

นิพนธ์ต้นฉบับ (Original article)

จิตวิทยาการออกกำลังกายและกีฬา (Sports and Exercise Psychology)

THE EFFECTS OF EXERCISE AND HEALTHCARE SERVICE PROGRAM ON HAPPINESS IN MYANMAR CHILDREN-SURVIVORS AND HEALTH-PERSONNEL AFTER CYCLONE DISASTER

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ABSTRACT

Objectives: to evaluate the happiness outcome of exercise in children-survivors during crisis and the happiness level of health-personnel after healthcare service program.

Method: This retrospective study, composed of pre-experimental study, a one shot case study, used exercise and healthcare-services program under the Royal Patronage of His Royal Highness Crown Prince Maha-Vajiralongkorn as an intervention. Documents of 200 Myanmar children-survivors and 28 health- personnel were subjects. Playing with local Myanmar songs was used for exercise in children-survivors for one hour per one day and VDO recording while they performed exercising was used to evaluate happiness level among in children. All services of this health-care-services-program were provided in 200 Myanmar children-survivors for 18 days by 28 health- personnel team. 28 sets of disaster-field- document, observational-checklist-form and happiness questionnaire were sent to health- personnel and 27 sets (96.42%) of those had been returned. Data were analyzed by descriptive statistics.

Results: The result from VDO recording showed that after exercising for 1 hour, 98% of children had a smile on their faces. Happiness was also shown by having brighter on their faces and eyes. After 18 days of the health-care-services-program, the $\text{mean} \pm \text{SD}$ of health-personnel happiness score was 26.89 ± 3.68 (Min-Max = 20-33) fell within very high happiness level. The Cronbach's alpha coefficient for happiness of personnel inventory's reliability was 0.78

Conclusion: Using local song playing as exercise in children-survivors could make children-survivors feel happy, since it can stimulate the specific neurotransmitter called brain –derived neurotrophic factor (BDNF) and endorphin in the children's brain. Therefore this beneficial effect supports the word "exercise is medicine."

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KEYWORDS: Exercise, happiness, children-survivors, health-care-services-program

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จิตวิทยาการออกกำลังกายและกีฬา (Sports and Exercise Psychology)

**ผลของการออกกำลังกายและการบริการทางสุขภาพต่อความสุขของเด็กผู้รอดชีวิตและบุคลากรทางสุขภาพ
ภายหลังภัยพิบัติจากพายุไซโคลนนาร์กีส**

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บทคัดย่อ

วัตถุประสงค์ เพื่อประเมินความสุขของเด็กผู้รอดชีวิตและเพื่อประเมินระดับความสุขของบุคลากรทางสุขภาพ ภายหลังภัยพิบัติจากพายุไซโคลนนาร์กีส

ระเบียบวิธีวิจัย เป็นการวิจัยย้อนหลัง ที่ประกอบด้วยการวิจัยเชิงทดลองเบื้องต้น แบบวัดครั้งเดียวโดยใช้การออกกำลังกายและโครงการช่วยเหลือผู้ประสบภัยพิบัติจากพายุไซโคลนนาร์กีส ณ สมนาคุณ จังหวัดพะเยา ภาคใต้ ประเทศไทย ผู้เข้าร่วมทั้งหมด 2 ท่าน ทีมแพทย์ไทยชุดที่ 2 ภายใต้หัวหน้าทีมแพทย์ไทยชุดที่ 2 ทุกคนได้รับการฝึกอบรมในห้องเรียนที่มหาวิทยาลัยนาร์กีส จำนวน 200 คน ซึ่งออกกำลังกายโดยใช้ชุดแบบการละเล่นผสมกับเพลงพื้นเมืองของพะเยา หลังการออกกำลังกายเป็นเวลาหนึ่งชั่วโมง ในหนึ่งวัน ใช้เครื่องมือแบบ赫คิลิสเพื่อประเมินความสุขของเด็ก และภัยหลังการให้บริการทางการแพทย์ในโครงการช่วยเหลือผู้ประสบภัยพิบัติ นาน 18 วัน โดยบุคลากรทางสุขภาพผู้ให้บริการทั้งหมด 28 คน จะได้รับแบบประเมินระดับความสุขด้วยตนเอง ได้รับแบบประเมินรายวัน 27 ฉบับ (ร้อยละ 96.42) วิเคราะห์ข้อมูล โดยใช้สถิติบรรยาย

ผลการวิจัย ภัยหลังการออกกำลังกายโดยการละเล่นเป็นเวลาไม่น้อยกว่า 1 ชั่วโมง เด็กผู้รอดชีวิตจากภัยพิบัติส่วนใหญ่ (ร้อยละ 98) ยิ้มแย้มมีความสุข ใบหน้าและดวงตาเบิกบาน และภัยหลังพันธุ์กิจในโครงการด้านการบริการทางสุขภาพจิต 18 วัน พบว่า ความสุขของบุคลากร มีค่าเฉลี่ย 26.89 ส่วนเบี่ยงเบนมาตรฐาน 3.68 (ค่าคะแนนต่ำสุด - สูงสุด = 20-33) และค่าสัมประสิทธิ์แอลฟาร์นบาร์ค ของเครื่องมือ มีค่า 0.78

