

**Home-based Exercise Preferences in previously Non-sedentary, Non-athlete Population from Lima, Peru during the COVID-19**

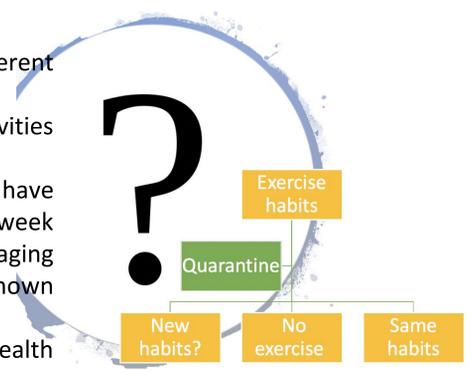
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**[Keywords] Home-based training, Quarantine Exercises, COVID-19, Health, Human**

**Introduction • Aim**

- The Coronavirus pandemic changed the way people lived because of the restrictions, quarantine and curfews declared by different governments in the world (De Vos, 2020).
- The State of Emergency in Peru due to the coronavirus and mandatory quarantine restricted sport events, gyms and outdoor physical activities (Gobierno Nacional del Perú, 2020).
- The American College of Sports Medicine and the World Health Organization (WHO) recommends to pursue a healthy life a person should have a minimum of 150 minutes per week of mild to moderate or 75 minutes per week of vigorous cardiorespiratory exercise, 60 minutes per week of strength training and flexibility exercises every day for adult and elderly population. Neuromotor exercises ought to be included in aging population routines since they could prevent falls and decrease the hip fracture prevalence. Benefits of exercise are wide and very known (Daen et al., 2017; Fletcher et al., 2018; Ozemek et al., 2018; Perez-Terzic, 2012).
- Sitting, reclining or lying down postures, while reducing physical activity along with avoidance activities could have great repercussion in health (Chen et al., 2020).



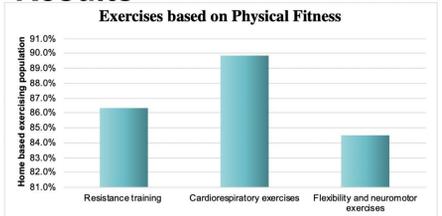
**To determine what kind of new exercise and physical activity preferences were adopted by the inhabitants from an urban city to avoid sedentarism during Coronavirus times.**

**Methods**

Sex	N	%	Sex	N	%	Age, years	Mean (SD) / Median	Range	
Female	99.0	46.0	Male	116.0	54.0		36.0 (10.7) / 36	18-65	
<b>Civil Status</b>		<b>N</b>	<b>%</b>	<b>Civil Status</b>		<b>N</b>	<b>%</b>		
Single	101.0	47.0	Divorced	7.0	3.3	Cohabiting	26.0	12.1	
Married	70.0	32.6	Separated	9.0	4.2	Widowed	2.0	0.9	
<b>Occupation in the last 6 months</b>		<b>N</b>	<b>%</b>	<b>Acc. %</b>	<b>District of residence</b>	<b>N</b>	<b>%</b>		
Communications	6	2.8	2.8	Cercado de Lima	66	30.7	Magdalena del mar	9	4.2
Employee	36	16.7	19.5	Ate Vitarte	2	0.9	Miraflores	13	6.0
Engineering	7	3.3	22.8	Barranco	8	3.7	Pueblo Libre	9	4.2
Householder	8	3.7	26.5	Bellavista	5	2.3	Rimac	1	0.5
Independent & entrepreneur	15	7.0	33.5	Breña	4	1.9	San Borja	3	1.4
Management and supervising	25	11.6	45.1	Callao	2	0.9	San Isidro	10	4.7
MD and Nurse	21	9.8	54.9	Chorillos	9	4.2	San Juan de Lurigancho	8	3.7
Nutritionist	5	2.3	57.2	Comas	3	1.4	San Juan de Miraflores	5	2.3
Office worker	29	13.5	70.7	Independencia	1	0.5	San Luis	2	0.9
Physiotherapist	5	2.3	73.0	Jesús María	3	1.4	San Martín de Porres	2	0.9
Sales	8	3.7	76.7	La Molina	5	2.3	San Miguel	9	4.2
Student	8	3.7	80.5	La Victoria	3	1.4	Surco	15	7.0
Teaching	8	3.7	84.2	Lince	4	1.9	Surquillo	9	4.2
Technician	6	2.8	87.0	Los Olivos	3	1.4	Villa María del Triunfo	1	0.5
Others: <5 (Others, Unemployed)	28	13.0	100.0	Lurin	1	0.5	<b>Total</b>	<b>215</b>	<b>100.0</b>

