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Correction

Correction: Tse et al. How COVID-19 Ceases All Older Adult Services & the Way Out for Community-Dwelling Older Adults with Chronic Pain. *OBM Neurobiology* 2023; 7: 183

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Special Issue: How COVID-19 Changed Individual and Social Life: Psychological and Mental illness Studies on the Pandemic Outcomes

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The authors wish to make the following correction to the paper [1].

Replace:

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With:

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Replace:

Abstract

The COVID-19 pandemic started at the beginning of 2020. It significantly impacted the older adults in Hong Kong, with most of the community centers and elderly centers being closed down under various restrictive measures. Thus, community-based health promotion activities were temporarily paused, which decreased older adults' health-promoting behaviors and motivation to stay active. This research aimed to improve the quality of life and the health of older adults with chronic pain through the pain management program. This study was conducted face-to-face on the campus of Hong Kong Metropolitan University. This dyadic pain management program (DPM) was an 8-week group-based program. The DPM comprised 4 weeks of campus-based activities and 4 weeks of digital-based activities delivered via a WhatsApp group. An 80% participation rate in the campus-based activities was regarded as completing the DPM. The control group only received lesson leaflets. Pain intensity, pain self-efficacy, psychological health of pain victims, caregiver burden inventory, and a semi-structured interview were evaluated at week 1 (T0), week 8 (T1), and week 12 (T2) after randomization. The IBM-SPSS version 22 was used to perform statistical analyses. Using non-pharmacological methods and regular exercise for 12 weeks improved physical health in terms of pain intensity, pain self-efficacy, and psychological health in anxiety, depression, and stress. For caregivers, their burden decreased after the pain management program. These findings indicated that Pender's Health Promotion Model is helpful to empower the participants and their caregivers with knowledge, skills, and power to manage their chronic pain situations. Utilizing this model as a framework, Researchers can design more effective non-pharmacological interventions for older adults to increase their engagement in health-promoting activities in the community.

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Abstract

The COVID-19 pandemic started at the beginning of 2020. It significantly impacted the older adults in Hong Kong, with most of the community centers and elderly centers being closed down under various restrictive measures. Thus, community-based health promotion activities were temporarily paused, which decreased older adults' health-promoting behaviors and motivation to stay active. This research aimed to improve the quality of life and the health of older adults with chronic pain through the pain management program. This study was conducted face-to-face on the campus of Hong Kong Metropolitan University. This dyadic pain

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Replace:

2.2.1 Data Analysis

The IBM-SPSS version 22 was used to perform statistical analyses. Descriptive statistics (frequency %; mean (standard deviation)) were used to describe the demographic data of the participants.

An intention-to-treat analysis was conducted for any missing data. A Kolmogorov-Smirnov normality test was used to examine the normality of the variables. To examine the effects of the intervention, a multilevel regression was used to compare pain intensity, pain self-efficacy, the use of drug and non-drug pain-relief methods, quality of life, and the knowledge and skills acquired in managing pain situations at baseline (T0), week 8 (T1), and week 12 (T2) if the data were normally distributed. A Generalized Estimating Equation was used for within-group and between-group comparisons if the data did not follow a normal distribution. A Cohen's d effect size of the intervention effect was calculated for all outcomes. A p-value of <0.05 was considered statistically significant. As for a cluster randomized controlled trial analysis, it was suggested to use both a multilevel regression and a generalized estimating equation, capable of handling clustered data. Observations from the same participant fell into a level, and participants from the same NEC fell into a level so that both within-subject correlations and intra-cluster correlations could be accounted for.

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Replace:

The pain situation is shown in Table 4. Before the intervention, there were no significant differences between the experimental and control groups of older adult participants for all three categories: pain intensity (p = 0.61), pain interference (p = 0.076), and pain self-efficacy (p = 0.503).

Table 4 Pain situation.

