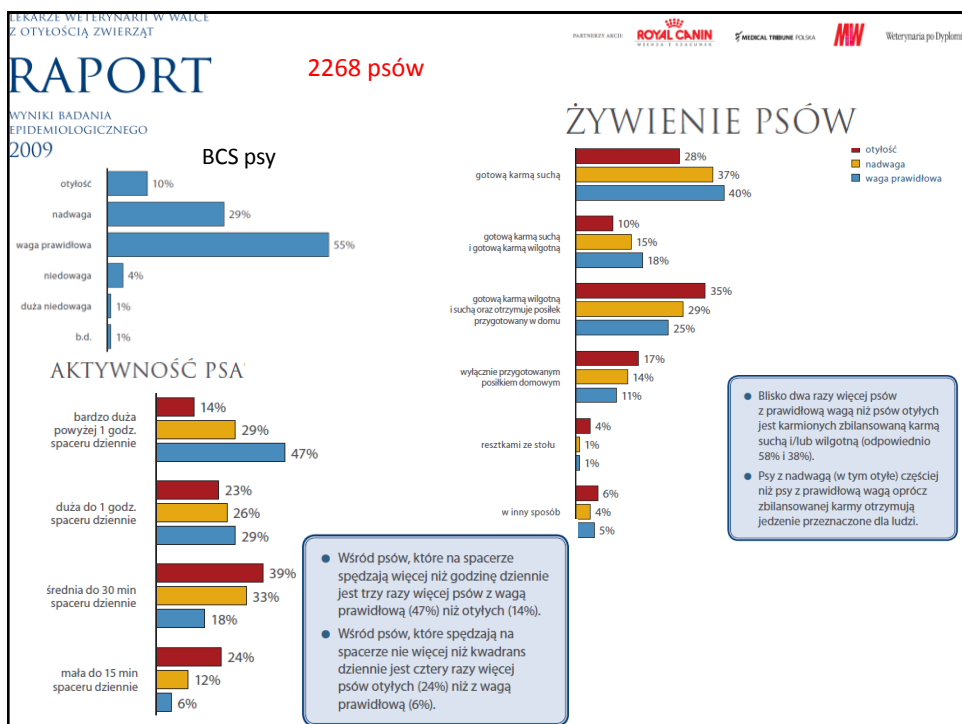
¹Institute of Physiology, Biochemistry and Animal Nutrition, Ludwig-Maximilians University Munich, D-80539 Munich, Germany and ²Psychologisches Institut der Universität Bonn, D-53117 Bonn, Germany

American Society for Nutritional Sciences. J. Nutr. 128: 2779S-2782S, 1998.

The results of this survey indicate that owners of obese dogs tend to interpret their dog's every need as a request for food. It appears that this is due, in part, to a transfer of their own health and eating habits, including a certain laziness and a lack of appreciation of the dog's nutritional and health requirements. In counseling these owners, they should be encouraged to respond to the dog's requests for attention not always with food, but more frequently with physical activities, such as brisk walks or regular play sessions. These will benefit both dog and owner.

Feeding the dog

	Overweight n = 60	Normal n = 60	Significance	
	Frequencies in %		sig	CC
<u>Number of meals per day</u>				
• One	44.8	59.3	0.05	0.22
• two	27.6	30.5		
• three	27.6	10.2		
<u>Number of snacks per day</u>				
• up to one	30.3	62.5	0.00	0.33
• two	26.8	21.4		
• more than two	42.9	16.1		
<u>Feeding of kitchen scraps</u>	25.4	13.3	0.09	0.15
<u>Interest in dog nutrition</u>				
• Strong or very strong	27.1	39.0	0.00	0.29
• medium	32.2	47.5		
• low to nonexistent	40.7	13.5		
<u>Visit of information meeting on dog nutrition</u>	3.5	13.6	0.05	0.18
<u>Weight control in the dog</u>				
• weekly	0.0	8.8	0.05	0.34
• monthly	17.9	38.3		
• yearly	14.3	2.9		
• irregular intervals	67.8	50.0		



Wpływ rodzaju żywienia psów na poziom glukozy we krwi – Karolina Koper, 2017 (n=114)

☐ Ankieta (N=114)

- ☐ Przychodni Weterynaryjnej w Sławkowie w województwie Śląskim oraz w Gabinetce Weterynaryjnym Arka w Suchej Beskidzkiej
- ☐ Październik 2016 – marzec 2017