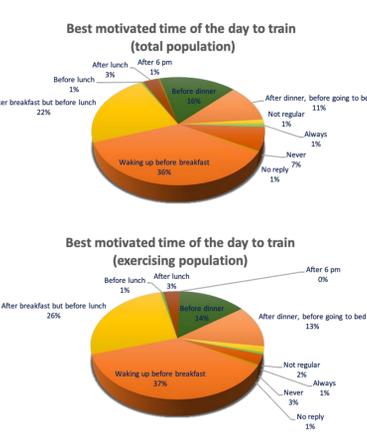
- **Subjects** A questionnaire was carried out on 340 non-athlete, non-sedentary, healthy participants from different backgrounds from both sex, from Metropolitan Lima and Callao.
- **Measures** A Spanish questionnaire survey created for this purpose contained in total 21 questions in relation to exercises. Content included demographic information, as well as type of preferred exercises, physical activity patterns and leisure physical activities. Informed consent was required before starting the survey.
- **Data Analysis** 215 surveys (63%) were included. The results were analysed by using IBM SPSS statistics.26 to investigate the frequency distribution of home-based physical activity patterns and leisure activities from different ages and from both. Pearson correlation was used between variables and p values was set to 0.05 or less.

**Results**

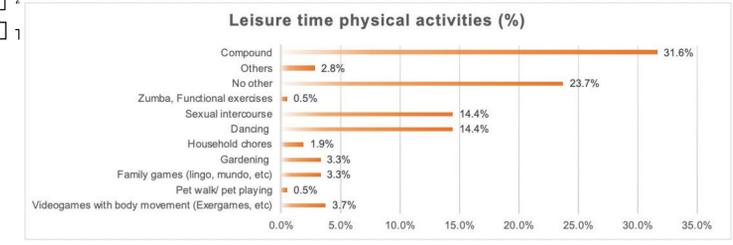


**Table 2. Combination of exercises used for strength training (n = 70)**

n	Free weight	Resistance bands	Pulley/CAM Machines	Spring system	Swiss ball	Bodyweight	TRX	Core machines	Other exercises
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13	13	13
14	14	14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17	17	17
18	18	18	18	18	18	18	18	18	18
19	19	19	19	19	19	19	19	19	19
20	20	20	20	20	20	20	20	20	20
21	21	21	21	21	21	21	21	21	21
22	22	22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26	26	26
27	27	27	27	27	27	27	27	27	27
28	28	28	28	28	28	28	28	28	28
29	29	29	29	29	29	29	29	29	29
30	30	30	30	30	30	30	30	30	30
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32	32	32	32	32	32	32	32	32	32
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37	37	37	37	37	37	37	37	37	37
38	38	38	38	38	38	38	38	38	38
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41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43	43	43
44	44	44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49	49	49
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51	51	51	51	51	51	51	51	51	51
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56	56	56	56	56	56	56	56	56	56
57	57	57	57	57	57	57	57	57	57
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97	97	97	97	97	97	97	97	97	97
98	98	98	98	98	98	98	98	98	98
99	99	99	99	99	99	99	99	99	99
100	100	100	100	100	100	100	100	100	100



- 168 (78.1%) affirm to have performed home-based exercises.
- Before the quarantine started, 44.2% had more than 4 hours per week while 24.2% between 2 and 4 hours.
- Physical activity was considered by the study subjects as very important to 72.6% (n = 156).
- The average frequency of home-based training was of 5.3 ± 3.5 hours per week
- Women time was of 5.7 ± 4.8 hours per week while men trained 54.8 ± 3 hours per week
- 39.8% trained more after the first month of the quarantine in comparison to 36.9% who decreased their training starting the second month.

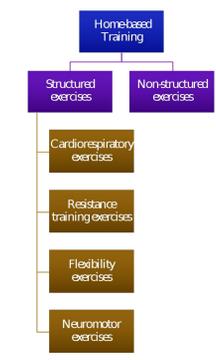


**Figure 3.** Physical activities done as part of leisure activities during the quarantine time period. (n=215).

**Discussion**

- ✓ Home-based exercises should be safe, simple and easy to implement (Chen et al., 2020) and include cardiorespiratory, strength, flexibility and neuromotor components.
- ✓ Compared to the other components of the physical fitness, there is a gap in the literature about the neuromotor exercises (Fletcher et al., 2018).
- ✓ Most of the research subjects believed that physical activity was very important, which was positively correlated with their exercise training. Educational background also increased the awareness of this importance.
- ✓ Training videos and dancing can help with the home-based training motivation as well (Hammami et al., 2020).
- ✓ Bodyweight exercises, and exercises without machines were preferred for resistance training exercises and cardiorespiratory exercises.
- ✓ Time and planning are also of great importance (Cao et al., 2013; Kawahara et al., 2018; Wiedemann et al., 2009).
- ✓ A balance between a fun but properly demanding exercise should be pursued.
- ✓ Physical activities within the leisure activities should be considered as motivation factors and promoted as additional parts of the exercise prescription, with the proper responsibility and care by the exercise professional.

**A combination of cardiorespiratory, resistance-training, flexibility and neuromotor exercises should be designed accordingly to the individual and his or her home-based exercise preferences**



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