Categories (Range)		Experimental (n = 75)		Control (n = 75)		Between-group p-value
		Mean ± SD	within p	Mean ± SD	within p	
Pain Self-Efficacy (0-10)	T0	43.2 ± 1.887		41 ± 2.659		0.503
	T1	45.57 ± 1.649	0.049*	41.03 ± 2.593	0.73	0.146
	T2	48.27 ± 1.565	0.045*	41.47 ± 2.782	0.487	0.037*
Pain Intensity (0-10)	T0	4.15 ± 0.271		3.95 ± 0.280		0.61
	T1	3.25 ± 0.245	0.041*	3.82 ± 0.317	0.74	0.163
	T2	2.60 ± 0.196	0.03*	3.55 ± 0.327	0.48	0.015*
Pain Interference (0-10)	T0	5.43 ± 0.467		6.53 ± 0.604		0.076
	T1	4.25 ± 0.792	0.018*	6.20 ± 0.616	0.12	0.068
	T2	3.57 ± 0.561	0.022*	5.70 ± 0.631	0.08	0.047*

*p-value < 0.05 to be considered as significant. Remarks: T0: Before the intervention; T1: 8-week follow-up; T2: 12-week follow-up.

As seen in Table 4, the pain intensity of the experimental group decreased from 4.15 before the intervention to 2.60 after the intervention (p = 0.03), in contrast, the control group had a smaller difference after the intervention (p = 0.48). It was also found that the between-group comparisons of pain intensity after the DPM intervention were significant (p = 0.015). The pain interference of

the experimental group was also significantly reduced before and after the treatment (p = 0.022), with a reduction from 5.43 to 3.57, while that of the control group showed little difference (p = 0.08). After the interventions, there were significant differences in pain interference in between-group comparisons (p = 0.047). For pain self-efficacy, the score increased after the intervention, from a baseline score of 43.2 to 48.27 (p = 0.045). The post-intervention between-group difference was also significant (p = 0.037).

According to Table 5, the experimental group had a significant decrease in the three subscales before and after the intervention, including anxiety (p = 0.05), stress (p = 0.039), and depression (p = 0.039), while there were no significant changes in the control group (p > 0.05). The between-group comparisons were substantial in the anxiety (p = 0.025), stress (p = 0.027), and depression (p = 0.014) subscales.

Table 5 Outcome of Psychological health.

Categories (Range)		Experimental (n = 75)		Control (n = 75)		Between-group p-value
		Mean ± SD	within p	Mean ± SD	within p	
Depression (0-36)	T0	11.33 ± 1.714		16.2 ± 2.472		0.071
	T1	9.2 ± 1.523	0.047*	17.1 ± 1.890	0.053	0.051
	T2	5.46 ± 1.029	0.039*	17.13 ± 1.993	0.069	0.014*
Anxiety (0-36)	T0	8.2 ± 1.425		13.13 ± 2.154		0.25
	T1	5.76 ± 1.015		13.6 ± 1.957		0.036*
	T2	4.93 ± 0.963	0.05*	14.03 ± 2.130	0.092	0.025*
Stress (0-40)	T0	11.06 ± 1.560		16.2 ± 2.227		0.079
	T1	9.46 ± 1.441	0.043*	17 ± 2.084	0.051	0.098
	T2	7.26 ± 1.252	0.039*	17.13 ± 2.229	0.06	0.027*

*p-value < 0.05 to be considered as significant. Remarks: T0: Before the intervention; T1: 8-week follow-up; T2: 12-week follow-up.

Table 6 reveals that the levels of activities of daily living improved when comparing the scores before and after the intervention, with an improvement from 19.2 to 19.9 (p = 0.04) in the experimental group, while the control group had a small improvement from 18.2 to 18.13. Regarding the between-group differences, the experimental group had a comparatively higher level of activities of daily living than the control group (p = 0.09).

Table 6 Outcome of Physical health.