☐ Masa ciała, BCS

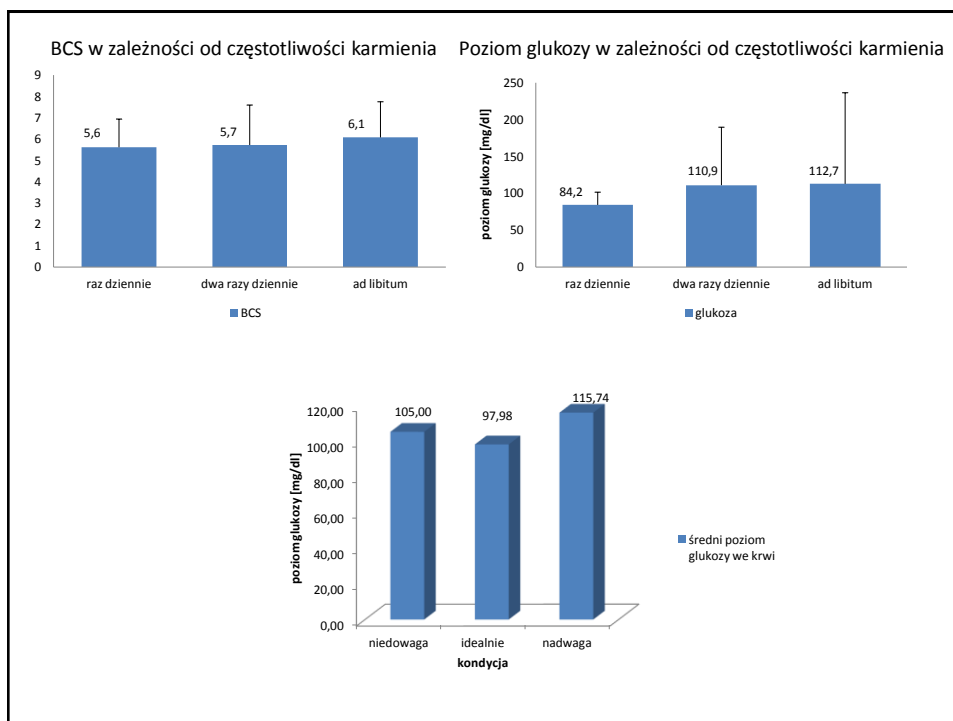
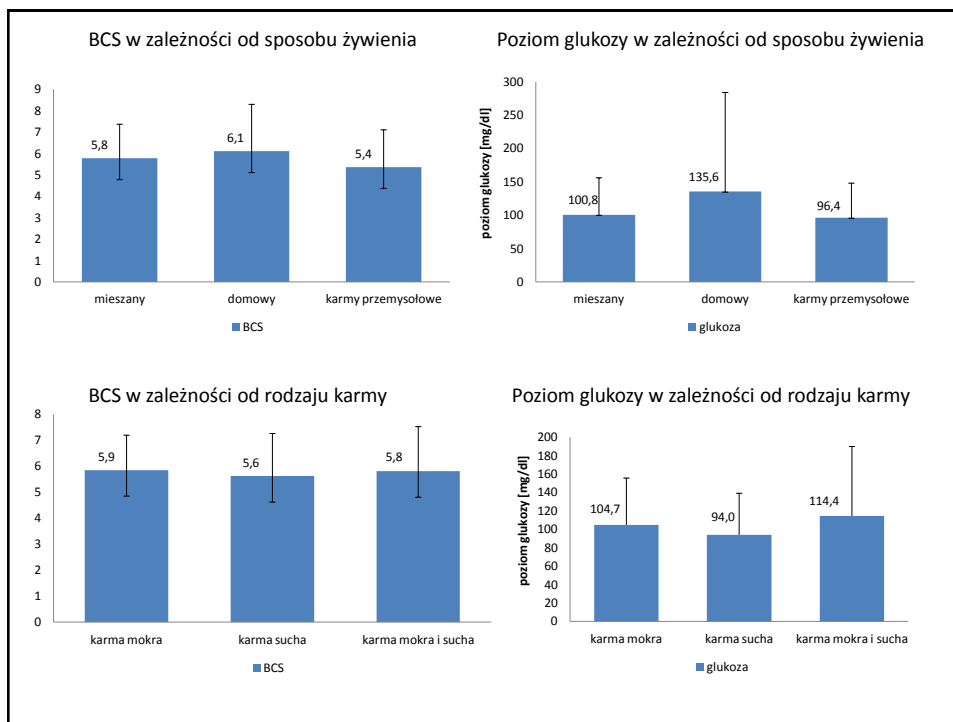
☐ poziom glukozy na czczo



