Correlates and preferences of resistance training among older adults in Alberta, Canada

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ABSTRACT

OBJECTIVE: The prevalence of resistance training among older adults in Alberta, Canada, has never been measured. Hence, there is no clear understanding of the demographic and health-related factors associated with resistance training, or older adults' resistance training programming preferences. The purpose of this study was to gain a better understanding of resistance training behaviours among older adults in Alberta.

METHODS: Older adults (>55 years) from across Alberta were invited to participate in this study. Participants completed self-reported measures of resistance training behaviours, demographics, health-related information, and resistance training program interest and preferences.

RESULTS: A total of 358 (of 393) participants returned a completed survey, for a response rate of 91.1%. Overall, 53.1% met Canadian resistance training guidelines. On average, participants engaged in resistance training on 1.8 (SD = 1.9) days per week for an average of 1.6 hours (SD = 1.3). Preferences included resistance training in a fitness club (45.7%) and morning training times (51.7%). Indicating an ability to participate in a resistance training program for older adults was associated with being age 65 years or older (OR = 2.4; 95% CI, 0.69 to 8.0, $p = 0.017$) and being male (OR = 2.2; 95% CI, 0.73 to 6.69, $p = 0.016$). Those meeting resistance training guidelines were significantly less likely to have a chronic disease (OR = 0.60; 95% CI, 0.39 to 0.95, $p = 0.03$).

CONCLUSION: Older adults had unique preferences for receiving resistance training counseling and programming. These preferences were associated with specific demographic and health-related variables.

KEY WORDS: Resistance training; older adults; health behaviour; movement

La traduction du résumé se trouve à la fin de l'article.

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Resistance training (e.g., strength training, weight lifting) has been found to have unique benefits for older adults.¹ For example, resistance training can help prevent physical decline by maintaining muscle strength, muscle power and endurance and helps to maintain a healthy body weight.² Resistance training can also enhance many fitness parameters, such as balance, coordination, speed, agility and jumping ability.¹ When resistance training is part of a comprehensive activity program, the benefits can include improved cardiac function, functional capacity, and reduced risk factors for diabetes, osteoporosis and even colon cancer.¹

To date, resistance training prevalence for Canadian older adults is largely unknown. Few studies have examined correlates of resistance training among older adults. These studies have consistently reported level of education to be significantly associated with resistance training among older adults.^{3–5} Other correlates identified in these studies included body mass index/obesity (higher body mass index associated with less resistance training)^{3,5} and gender (women less likely to engage in resistance training).³ To date, no studies have examined correlates of resistance training among older adults in Canada. Further, no studies have elicited older adults' preferences for resistance training counseling and programming. Such information may enable targeted health promotion strategies aimed at facilitating resistance training activities among older adults in Canada.

The objectives of this study were to: a) determine the prevalence of weekly resistance training among older adults, b) elicit older adults' resistance training programming preferences, and c) determine the demographic and health-related factors associated with resistance training. We hypothesized 1) the prevalence of resistance-training behaviours among the sample of older adults would be low (<10%), and 2) key demographic and health-related factors would be associated with resistance training perceptions (e.g., interest, ability) and behaviours.

METHODS

Prior to any recruitment-related procedures, ethical approval was obtained from the Athabasca University Research Ethics Board. Older adults (men and women) across Alberta, Canada, were invited to participate in this study. Participants were recruited from September 2013 to January 2014. Inclusion criteria included:

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a) men and women ≥ 55 years of age, b) being free from chronic medical and orthopedic conditions that would preclude physical activity and/or resistance training (e.g., congestive heart failure, use of a mobility aid, recent knee or hip replacement), c) having the ability to read and understand English, and d) residing in Alberta.

Older adults were recruited through a series of research notices placed in both urban and rural newspapers. Interested participants contacted the study coordinator (EB) via telephone or e-mail. After pre-screening, a survey package containing a detailed information letter, questionnaire, business reply envelope and \$5 gift card was sent to each interested participant. Completion of the survey served as implied consent. This mail protocol was based on a slightly altered version of the Total Design Method,⁶ consisting of an initial mailout, with information letter and business reply envelope, then a second mailout three weeks later to those subjects who did not respond to the initial one. No reminder phone calls were made.