Categories (Range)		Experimental (n = 75)		Control (n = 75)		Between-group p-value
		Mean ± SD	within p	Mean ± SD	within p	
Pain Knowledge	T0	7.17 ± 1.93		7.80 ± 3.32		0.382
	T1	6.93 ± 1.59	0.818	7.40 ± 2.75	0.340	0.384

(0-11)	T2	7.20 ± 1.81	0.995	7.87 ± 2.42	0.966	0.215
Activities of Daily Living (0-100)	T0	19.2 ± 0.182		18.2 ± 0.572		0.101
	T1	19.6 ± 0.113	0.02*	18.07 ± 0.673	0.0632	0.028*
	T2	19.9 ± 0.056	0.04*	18.13 ± 0.646	0.0402*	0.009*

*p-value < 0.05 to be considered as significant. Remarks: T0: Before the intervention; T1: 8-week follow-up; T2: 12-week follow-up.

Table 7 shows the caregiver burden, in which the experimental group had a significant decrease before and after the intervention from 26.4 to 13.3 (p = 0.009), while that of the control group was non-significant (p = 0.07). In regards to the between-group differences, they were significant after the intervention (p = 0.034).

Table 7 Outcome of the Caregiver Burden Inventory (CBI).

Categories (Range)		**Experimental (n = 75)**		**Control (n = 75)**		**Between -group p-value**
		Mean ± SD	**within p**	**Mean ± SD**	**within p**	
Total: The Caregiver Burden Inventory (0-16)	T0	26.4 ± 1.481		21 ± 2.547		0.072
	T1	21 ± 1.452	0.015*	21.23 ± 2.459	0.0715	0.052
	T2	13.3 ± 1.074	0.009*	21.47 ± 2.521	0.07	0.034*
Subcategories:						
Development (0-4)	T0	0.62 ± 1.22		0.81 ± 0.83		0.245
	T1	0.50 ± 0.72	0.275	0.68 ± 1.11	0.181	0.230
	T2	0.28 ± 0.52	0.007*	0.73 ± 1.19	0.642	0.003*
Physical (0-4)	T0	0.83 ± 1.58		0.91 ± 1.07		0.621
	T1	0.67 ± 0.83	0.311	0.83 ± 1.21	0.273	0.310
	T2	0.46 ± 0.62	0.032*	0.85 ± 1.28	0.664	0.015*
Emotional (0-3)	T0	0.32 ± 0.77		0.51 ± 0.76		0.082
	T1	0.32 ± 0.59	0.993	0.49 ± 0.93	0.894	0.172
	T2	0.13 ± 0.33	0.037*	0.52 ± 0.95	0.997	0.001*
Social (0-3)	T0	0.58 ± 1.03		0.70 ± 0.85		0.415
	T1	0.49 ± 0.69	0.408	0.59 ± 0.97	0.092	0.457
	T2	0.30 ± 0.51	0.009*	0.68 ± 1.12	0.957	0.007*
Time (0-4)	T0	0.93 ± 1.38		1.23 ± 0.94		0.116
	T1	0.78 ± 0.77	0.289	1.13 ± 1.03	0.149	0.023*
	T2	0.53 ± 0.49	0.006*	1.08 ± 1.24	0.230	0.000*

Intensity (0-9)	T0	3.66 ± 1.84		3.66 ± 2.04		0.992
	T1	2.87 ± 1.54	0.000*	3.33 ± 2.09	0.008*	0.138
	T2	2.17 ± 1.51	0.000*	3.22 ± 2.29	0.019*	0.003*
Interference (0-10)	T0	2.71 ± 3.13		3.19 ± 2.10		0.263
	T1	2.21 ± 1.53	0.182	2.66 ± 2.29	0.002*	0.174
	T2	1.46 ± 0.99	0.000*	2.74 ± 2.75	0.086	0.000*

*p-value < 0.05 to be considered as significant. Remarks: T0: Before the intervention; T1: 8-week follow-up; T2: 12-week follow-up.

With:

The pain situation is shown in Table 4. Before the intervention, there were no significant differences between the experimental and control groups of older adult participants for all three categories: pain intensity (p = 0.339), pain interference (p = 0.728), and pain self-efficacy (p = 0.278).

Table 4 Pain situation.

