

Research Assessment Exercise 2020

Impact Case Study

University: The Hong Kong Polytechnic University

Unit of Assessment (UoA): 05 Nursing, Optometry, Rehabilitation Sciences and Other Health Care Professions

Title of case study: 'East meets West': Promoting healthy living and managing symptoms of chronic illnesses through integrative medicine

(1) Summary of the impact

Integrative Medicine (IM) fills gaps in existing therapeutic practices, treats the whole body, and increases healthcare choices. We have demonstrated the clinical benefits of IM (namely, exercise, acupoints interventions and auriculotherapy) and its ability to enable the self-management of chronic diseases. IM has benefited a substantial segment of patients including the elderly, those with insomnia, and cancer patients. Our research has influenced government health care policy, clinical practices in the Hospital Authority of Hong Kong and non-governmental organisations (NGOs), via improved services and healthcare professional training.

(2) Underpinning research

Key Researchers:

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Integrative Medicine (IM) uses both western medicine and traditional Eastern medicine to improve the quality-of-life of patients with chronic illnesses. As western medicine cannot fully alleviate chronic symptoms and has limitations, more holistic and culturally-relevant approaches can enhance patient recoveries. Our research effort involved trials using traditional exercises (i.e. Tai chi and qigong) and acupoint interventions (i.e. acupuncture, acupressure, transcutaneous electrical nerve stimulation on acupoints/Acu-Tens, auriculotherapy) and has provided much needed evidence regarding IM for the elderly/frail elderly, and patients with insomnia and cancer. A study by our team in 2003 showed that qigong was effective in improving mental health and providing stress relief [R1].

We also demonstrated that acupoint interventions and auriculotherapy benefited physical fitness as well as mental well-being, confirming their importance in holistic healthcare management. Acupuncture and Acu-Tens improved respiratory functions and stalled the progress of respiratory disorders [R2]. A new Acu-Tens protocol was developed which was shown to improve lung functional capacity in Chronic Obstructive Pulmonary Disease patients; it can be extended to patients with asthma and related diseases.

Our research over the years has focused on several other possible benefits of acupuncture as well. A study we conducted in 2015 on the effects of acupuncture on pain in adults [R3] showed that acupuncture can significantly alleviate post-operative pain. The first large multisite trial for managing a complex symptom, cancer-related fatigue, for which there are very limited therapeutic options, with

acupuncture was conducted in 2010-2012 [R4]. Studies on the quality of sleep have been a further research interest for our team since 2002. One of our studies on sleep found that auriculotherapy and acupuncture improved the quality of sleep [R5]. Our team demonstrated the use of magnetic pellets for auricular therapy (auriculotherapy) to manage sleep problems; this therapy was applicable to the elderly and could shorten sleep latency, decrease the number of mid-sleep awakenings, and improve overall sleep efficiency. The therapy is hygienic, cheap, painless and safe unlike other traditional TCM treatment modalities, such as ear acupuncture. Moreover, auriculotherapy does not involve the use of needles. The standardised treatment protocol has been demonstrated to be equally effective in 'excessive' or 'deficient' insomnia.

In research unrelated to auriculotherapy, the possibility of regulating anxiety and depression by manipulating cortisol levels through traditional forms of exercise (such as qigong) was demonstrated for clinical situations in 2013 [R6]. This may serve as a potential biomarker to assist the future clinical application of IM approaches.

(3) References to the research

[R1] Tsang HWH., Mok CK, Yeung YTA, Chan SYC. The effect of qigong on general and psychosocial health of elderly with chronic physical illnesses: A randomized clinical trial. *Int J Ger Psy* 2003; 18(5): 441-449. <http://dx.doi.org/10.1002/gps.861>

[R2] Ngai SPC, Jones AYM, Hui-Chan CWY, Ko FWS, Hui DSC. Effect of Acu-TENS on post-exercise expiratory lung volume in subjects with asthma—A randomized controlled trial. *Respir Physiol Neurobiol* 2009; 167(3): 348-53.