☐ Analiza statystyczna danych (STATISTICA, 2010)

- ☐ Tabele wielodzielcze
- ☐ Test χ^2
- ☐ Korelacja rang Spearmana





Relationship between analytic values and canine obesity

C. Peña¹, L. Suárez¹, I. Bautista², J. A. Montoya¹ and M. C. Juste¹

¹ Veterinary Medicine Service, Faculty of Veterinary Medicine, Las Palmas de Gran Canaria University, Las Palmas, Spain, and
² Department of Clinical Sciences, Las Palmas de Gran Canaria University, Las Palmas, Spain

Journal of Animal Physiology and Animal Nutrition **92** (2008) 324–325 © 2008

Table 1 Levels of glucose, lipids, and ALT in obese and non-obese dogs

Biochemical parameters (Mean ± SD)	Dog obesity		p-value
	No	Yes	
Glucose (mmol/l)	4.66 ± 0.90	4.82 ± 0.83	0.383
Total cholesterol (mmol/l)	5.04 ± 1.35	6.14 ± 2.0	0.002*
HDL-cholesterol (mmol/l)	2.90 ± 0.82	3.28 ± 0.87	0.054
Triglycerides (mmol/l)	0.75 ± 0.86	1.38 ± 1.41	0.002*
ALT (U/l)	51.80 ± 49.46	69.10 ± 100.75	0.570

ALT, alanine aminotransferase; HDL, high-density lipoprotein.

*p < 0.05.

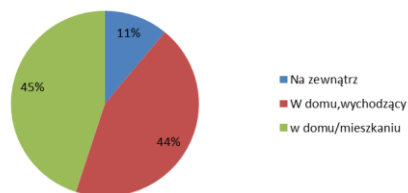
Sposoby żywienia kotów domowych – Katarzyna Płacheta, 2018 (n= 100)

- ☐ Ankieta (n=100)
- ☐ Internet , województwo małopolski
- ☐ BCS

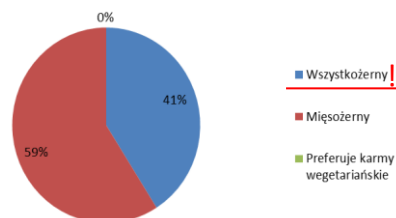


Przedział wiekowy	%
Do 1 roku życia	15
1-10 lat	72
Powyżej 10 lat	13
Płeć	%
Kotka	52
Kocur	48
	%
Koty rasowe	16
Koty nie rasowe	84
Kastracja/ sterylizacja	%
tak	67
nie	33
Miejsce zamieszkania	%
Miasto	45
Wieś	55

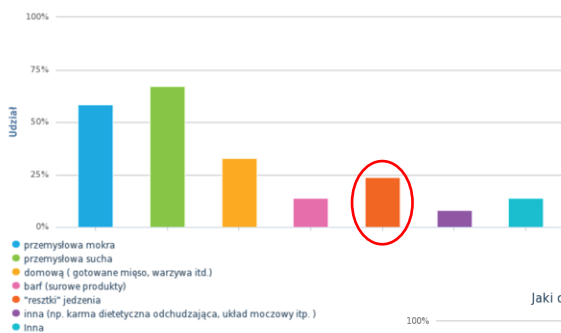
Czy jest to zwierzę przebywające:



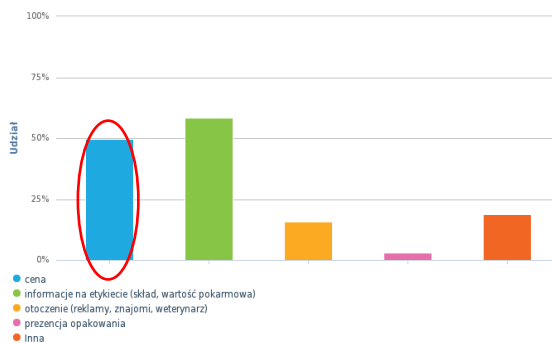
Czy według Ciebie kot jest :