Categories (Range)		**Experimental (n = 30)**		**Control (n = 30)**		**Between-group p-value**
		Mean ± SD	**within p**	**Mean ± SD**	**within p**	
Pain Self-Efficacy (0-10)	T0	3.84 ± 1.24		3.46 ± 1.43		0.278
	T1	4.37 ± 1.11	0.001*	3.60 ± 1.51	0.545	0.024*
	T2	4.64 ± 1.00	0.000*	3.76 ± 1.55	0.397	0.007*
Pain Intensity (0-10)	T0	4.41 ± 2.00		3.88 ± 2.31		0.339
	T1	3.18 ± 1.66	0.000*	3.52 ± 2.28	0.121	0.515
	T2	2.12 ± 1.05	0.000*	3.46 ± 2.68	0.370	0.011*
Pain Interference (0-10)	T0	3.50 ± 2.06		3.30 ± 2.46		0.728
	T1	2.58 ± 1.81	0.004*	3.08 ± 2.56	0.507	0.368
	T2	1.62 ± 1.16	0.000*	3.17 ± 2.98	0.828	0.007*

*p-value < 0.05 to be considered as significant. Remarks: T0: Before the intervention; T1: 8-week follow-up; T2: 16-week follow-up.

As seen in Table 4, the pain intensity of the experimental group decreased from 4.41 before the intervention to 2.12 after the intervention (p < 0.001), while the control group had a smaller difference after the intervention (p = 0.370). It was also found that the between-group comparisons of pain intensity after the DPM intervention were significant (p = 0.011). The pain interference of the experimental group was also significantly reduced before and after the treatment (p < 0.001), with a reduction from 3.50 to 1.62, while that of the control group showed little difference (p = 0.828). After the interventions, there were significant differences in pain interference in between-

group comparisons (p = 0.007). For pain self-efficacy, the score increased after the intervention, from a baseline score of 3.84 to 4.64 (p < 0.001). The post-intervention between-group difference was also significant (p = 0.007).

Table 5 reveals that the levels of depression symptoms reduced when comparing the scores before and after the intervention, with a reduction from 11.07 to 3.40 (p < 0.001) in the experimental group, while the control group had a small improvement from 10.33 to 9.73. Regarding the between-group differences, the experimental group had a comparatively lower level of depression than the control group (p = 0.006). The anxiety of the experimental group was also significantly reduced before and after the treatment (p < 0.001), with a reduction from 12.07 to 4.20, while that of the control group showed little difference (p = 0.653). After the interventions, there were significant differences in anxiety in between-group comparisons (p = 0.018). For stress, the score decreased after the intervention, from a baseline score of 15.40 to 6.47 (p < 0.001). The post-intervention between-group difference was also significant (p = 0.024).

Table 5 Outcome of Psychological health.

Categories (Range)		Experimental (n = 30)		Control (n = 30)		Between-group p-value
		Mean ± SD	within p	Mean ± SD	within p	
Depression (0-21)	T0	11.07 ± 9.38		10.33 ± 10.73		0.779
	T1	6.53 ± 7.41	0.000*	8.80 ± 10.18	0.083	0.317
	T2	3.40 ± 4.45	0.000*	9.73 ± 11.83	0.752	0.006*
Anxiety (0-21)	T0	12.07 ± 10.53		9.00 ± 10.59		0.257
	T1	7.67 ± 8.10	0.000*	8.47 ± 10.28	0.663	0.740
	T2	4.20 ± 5.17	0.000*	9.87 ± 12.30	0.653	0.018*
Stress (0-21)	T0	15.40 ± 10.09		12.20 ± 11.63		0.232
	T1	10.60 ± 9.06	0.000*	11.73 ± 10.82	0.851	0.644
	T2	6.47 ± 6.79	0.000*	12.33 ± 12.91	0.986	0.024*

*p-value < 0.05 to be considered as significant. Remarks: T0: Before the intervention; T1: 8-week follow-up; T2: 16-week follow-up.

Table 6 reveals that the levels of activities of daily living improved when comparing the scores before and after the intervention, with an improvement from 96.83 to 99.67 (p = 0.013) in the experimental group, while the control group had a small improvement from 88.67 to 90.33. Regarding the between-group differences, the experimental group had a comparatively higher level of activities of daily living than the control group (p = 0.010).