To detect a small correlation of 0.20 with an alpha of 0.05 and 0.80 power, a sample size of 153 participants was required. Given our planned subgroup analyses, however, the aim was to recruit at least 300 participants.

Measures

Demographic and health information were self-reported and included age, gender, height, weight, marital status, family income, education and employment status, smoking status, culture, co-morbidities and current medication use. Self-reported physical activity was measured using the Godin Leisure-Time Exercise Questionnaire.^{7,8}

Prior to their completing the resistance training survey items, the participants were provided the following definition of resistance/strength training: Strength training is also called weight training or resistance training, and involves challenging the muscles against a resistance (such as a dumbbell or physical-activity band), to build muscle strength and endurance.¹ Strength training programs are mainly performed with the use of free weights (dumbbells, barbells), weight machines, resistance bands (physical activity bands), and even just using one's own body weight.

Resistance training was assessed by three survey items addressing overall experience (i.e., years resistance training, have never resistance trained), resistance training frequency and typical training session duration. Participants were asked how often they did resistance training activities over a typical week during the previous month. Possible answers included none or zero days per week up to seven days per week. For those who resistance trained at least one day/week, participants were asked to indicate the duration of their typical training sessions (i.e., less than 10 minutes, between 10 and 30 minutes, between 30 and 60 minutes and more than 60 minutes).

Programming preferences were elicited by asking participants whether they were 1) able to participate in a resistance training program designed for older adults (i.e., yes, no, maybe), and 2) interested in participating in a resistance training program designed for older adults (i.e., yes, no, maybe). Participants checked one or more categories from questions based on what they preferred to do. Questions also included: preferred season of resistance training initiation (i.e., fall, winter, spring, summer); company (i.e., alone, with others my age, with friends, with family,

no preference); time of day (i.e., morning, afternoon, evening, no preference); location (at a seniors' club, regular fitness centre, in-home program, no preference); receipt of supplemental information (face to face, telephone, brochure, Internet, group setting, other); equipment (free weights, weight machines, resistance bands, core strengthening equipment); intensity (only light intensity, vs. progressive resistance training to higher intensities with physical ability); supervision (supervised by trainer, vs. train unsupervised once a trainer has set up program); and scheduling (pre-set, vs. flexible).

Statistical analysis

Statistical analyses were performed using SPSS version 23. Prior to any analyses, data were checked (via frequency distributions) for outliers and discrepancies. Descriptive statistics were used to examine the demographic and health characteristics of the sample and the percentage of participants meeting resistance training guidelines (i.e., at least two resistance training sessions per week).

Frequency counts and percentages were calculated to determine the resistance training activity programming preferences for the sample. To dichotomize the dependent variables for the logistic regression analysis, "yes" and "maybe" response options were combined. Odds ratios (ORs) reflect the increase (or decrease if the ratio is <1) in odds of being in one outcome category when the value of the predictor increases by one unit. In all analyses, adjusted ORs, as well as the associated 95% confidence interval (CI), are presented for each level of the variable in comparison with the lowest (referent) level. For each preference variable, one logistic regression was run with the independent variables that demonstrated statistically significant associations with the dependent variable of interest in the chi-square analyses. Covariates in each model included sex (male vs. female), age (65 years of age and above vs. below 65), BMI (normal weight vs. overweight or obese), retired (retired vs. not retired), university education (university education vs. no university education), married (married vs. not married), and chronic disease (at least one chronic disease vs. no chronic disease).

RESULTS

A total of 393 surveys were mailed. A total of 358 participants returned a completed survey, for a response rate of 91.1%. Demographic and health variables are presented in Table 1. The sample contained 236 women (65.9%). The mean age of the participants was 66.5 years ($SD = 8.0$), with a comparable mean across men and women. The mean body mass index was 25.4 (6.8) kg/m^2 . Smokers comprised 5.3% of the sample. At least one chronic disease was reported by 58.6% of the participants.

