

**363P** A randomized controlled trial of mindfulness breathing exercise in patients with advanced lung cancer

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**Background:** Study of mindfulness breathing exercise in dyspnea reduction of patients with advanced lung cancer is lacking.

**Methods:** This is a parallel-group, nonblinded randomized controlled trial of mindfulness breathing exercise versus placebo (best medical care alone) in patients with advanced lung cancer admitted to the respiratory unit and palliative unit of University Malaya Medical Center from 1<sup>st</sup> August 2017 to 31<sup>st</sup> March 2018.

**Results:** A total of 34 patients were equally assigned to mindfulness breathing exercise group and control group (Table). For patients receiving mindfulness breathing exercise, 10 (58.8%) of them had reduction in modified Borg dyspnea scale (MBDS) score at 5-minutes (OR, 9.33; 95% CI, 1.80–48.38;  $p = 0.005$ ) and 20-minutes (OR, 2.86; 95% CI, 0.67–12.11;  $p = 0.149$ ), compared to only 3 (17.6%) and 7 (41.1%) of them in control arm at 5-minutes and 20-minutes, respectively. 5 patients (29.4%) on mindfulness breathing exercise achieved improvement in their SpO<sub>2</sub> compare to only 2 patients (11.8%) of control arm had that at 5-minutes (OR, 3.75; 95% CI, 0.61–23.35;  $p = 0.209$ ). 4 patients (23.5%) on mindfulness breathing exercise had SpO<sub>2</sub> improvement at 20-minutes, while none in control arm had SpO<sub>2</sub> improvement at same time. Similar number of patients had reduced respiratory rate after mindfulness breathing exercise or at control for 5-minutes [9 (52.9%) versus 10 (58.8%)], (OR, 1.05; 95% CI, 0.26–4.32;  $p = 0.946$ ). At 20-minutes, similar number of patients on mindfulness breathing exercise still had sustained reduction in respiratory rate while only 7 patients (41.1%) in control arm had similar respiratory benefit (OR, 2.14; 95% CI, 0.52–8.81;  $p = 0.288$ ).

**Table: 363P Demographic and clinical characteristic of patients**

Characteristic	Total number of patients (n = 34)	Mindfulness breathing exercise (n = 17)	Control (n = 17)	p value
Age, year Mean (+ SD) Range	64.0 + 11.3 27 – 80	63.7 + 10.2 42 - 80	64.3 + 12.6 27 – 78	0.882
Gender, No. (%) Male Female	17 (50.0) 17 (50.0)	9 (52.9) 8 (47.1)	8 (47.1) 9 (52.9)	0.732
Ethnic, No. (%) Malay Chinese Indian	10 (29.4) 22 (64.7) 2 (5.9)	3 (17.6) 13 (76.5) 1 (5.9)	7 (41.2) 9 (52.9) 1 (5.9)	0.312
Religion, No. (%) Islam Buddhist Christian Hindu	10 (29.4) 22 (64.7) 1 (2.9) 1 (2.9)	3 (17.6) 13 (76.5) 1 (5.9) 0	7 (41.2) 9 (52.9) 0 1 (5.9)	0.228
ECOG, No. (%) 0-1 2-4	9 (26.5) 25 (73.5)	3 (17.6) 14 (82.4)	6 (35.3) 11 (64.7)	0.244
Cancer stage, No. (%) IIIb IV	4 (11.8) 30 (88.2)	3 (17.6) 14 (82.4)	1 (5.9) 16 (94.1)	0.287
Cor-morbid, No. (%) No Yes	27 (79.4) 7 (20.6)	12 (70.6) 5 (29.4)	15 (88.2) 2 (11.8)	0.203
Opioid treatment, No. (%) No Yes	23 (67.6) 11 (32.4)	13 (76.5) 4 (23.5)	10 (58.8) 7 (41.2)	0.271
Oxygen supplement, No. (%) No Yes	20 (58.8) 14 (41.2)	9 (52.9) 8 (47.1)	11 (64.7) 6 (35.3)	0.486
At 0-minute, MBDS Mean (+ SD) Range SpO2 Mean (+ SD) Range	3.8 + 1.5 3-8 97.7 + 1.9 92-100	3.8 + 1.5 3-8 97.1 + 2.0 92-100	3.8 + 1.5 3-8 98.2 + 1.8 95-100	0.909 0.109
Respiratory rate Mean (+ SD) Range	30.0 + 11.3 20-48	29.1 + 5.9 20-40	30.8 + 8.0 20-48	0.484

**Conclusions:** Mindfulness breathing exercise is effective in reducing dyspnea among patients with advanced lung cancer.

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