Table 6 Outcome of Physical health.

Categories (Range)	Experimental (n = 30)		Control (n = 30)		Between-group p-value
	Mean ± SD	within p	Mean ± SD	within p	

Pain Knowledge (0-10)	T0	7.17 ± 1.93		7.80 ± 3.32		0.382
	T1	6.93 ± 1.59	0.818	7.40 ± 2.75	0.340	0.384
	T2	7.20 ± 1.81	0.995	7.87 ± 2.42	0.966	0.215
Activities of Daily Living (0-100)	T0	96.83 ± 5.84		88.67 ± 21.61		0.045*
	T1	98.83 ± 3.34	0.032*	89.33 ± 22.19	0.687	0.020*
	T2	99.67 ± 1.25	0.013*	90.33 ± 19.91	0.179	0.010*

*p-value < 0.05 to be considered as significant. Remarks: T0: Before the intervention; T1: 8-week follow-up; T2: 16-week follow-up.

Table 7 shows the caregiver burden, in which the experimental group had a significant decrease before and after the intervention from 4.28 to 2.20 (p = 0.001), while that of the control group was non-significant (p = 0.818). In regard to the between-group differences, they were significant after the intervention (p = 0.011).

Table 7 Outcome of the Caregiver Burden Inventory (CBI).

Categories (Range)		**Experimental (n = 30)**		**Control (n = 30)**		**Between -group p-value**
		Mean ± SD	**within p**	**Mean ± SD**	**within p**	
Total: The Caregiver Burden Inventory (0-16)	T0	4.28 ± 3.88		4.81 ± 5.13		0.639
	T1	3.36 ± 3.44	0.046*	4.82 ± 5.51	1.000	0.207
	T2	2.20 ± 2.42	0.001*	5.11 ± 5.94	0.818	0.011*
Subcategories:						
Development (0-4)	T0	0.77 ± 0.97		0.92 ± 1.15		0.581
	T1	0.63 ± 0.77	0.182	0.94 ± 1.22	0.940	0.232
	T2	0.40 ± 0.62	0.019*	1.05 ± 1.32	0.545	0.012*
Physical (0-4)	T0	1.12 ± 1.09		1.03 ± 1.25		0.774
	T1	0.82 ± 0.86	0.004*	1.01 ± 1.25	0.922	0.474
	T2	0.61 ± 0.65	0.006*	1.16 ± 1.34	0.556	0.037*
Emotional (0-3)	T0	0.51 ± 0.78		0.65 ± 0.99		0.535
	T1	0.43 ± 0.73	0.695	0.69 ± 1.05	0.772	0.247
	T2	0.24 ± 0.43	0.063	0.66 ± 1.01	0.989	0.034
Social (0-3)	T0	0.75 ± 0.78		0.80 ± 1.02		0.819
	T1	0.61 ± 0.77	0.356	0.81 ± 1.10	0.986	0.400
	T2	0.40 ± 0.58	0.022*	0.88 ± 1.21	0.763	0.046*
	T0	1.13 ± 0.78		1.41 ± 1.11		0.256

Time (0-4)	T1	0.88 ± 0.69	0.039*	1.37 ± 1.23	0.734	0.053
	T2	0.55 ± 0.48	0.000*	1.36 ± 1.39	0.852	0.002*

*p-value < 0.05 to be considered as significant. Remarks: T0: Before the intervention; T1: 8-week follow-up; T2: 16-week follow-up.

It is necessary to make the changes as the data in Tables 4-7 were mistakenly inputted. This current study reflected 30 samples in each group, not 75 samples. The authors wish to update these data and reword the paragraphs about the findings shown in Tables 4-7. These changes have no material impact on the discussion and conclusions of the paper. The authors would like to apologize for any inconvenience caused to the readers by these changes.

Competing Interests

The authors have declared that no competing interests exist.

Reference

1. Tse MM, Ng SS, Lou V, Lo RS, Cheung DS, Lee PH, et al. How COVID-19 ceases all older adult services & the way out for community-dwelling older adults with chronic pain. OBM Neurobiol. 2023; 7: 183.