Prevalence of resistance training

On average, participants engaged in resistance training on 1.8 ($SD = 1.9$) days per week for an average of 1.6 hours ($SD = 1.3$). Overall, 53.1% met resistance training guidelines. For those not meeting resistance training guidelines, 39.1% of respondents reported "zero" training sessions in a typical week and 7.8% of respondents reported "one" session a week. There were 3.1% of respondents who reported they performed resistance training daily

Table 1. Demographic and health characteristics of study participants

	Overall	Men <i>N</i> = 122	Women <i>N</i> = 236	<i>p</i>
Age	66.5 ± 8.0	66.5 ± 7.4	66.4 ± 8.4	0.16
Body mass index (<i>n</i> = 346)				
Underweight	5 (1.4)	1 (0.8)	4 (1.8)	<0.368
Normal weight	153 (44.3)	47 (39.8)	106 (46.7)	
Overweight	133 (38.6)	53 (44.9)	81 (34.3)	
Obese	54 (15.7)	17 (14.4)	37 (16.3)	
Marital status (<i>n</i> = 357)				
Never married	11 (3.1)	2 (1.6)	9 (3.8)	<0.013
Married/common law	267 (74.8)	105 (86.1)	162 (68.9)	
Divorced/separated	38 (10.6)	8 (6.6)	30 (12.8)	
Widowed	41 (11.5)	7 (5.7)	34 (14.5)	
Education (<i>n</i> = 357)				
Some high school	23 (6.4)	10 (8.2)	13 (5.5)	<0.430
Completed high school	60 (16.8)	18 (14.8)	42 (17.9)	
Some university/college	62 (17.4)	18 (14.8)	44 (18.7)	
Completed university/college	151 (42.3)	49 (40.2)	102 (43.4)	
Some graduate school	7 (2.0)	3 (2.4)	4 (1.7)	
Completed graduate school	53 (14.8)	24 (19.7)	29 (12.3)	
Annual income (<i>n</i> = 314)				
<\$60,000	117 (37.3)	36 (32.4)	82 (34.7)	<0.004
\$60,000 to <\$100,000	88 (28.0)	23 (20.7)	65 (32.0)	
≥\$100,000	109 (34.7)	52 (46.8)	57 (28.0)	
Employment status				
Full-time	73 (20.7)	33 (27.2)	40 (17.2)	<0.014
Part-time	34 (9.6)	9 (7.4)	26 (11.1)	
Unemployed	2 (0.6)	1 (0.8)	1 (0.4)	
Retired	222 (62.7)	77 (63.6)	145 (62.5)	
Homemaker	14 (4.0)	0 (0)	14 (6.0)	
Disability	8 (2.3)	1 (0.8)	7 (3.0)	
Racial background (<i>n</i> = 354)				
Caucasian	337 (95.2)	116 (95.9)	221 (94.8)	0.617
Other	17 (4.8)	5 (4.1)	12 (5.2)	
Smoke (<i>n</i> = 357)				
Yes	19 (5.3)			
Co-morbidities				
Cancer	46 (13.0)	18 (14.9)	28 (12.1)	0.457
Diabetes	32 (9.1)	14 (11.6)	19 (8.2)	0.294
Heart attack	15 (4.2)	12 (9.9)	3 (1.3)	0.000
Stroke	6 (1.7)	4 (3.3)	2 (0.9)	0.093
Hypertension	125 (35.4)	53 (43.8)	73 (31.3)	0.020
High blood cholesterol	111 (31.4)	41 (33.9)	70 (30.2)	0.476

Note: Numbers may not total 358 due to missing data. Data are presented as the mean and standard deviation (SD) for continuous variables (i.e., age, body mass index) and frequency (%) for categorical variables. Demographic and clinical characteristics of participants were compared using analysis of variance and chi-square tests where appropriate.

in a typical week and 0.6% who reported they trained six days in a typical week. For those who reported weekly resistance training, 33.7% stated these sessions were less than 10 minutes duration.

The range of experience with resistance training was zero years to 55 years, with a mean of 4.3 years (SD = 9.1 years, mode = 0 years). Mean range of experience was 5.5 (10.8) years for men and 3.7 (8.0) years for women. The 60 to 69 years age group had the highest percentage of those meeting resistance training guidelines (54.5%). In comparison, 38.1% of those over 80 years were meeting guidelines.