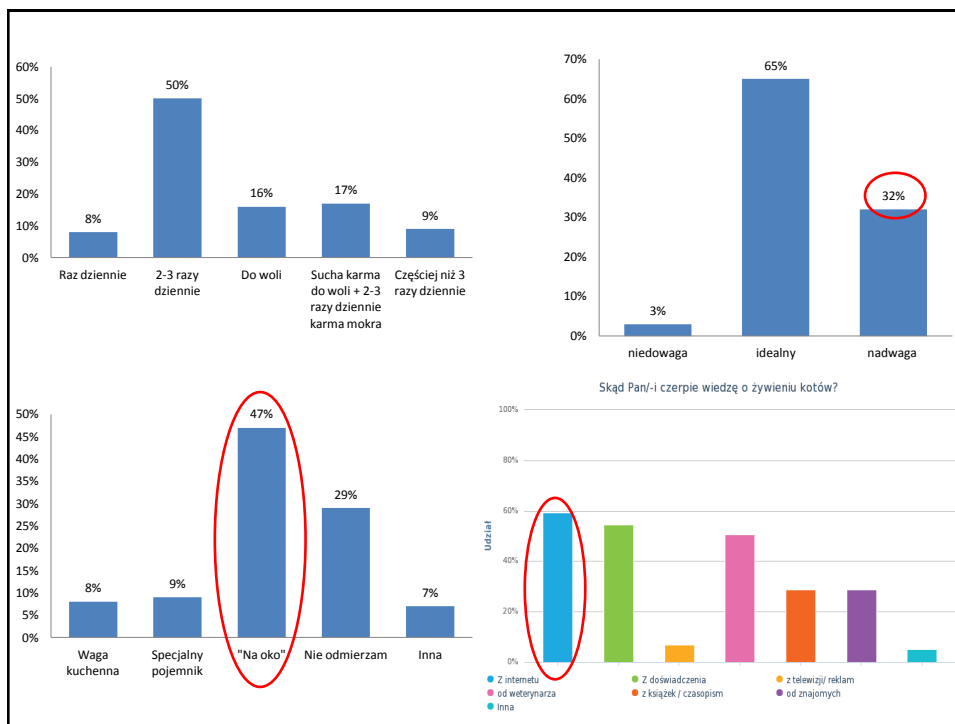


Jakiego rodzaju karmę stosuje Pan/i w żywieniu swojego kota?



Jaki czynnik wpływa na kupno danej karmy:





Food	Quantity	Calories	Excess Caloric Intake [%]*	Equivalent in Doughnuts for Humans**
Feline Mixed Treats	10 Pieces	7.9	6%	
Yogurt	3 oz	40	28%	
Milk	3 oz	49	35%	
Lunch Meat	2 oz (2 slices)	60	42%	
Salmon	2.2 oz	70	49%	
Baby Food	3.5 oz	80	56%	
Tuna	2 oz	80	56%	
Sardines	2 oz	100	70%	
Cheese	1 oz	120	85%	

ROYAL CANIN

Department of Veterinary Clinical Sciences, University of Liverpool, Small Animal Hospital, Liverpool, L7 7EX, UK

26

Opinion

The Responsibility of Veterinarians to Address Companion Animal Obesity

Barry S. Kipperman ^{1,*} and Alexander J. German ^{2,3}*Animals* 2018, 8, 143; doi:10.3390/ani8080143

- 1- Obesity is a disease and should be referred to as such.
- 2- Obesity is a disease of increasing prevalence in human and companion animal populations.
- 3- Obesity is associated with numerous comorbidities in people and pets.
- 4- Human and veterinary healthcare providers find it difficult to discuss obesity with clients.
- 5- The prevention of obesity should be a major priority for the human and veterinary health care professions.
- 6- The veterinarian has a role in improving the health of pets, as well as the pet owners, as caregivers.

10. Conclusions

Veterinarians are not adequately addressing the pet obesity epidemic, and are thereby abdicating their role as advocates for animals. Preemptive monitoring to prevent obesity from developing is strongly encouraged. A combination of informing pet owners that their pet is or may become overweight, discussing the health and welfare implications of obesity, and providing information on how to achieve weight loss, is the most effective mechanism for motivating pet owners to improve the health and welfare of their overweight or obese animal companions. The One-Health perspective encourages coordinated action by human and veterinary healthcare professionals to address obesity in people and companion animals as a public health concern [66].

Lekarze weterynarii nie zajmują się odpowiednio epidemią otyłości zwierząt domowych, powinni edukować właścicieli o konsekwencjach otyłości oraz o bezpiecznym sposobie utraty masy ciała => kwestia zdrowia publicznego

Otyłość to choroba!



I'm not fat just fluffy