สรุป ออกกำลังกายโดยการละเล่นประกอบเพลงพื้นเมืองของพะเยาทำให้เด็กมีความสุข เพื่อการออกกำลังกายเป็นสมรรถนะรักษา ช่วยกระตุ้นสารโปรดตินิวโรโกรฟิค แฟคเตอร์ทางสมองและฮอร์โมนแห่งความสุข ระดับความสุขของบุคลากรทางสุขภาพ คือ มีความสุขระดับมาก น่าจะเป็นผลมาจากการช่วยเหลือผู้ประสบภัยพิบัติฯ

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คำสำคัญ การออกกำลังกาย ความสุข เด็กผู้รอดชีวิต

INTRODUCTION

Health is assumed as the key of happiness according to a happiness philosophy^{1,2}. Thus, the health professions must ready to participate in quality health-care activities because the routine work of all health professions is to deliver caring and curing to all humanities. It was called professionalism. However, health status and health care situation are undoubtedly in crisis in this era, with a worsening trend, in spite of the apparent modernization of services.³ During the time, there were many disasters happening such as flood, Tsunami, earth- quakes, wildfire and so on, so health personnel must be prepared to apply knowledge in any circumstance to the benefit of mankind. In 2008, the Union of Myanmar was severely hit by the cyclone Nargis. It was catastrophic disaster. The Thai-government could no longer afford being silent to neighbors who were suffered crisis. The second Thai health-team under the Royal Patronage of His Royal Highness Crown Prince Maha Vajiralongkorn was sent to collaborate with Myanmar on humanitarian missions to aid Nargis- cyclone- survivors (29th May - 15th June 2008). After missions, the feelings after providing services in disaster-field might reveal under the limitation of resources. Moreover health-personnel emphasized roles in a professional-manner and exhibited a high-professionalism⁴ with its health-promotion policy, its patients and its all personnel.⁵ So health-personnel of Mahidol University were sent to collaborate with Thai Ministry of Public Health. Contradiction in this event made researchers redefine how outcomes were. Thus, this study aimed to evaluate the happiness outcome of exercise in children-survivors during crisis and happiness level of health-personnel after healthcare service program.

Operation definition

- Children-survivors mean children 200 cases who still alive in Labutta camp after the cyclone Nargis in Myanmar. They might have major depressive disorder and post -traumatic stress disorder.
- Exercise means the act of putting into play with using local Myanmar children-songs for 1 hour per day by medical team.
- Happiness among children-survivors means the eliciting of smiling and the brighter shown on faces and eyes.
- Buddhist-happiness means Buddhist's well-being (Phra Brahmaguna- bhon, P.A. Payutto) and is composed of 11 sub-items from inner-part happiness and connecting to Niramisa-sukha (spiritual-happiness)⁶.
- Healthcare-services program means an intervention of the second Thai's team under the Royal Patronage of His Royal Highness Crown Prince Maha-Vajiralongkorn in mental health services aspect in Myaung Mya camp.
- Health-personnel means 28 persons composed of 4 Mahidol University staffs (3 physicians and 1 nurse) and 24 ministry of public- health staffs(11physicians , 1 dentist , 2 pharmacist, 10 nurses).
This population gave information during June - July 2008 after mission.

- The inner-part of happiness and connecting to Niramisa-sukha means an authentic well-being that should not involve anxiety, nervousness, and confusion in mind. If personnel are full of the 3 Ps which are the Pali language[Pamojja (cheerfulness), Piti (elation or rapture) and Passaddhi (relaxedness)] with Samadhi (concentration) as well as Niramisa-sukha such as having good relationship with others, they could have opportunity to help the others, create a satisfying activity and get proud –event.^{7,8}

METHODS

Experimental procedures

This retrospective study composed of pre-experimental study, a one shot case study,^{10, 11} used exercise and healthcare-services program under the Royal Patronage of His Royal Highness Crown Prince Maha-Vajiralongkorn as an intervention. Playing with local Myanmar songs was used for exercise in children-survivors and VDO recording while they performed exercising was used to evaluate happiness of children-survivors. Happiness of children-survivors was collected by checklist from composed of smiling and having brighter on faces and eyes. The data were not collected before exercise because of ethics issue in disaster filed. The health-care-services-program was provided for 11 Nargis-survivors' camps in Myaung- Mya-district.

Eighteen days services at many camps were done by 28 health- personnel team. (All documents were recorded during 29th May - 15th June 2008). Data were analyzed by descriptive statistics because of using population.

The instruments

Happiness of children-survivors was collected by checklist from composed of smiling and having brighter on faces with eyes validated by 3 experts. Criteria of instrument as followed: smiling (yes, no), having brighter a happiness on faces with eyes (yes, no).