Table 2 presents resistance training preferences of older Albertans. Overall, 89.3% of respondents were at least possibly interested in participating in a resistance training program and 96.1% felt that they would possibly be able to be involved in a resistance training program designed specifically for older adults. The most preferred locations for resistance training coaching was at a regular fitness club (45.7%), home-based (27.3%) and at a seniors' club (22.7%). For supervision, 61.1% reported they would like to be supervised initially and once the program is set up would prefer to train unsupervised. The most preferred type of mode for supplemental information was face-to-face (76.6%),

followed by Internet/e-mail (11.4%) and print (10.8%). For program structure preferences, 65.9% stated they would prefer a pre-scheduled training session as opposed to spontaneous training sessions. The majority (75.8%) expressed the desire to have a resistance training program that was of progressive intensity as opposed to an ongoing light-intensity program. The majority of respondents expressed a preference to be with others their own age (33.7%) and 8.7% preferred to be with friends. A smaller number (29%) expressed a preference for training alone. The majority stated they would prefer to start a resistance training program in the fall or winter (68.6%). The majority stated they prefer morning training times (51.7%) with afternoon being the second most popular choice (18.9%).

Associations of demographic and behavioural variables

Being interested in participating in a resistance training program designed for older adults was positively associated with university education (OR = 1.9; 95% CI, 0.91–4.0, *p* = 0.089), being overweight or obese (OR = 1.8; 95% CI, 0.90–3.7, *p* = 0.09) and being male (OR = 2.1; 95% CI, 1.0–4.3, *p* = 0.043). Being interested in receiving resistance training counseling was

Table 2. Resistance training preferences

Preference variable	Preference question	N	%
Interest	Would you be interested in a resistance training program designed specifically for people 55 years and older?		
	Yes or maybe	319	89.3
	No	38	10.6
Coaching	Would you be interested in being coached about resistance training at some point?		
	Yes or maybe	313	87.7
	No	44	12.3
Location	If you were to receive resistance training coaching, where would you prefer this to occur?		
	At a seniors' club	80	22.7
	At a regular fitness club	161	45.7
	As part of an in-home program	96	27.3
	Other type of coaching	12	3.4
	Not interested in coaching	3	0.9
Information	What would be your first choice for receiving supplemental information about maintaining muscle resistance?		
	Face to face (one to one; group)	269	76.6
	Telephone	3	0.9
	Brochure/print	38	10.8
	Internet/e-mail	40	11.4
	Social media (Facebook, Twitter)	1	0.3
Supervision	If you were to participate in regular ongoing resistance training, would you prefer to be supervised or unsupervised?		
	Be supervised	136	38.9
	Train unsupervised once program set up	214	61.1
Ability	Do you think you would be able to participate in a resistance training program designed specifically for people 55 years and older?		
	Yes or maybe	343	96.1
	No	14	3.9
Company	If you were to participate in regular resistance training, who would you prefer to be active with?		
	Alone	103	29.0
	With others my age	120	33.7
	With friends	31	8.7
	With family	14	3.9
	No preference	88	24.7
Season	When would you prefer the program to start?		
	Fall	100	28.6
	Winter	140	40.0
	Spring	64	18.3
	Summer	17	4.8
	Anytime	29	8.3
Time of day	When would you prefer to be active?		
	Mornings	183	51.7
	Afternoons	67	18.9
	Evenings	46	13.0
	No preference	58	16.4
Structure	How would you prefer the structure of your training program?		
	Scheduled (i.e., specific days/times)	230	65.9
	Spontaneous/flexible	119	34.1
Intensity	If you were to participate in regular resistance training, how intense would you prefer to train?		
	Light intensity	85	24.2
	Progressive intensity	266	75.8
Equipment ownership	Do you currently have any of the following resistance training equipment in your home?		
	Free weights	257	71.8
	Weight machines	43	12.0
	Resistance bands	196	54.7
	Core resistance equipment	141	39.4
Equipment type	If you currently resistance train, what is your most preferred type of training? (<i>n</i> = 358)		
	Free weights	120	33.5
	Weight machines	56	15.6
	Resistance bands	36	10.1
	Using own body weight	14	3.9
	I don't resistance train	106	29.6
	Didn't respond to question	26	7.3