[R3] Liu XL, Tan JY, Molassiotis A, Suen LK, Shi Y. Acupuncture-point stimulation for postoperative pain control: a systematic review and meta-analysis of randomized controlled trials. *Evid Based Complement Alternat Med*. 2015; 2015: 657809.

[R4] Molassiotis A, Russell W, Hughes J, Breckons M, Lloyd-Williams M, Richardson J, Hulme C, Brearley SG, Campbell M, Garrow A, Ryder WD. The effectiveness of acupressure for the control and management of chemotherapy-related acute and delayed nausea: a randomized controlled trial. *J Pain Symptom Manage*. 2014; 47(1): 12-25

[R5] Suen LKP, Wong TKS, Leung AWN. Effectiveness of auricular therapy on sleep promotion in the elderly. *Am J Chinese Med* 2002; 30(4): 429-449.

[R6] Tsang HWH, Tsang WWN, Jones AYM, Fung KMT, Chan AHL, Chan EP, Au DWH. Psycho-physical and neurophysiological effects of qigong on depressed elders with chronic illness. *Aging Mental Health* 2013; 17(3), 336-348.

(4) Details of the impact

Impact on clinical practice

Our clinical studies resulted in protocols, developed via testing with randomized controlled trials, that have been adopted in several rehabilitation and nursing departments in the Hospital Authority (HA) of Hong Kong. The Acu-Tens/acupressure procedures have been included in the practice guidelines for pulmonary rehabilitation aimed at physiotherapists in the Hospital Authority (HA); these guidelines have been adopted by at least one large HA hospital (Tuen Mun Hospital) for alleviating dyspnea for COPD patients [S1].

As a result of the clinical trials, our research has been included in the clinical guidelines of the international Society for Integrative Oncology [S2], which includes 29 countries, and has reached more than 1,000 society members. The guidelines are also accessible to a large number of people through the open-access publications by this society. Part of our research is also included in the

National Comprehensive Cancer Network (NCCN) antiemetic guidelines [S3], and has reached >50,000 of its members. Moreover, our research has been considered by USA's National Guideline Clearing House and Agency of Healthcare Research & Quality. In addition, the work by Profs. Molassiotis and Suen have been incorporated into patient information websites [S4] and professional websites such as that of the USA Oncology Nursing Society which can be accessed by >10,000 of its members [S4]. The National Cancer Institute in USA has cited our work in its Physician Data Query series on 'Acupuncture', which is an open-access comprehensive source of cancer information for clinicians and patients worldwide [S5].

Our 2015 study on acupuncture was part of the evidence submitted by the Academic Consortium for Integrative Medicine & Health in the USA to the USA's Department of Health & Human Services, regarding the management of pain in adults [S6]. Since then, key recommendations from that report have been adopted in hospitals in the US. Further, in collaboration with Yan Chai Hospital in HK, our team developed protocols for applying 'sitting tai chi' and qigong (<http://ira.lib.polyu.edu.hk/handle/10397/6482>) as treatment to improve the balance, coordination and mental health of the frail elderly [S7]. Also, in 2016, a key Australian mental health charity, 'Beyond Blue', developed a guide for healthcare professionals specializing in caring for the elderly, laying out ways to promote emotional well-being in the elderly [S8]; this guide cited the 2006 qigong trial by our team on physical exercise; being now a key document in the Australian Parliament.