The Buddhist-happiness inventory validated by 5 experts was composed of 4 levels (positive – questionnaires) used for self-assessment after healthcare service program. The Cronbach's alpha coefficient for reliability was 0.79. Criteria as followed : feeling or opinion 0 % = None (unhappy) = getting 0 point , feeling or opinion 1-33 % = Low (minimize happy which needed improvement) = getting 1 point, feeling or opinion 34- 67 % = High (happier) = getting 2 points and feeling or opinion 68 -100 % = Highest (fully happy)= getting 3 points.

The Buddhist-happiness score was based on the tenets of Best.⁹

0 - 8.24 points	= unhappy level
8.25 - 16.50 points	= low level of happiness
16.51- 24.75 points	= nearly high level of happiness
24.76 – 33.00 points	= very high level of happiness

The last 12th item was used for all over happiness.

RESULTS

The result of happiness of children-survivors was shown by smiling and having brighter on faces with eyes about 200 cases (except 4 cases were not shown).

The mean -age of personnel was 40.30 years (SD= 8.97). For the personnel information, most of personnel had disaster - events experience before coming (11 / 27 cases), were volunteers by their decision making(20 / 27), were asked by jurisdictions (3 / 27) or decision-making by their decision making with jurisdictions' asking (4 / 27). Table1 shows the Buddhist-happiness level of health-personnel. The means scores fell within very high happiness level (mean \pm SD = 26.89 ± 3.68 , Min-Max = 20-33).

Table 1. The Buddhist-happiness of the health-personnel after mission (N = 27 cases)

Item	Components	Happiness level			
		None = 0 % (cases)	low level= 1-33 % (cases)	high level = 34 - 67 % (cases)	very high level=68-100 % (cases)
	Inner-part- happiness dimension				
1.	feeling cheerfulness	1	3	12	11
2.	feeling elation(rapture)	-	1	5	21
3.	feeling relaxed	2	6	16	3
4.	having good concentration	1	9	17	-
	Spiritual happiness dimension				
5.	having good relationship with others	2	7	18	-
6.	having opportunity to help the others	-	-	16	11
7.	having the useful life	-	-	10	17
8.	creating satisfying or volunteer activity during humanitarian mission	-	-	17	10
9.	having social support from your 2 nd team	-	1	11	15
10.	being proud to your-self from missions at Myanmar	-	1	5	21
11.	achieving success in area under responsibility	-	1	6	20
Total scores fell within very high happiness level = mean 26.89 (\pm SD 3.68), Min-Max =20-33					

DISCUSSION

Happiness of children-survivors were elicited because exercise training had beneficial effects on quality of life¹² and exercise made children feel happy (enjoyment falling in higher levels).¹³ Exercise exerted its effects on the brain through several mechanisms, including neurogenesis, mood enhancement, and endorphin release, it stimulating brain-derived neurotrophic factor (BDNF) and endorphine.^{14,15} However our result inconsistent with other studied¹⁶ which shown that the exercise had no effects on reducing depression and anxiety scores in the general population of children. Recently no further studies reported anxiety scores for children in treatment. Therefore an effect of exercise for children on anxiety and depression was unknown as the evidence base was scarce. This study found that 4 cases of 200 children-survivors did not elicit of happiness after exercise because they had severity of this crisis, might be the high degree of loss associated with children life events previously (loss of mother and /or father, parents, home and the way of normal life from Nargis-Cyclone). Nargis-Cyclone exposure was related to increase in depressive, anxiety, and somatic symptoms as Phifer, James F's study^{17,18} This disaster was traumatic events that was bad- experienced by children and may result in a wide range of mental and physical health consequences.¹⁹ It made them unhappy. They got apathy because of having been most painfully touched by life.²⁰

Buddhist- happiness score fell within the very high happiness level (mean 26.89, \pm SD 3.68, Min-Max =20-33) comprised of inner part happiness (Pamoja or cheerfulness, Piti or elation, Passaddhi or relaxedness, with Samadhi or concentration) and connecting to Niramisasukha (spiritual happiness). The personnel' happiness was well documented.^{6,7,8} This program might make personnel happy because each personnel had initially attempted to bring meaning and focus to service as a distinct health profession with Thais' own unique values, knowledge and practice of human caring . The mission also was influenced by healthcare's values. At the same time, this emerging human –mission- philosophy and caring sought to balance the cure orientation, giving serving its unique disciplinary, scientific and professional collaboration, like the clinical-caritas-concept and Watson's caritas-processes.²¹⁻²⁴ Thus, their happiness may came from the program's process which supported by Hubbard L.R.'s philosophy and Bugwadia G's concept²⁵⁻²⁶. They reported that happiness is a voyage and may not a destination, but it is the sum of total emotional experiences as anyone journeys through life.

CONCLUSION

Happiness of children-survivors after exercise by playing with Myanmar local songs (98%) were shown by smiling and having brighter on faces with eyes which may be related to exercise stimulating BDNF and endorphin in children' brain and made them happy. The Buddhist-happiness score of health-personnel showed that their scores were within the very high happiness level which may cause from the program's effect. This study suggests that the mental health problems prevention for survivors should have many contingency

plans to deal with survivors' anxiety and depression about future living conditions. Moreover health surveillance and health- education-training are necessary.

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