Note: Some variables do not total 358 due to missing data. Data are presented as the number of participants (*N*) and frequency (%).

positively associated with university education (OR = 2.7; 95% CI, 1.4–5.3, $p = 0.004$) and being male (OR = 1.8; 95% CI, 0.92–3.6, $p = 0.084$). Indicating an ability to participate in a resistance training program for older adults was associated with having a university education (OR = 1.9; 95% CI, 0.59–5.84, $p = 0.30$), being overweight or obese (OR = 2.2; 95% CI, 0.71–6.82, $p = 0.17$), age 65 years or older (OR = 2.4; 95% CI, 0.69–8.0, $p = 0.017$) and being male (OR = 2.2; 95% CI, 0.73–6.69, $p = 0.016$). Those meeting resistance training guidelines were significantly less likely to have a chronic disease (OR = 0.60; 95% CI, 0.39–0.95, $p = 0.03$).

DISCUSSION

This study examined a) the prevalence of weekly resistance training among a sample of older adults in Alberta, b) their resistance training programming preferences, and c) the demographic and health-related factors associated with their resistance training. Contrary to our hypothesis, we found that the majority of older adults (53%) in this study were meeting resistance training guidelines. Our results suggest that older adults may have unique preferences for receiving resistance training counseling and programming; resistance training behaviour and perceptions (e.g., interest, ability) were associated with demographic and health-related variables.

This study is the first Canadian study to report on the prevalence of resistance training in older adults. In the US, Peterson⁹ reported that participation rates for resistance training were significantly lower for the older adult population, with some literature reporting this rate as low as 10%. The Centers for Disease Control and Prevention analyzed 1998 to 2004 results from the National Health Interview Survey and determined the national prevalence rate of strength training for all adults to be 21.9% for men and 17.5% for women (training two or three times per week).¹⁰ Most recently, a study of a large sample ($N = 333,507$) of middle-aged and older adults in the US found that 24% were meeting the resistance training recommendations.⁴ One Australian study found that only 7% of older adults above the age of 55 years did some form of gym-based resistance training.¹¹ The reason the prevalence is much higher among our sample may be due to a biased sample (i.e., those who were already interested in resistance training) and hence we caution any over-interpretation of the results.

The majority of older adults in our study (64.8%) reported an interest in participating in a resistance training program for older adults. Further, 65.8% of the respondents expressed interest in counselling specific to resistance training. The most preferred location for resistance training counselling was at a fitness club (68.4%), versus an in-home program (27.3%). For the club preference, 45.7% preferred a regular fitness club and 22.7% preferred a specific seniors' fitness club. This preference for training in a club with others aligns with findings from other research on older adults and exercise. In a qualitative study by Lubcke, Martin and Hellstrom,¹² older adults reported a preference for exercise when it was at a location that created a forum to meet friends. In one study addressing motivation, group-based resistance training programs for older adults were deemed more effective for long-term adherence compared with home-based resistance training.¹³ Participants stated that the social aspect of the group kept their interest and involvement in the long term, as compared

to older adults in home-based exercise programs. McGuire, Waltman and Zimmerman also cited feedback as a predictor of exercise adherence, a factor more readily available in group-based programs as opposed to home-based programs.¹⁴ Those working in the health promotion context with older adults should consider the social context when planning resistance training programs and related activities for older adults.

Based on the preferences observed in this study, the optimal resistance training program for older adults should be tailored to the preferences of the older adult. Classes should: be offered during mornings or afternoons, focus coaching on safety and technique so that participants experience confidence and success early in the training experience, allow for social interaction, and provide frequent feedback. Classes should also provide ongoing education in a face-to-face format, and instil the concept of progression so the older adults learn progressive intensity and experience results with muscle mass, functionality and strength.