Impact on community and primary health care

Our team was invited for consultation by three NGOs: the Hong Kong Society for the Aged [SAGE], Evangelical Lutheran Church Social Service-Hong Kong [ELCHK] and the Neighbourhood Advice-Action Council. Our team held 'train the trainers' workshops on auriculotherapy and sleep management for the NGO staff, based on our trials' findings. A total of 602 staff from over 130 non-governmental organizations were trained in the workshops. Nearly 1500 clients (either through individualized or group therapy) have since received the therapy, and 70–85% of them have stated that their sleep problems have been alleviated after the therapy [S9]. Three audio-visual or printed material products on the use of auriculotherapy to treat sleep disturbance have been produced and distributed to NGOs by SAGE over the years; these materials have also been placed in 29 public libraries in Hong Kong. They include over 1000 DVDs, 1200 booklets, and 2000 books on promoting sleep in the elders. An NGO staff member who received this training was interviewed by the press for her successful application of the therapy to her clients [S9].

The results of our study on the use of tai chi for physical therapy were published as press releases by prestigious scientific societies [S10]. The clinical outcomes of using our research have been recognized internationally, generating public debate, influencing health guidelines and gaining the widespread attention of the media.

Impact on professional training and curriculum

The research team shaped and reformed the curriculum for training professionals by introducing courses on IM as programmes for the bachelors and masters degrees. Over 250 students, in each academic year, receive training in IM. In addition, advanced training programs for practicing professionals in the HA are also conducted. |

(5) Sources to corroborate the impact

[S1] Ching AHW, Effectiveness of Acu-TENS on Reducing Dyspnoea and Improving Physical Ability on Stable COPD patients – A Controlled Trial. Oral presentation in Hospital authority convention 2014

<http://www3.ha.org.hk/haconvention/hac2014/proceedings/downloads/SPP2.3.pdf>

[S2] Clinical Practice Guidelines on Integrative Therapies in Cancer, where our work is cited.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4411539/>

[S3] National Comprehensive Cancer Network clinical guidelines where our work is cited, reaching >50,000 members.

[S4] research findings from the team cited in international patient websites

<https://www.asbestos.com/blog/2015/05/27/acupressure-points-for-cancer/>

and professional websites (such as from the Oncology Nursing Society).

<https://www.ons.org/node/1311?topic=761>

[S5] National Cancer Institute's in USA citing our work in its Physician Data Query series on 'Acupuncture', a comprehensive source of cancer information available to clinicians and patients worldwide through its open-access document.

<https://www.cancer.gov/about-cancer/treatment/cam/hp/acupuncture-pdq>

[S6] Evidence submitted by the Academic Consortium for Integrative Medicine & Health in the USA to the USA's Department of Health & Human Services, on the management of pain in adults where our work [R3] is cited.

<https://s3.amazonaws.com/imconsortium/wp-content/uploads/2019/04/01194647/HHS-Comments-from-The-Consortium-April-1-2019.pdf>

[S7] Tsang HWH. Tai Chi Protocols used therapeutically with elderly in a HK hospital; Newspaper announcement and briefing <https://hk.news.appledaily.com/local/daily/article/20080831/11542207> (in Chinese originally; translated by us in English).

[S8] Guidebook from 'Beyond Blue', a key Australian mental health charity, for aged care staff on what works to promote emotional well-being in the elderly, citing the 2006 Qigong trial from our team on physical exercise. This guidebook is also a key Australian Parliament document.

<https://www.parliament.nsw.gov.au/lcdocs/other/9996/Answers%20to%20questions%20on%20notice%20-%20Professor%20Carmelle%20Peisah%20-%20Capacity%20Australia%20-%20Beyond%20Blue.PDF>

[S9] Email communication with SAGE on number of beneficiaries, and invitation letter to train the trainers (in Chinese originally; translated by us in English). Additionally, for the same training protocol, interview in the media from an NGO staff member who used our protocol to treat her patients successfully <https://www.sage.org.hk/Service/CreativeSrv/ITPE.aspx?lang=en-US>

[S10] Press releases related to Tai Chi studies from our team by prestigious scientific societies. Example below from the European Society of Cardiology, but there are others too i.e. from the British Geriatrics Society, etc:

<https://www.escardio.org/The-ESC/Press-Office/Press-releases/Older-subjects-who-regularly-practice-Tai-Chi-found-to-have-better-arterial-comp> |