Our study indicated that those meeting resistance training guidelines were significantly (i.e., 40%) less likely to have a chronic disease. Few other studies have examined correlates of meeting resistance training guidelines. These studies have not reported chronic disease to be a significant correlate of resistance training behaviour. Previous studies consistently reported that level of education was significantly associated with resistance training among older adults.⁴⁻⁶ Despite not achieving the threshold for statistical significance, our research shows comparable results where participants with higher levels of education were more likely to be interested (i.e., approximately two times more likely) in a resistance training program for older adults (OR = 1.9), more likely to be interested in receiving counseling for resistance training (OR = 2.7), and more likely to perceive themselves to be able to participate in a resistance training program (OR = 1.9). Our study adds to the literature related to correlates of interest in participating in a resistance training program, and perceived ability to participate in a resistance training program. In particular, we found interest to be associated with being male (OR = 2.1) and being overweight or obese (OR = 1.8), while ability was associated with being overweight or obese (OR = 2.2), being age 65 years or older (OR = 2.4) and being male (OR = 2.4). This information can be used to target potential individuals or groups who may be receptive to participating in resistance training programming.

Limitations

When interpreting the results of this study, limitations need to be recognized. The primary limitation is the self-report nature of the survey. There is a body of research identifying multiple influences on individuals' responses on survey instruments that limit the reflection of reality.¹⁵ Although our study utilized a multi-prong recruitment strategy of newspapers, newsletters and presentations, this approach appeared to attract many older adults who were interested and already engaging in resistance training. As a result, our study recruitment methods, and the transparent nature of the study, may have led to a response bias whereby active, interested individuals participated and thus were over-represented in the sample. This is evidenced in the finding that 53% of participants were actively engaged in resistance training, a percentage exceedingly higher than in other published reports. As a result,

we take caution in judging the representativeness of our sample to the larger Alberta population of adults 55 years of age and older.

CONCLUSION

This study provides new and unique information related to older adults and resistance training. The detailed demographic, behavioural and health information from this sample not only can be a basis for further research questions, but can also be used immediately in the design of resistance training programs for those at least 55 years of age. Health professionals and fitness experts can consider many of these outcomes presented in our research results to inform programs and other offerings related to resistance training in the older adult population. Rather than implementing blanket approaches to promoting resistance training among older adults, our data may facilitate the development of specific strategies to attract older adults to resistance training programs.

REFERENCES

1. American College of Sports Medicine; American College of Sports Medicine position stand. Progression models in resistance training for healthy adults. *Med Sci Sports Exerc* 2009;41(3):687-708. doi:10.1249/MSS.0b013e3181915670.
2. Hanson ED, Srivatsan SR, Agrawal S, Menon KS, Delmonico MJ, Wang MQ. Effects of strength training on physical function: Influence of power, strength, and body composition. *J Strength Cond Res* 2009;23(9):2627-37. PMID: 19910811. doi: 10.1519/JSC.0b013e3181b2297b.
3. Vezina JW, Der Ananian CA, Greenberg E, Kurka J. Sociodemographic correlates of meeting US Department of Health and Human Services muscle strengthening recommendations in middle-aged and older adults. *Prev Chron Dis* 2014;11:E162. PMID: 25232749. doi: 10.5888/pcd11.140007.
4. Kruger J, Brown DR, Galuska DA, Buchner D. Strength training among adults aged ≥65 years, United States, 2001. *MMWR Morb Mortal Wkly Rep* 2004; 53(2):25-28. PMID: 14737059.
5. Merom D, Pye V, Macniven R, van der Ploeg H, Milat A, Sherrington C, et al. Prevalence and correlates of participation in fall prevention exercise/physical activity by older adults. *Prev Med* 2012;55(6):613-17. PMID: 23064022. doi: 10.1016/j.ypmed.2012.10.001.
6. Dillman DA. *Mail and Internet Surveys: The Tailored Design Method*, 4th ed. New York: Wiley, 2000.
7. Godin G, Jobin J, Bouillon J. Assessment of leisure time exercise behavior by self-report: A concurrent validity study. *Can J Public Health* 1986;77(5):359-62. PMID: 3791117.
8. Godin G, Shephard RJ. A simple method to assess exercise behavior in the community. *Can J Appl Sport Sci* 1985;10(3):141-46. PMID: 4053261.
9. Peterson MD, Rhea MR, Sen A, Gordon PM. Resistance exercise for muscular strength in older adults: A meta-analysis. *Ageing Res Rev* 2010;9(3):226-37. PMID: 20385254. doi: 10.1016/j.arr.2010.03.004.
10. United States Centers for Disease Control and Prevention. Trends in strength training — United States, 1998-2004. *MMWR Morb Mortal Wkly Rep* 2006;55(28):769-72. PMID: 16855525.
11. Humphries B, Duncan MJ, Mummery WK. Prevalence and correlates of resistance training in a regional Australian population. *Br J Sports Med* 2010;44(9):653-56. PMID: 18603577. doi: 10.1136/bjsm.2008.048975.
12. Lubcke A, Martin C, Hellstrom K. Older adults' perceptions of exercising in a senior gym. *Act Adapt Agin* 2012;36(2):131-46.
13. Cyarto EV, Brown WJ, Marshall AL. Retention, adherence and compliance: Important considerations for home- and group-based resistance training programs for older adults. *J Sci Med Sport* 2006;9(5):402-12. PMID: 16911871. doi: 10.1016/j.jsams.2006.06.020.
14. McGuire R, Waltman N, Zimmerman L. Intervention components promoting adherence to strength training exercise in breast cancer survivors with bone loss. *Western J Nurs Res* 2011;33(5):671-89. PMID: 20702684. doi: 10.1177/0193945910379004.
15. Streiner DL, Norman GR. *Health Measurement Scales: A Practical Guide to Their Development and Use*, 4th ed. Oxford, NY: Oxford University Press, 2008.

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RÉSUMÉ

OBJECTIF : La prévalence de l'entraînement contre résistance chez les adultes d'âge mûr en Alberta, au Canada, n'a jamais été mesurée. On ne comprend donc pas clairement les facteurs démographiques et sanitaires

associés à ce type d'entraînement, ni les préférences des adultes d'âge mûr en ce qui a trait à ces programmes. Notre étude visait à mieux comprendre les comportements d'entraînement contre résistance chez les adultes d'âge mûr en Alberta.

MÉTHODE : Des adultes d'âge mûr (>55 ans) de partout en Alberta ont été invités à participer à l'étude. Les participants ont autodéclaré des indicateurs de leurs comportements d'entraînement contre résistance, fourni leurs caractéristiques démographiques et des renseignements sur leur santé, et précisé leur intérêt pour les programmes d'entraînement contre résistance et leurs préférences en la matière.

RÉSULTATS : En tout, 358 participants sur 393 ont retourné un questionnaire rempli, soit un taux de réponse de 91,1 %. Dans l'ensemble, 53,1 % respectaient les lignes directrices canadiennes sur l'entraînement contre résistance. En moyenne, les participants pratiquaient un entraînement contre résistance 1,8 jours par semaine (écart-type = 1,9) pendant 1,6 heures

en moyenne (écart-type = 1,3). Ils préféraient pratiquer cet entraînement dans un centre de culture physique (45,7 %) et s'entraîner le matin (51,7 %). L'indication de la capacité de participer à un programme d'entraînement contre résistance pour adultes d'âge mûr était associée à l'âge de 65 ans et plus (RC = 2,4; IC de 95 %, 0,69–8,0, $p = 0,017$) et au sexe masculin (RC = 2,2; IC de 95 %, 0,73–6,69, $p = 0,016$). Les participants qui respectaient les lignes directrices sur l'entraînement contre résistance étaient significativement moins susceptibles d'avoir une maladie chronique (RC = 0,60; IC de 95 %, 0,39–0,95, $p = 0,03$).

CONCLUSION : Les adultes d'âge mûr affichent des préférences particulières lorsqu'il s'agit de recevoir des conseils et de participer à des programmes d'entraînement contre résistance. Ces préférences sont associées à des variables démographiques et sanitaires précises.

MOTS CLÉS : entraînement contre résistance; adultes d'âge mûr; comportements sanitaires; mouvement