

**EXCERSIE BEHAVIOUR IN HEALTHY PEOPLE AND
PEOPLE WITH DEGENERATIVE DISEASES**

¹Setya Rahayu, ¹Tandiyo Rahayu, ¹Mohammad Arif Ali, ²Chairat Choosakul

¹Faculty of Sports Sciences, Universitas Negeri Semarang, Indonesia

²Faculty of Education, Mahasarakham University, Thailand

*Corresponding Author Email: 1setyarahayu@mail.unnes.ac.id

ABSTRACT

This is a narrative review article focusing on exercise behaviour issues in healthy people and people with degenerative diseases, aims to present a description and to explain factors affecting exercise behaviour. Writing methods started from problem identification, study literacy, data analysis, constructing an alternative problem solving, and conclusion. Twelve scientific journals and articles were used in this paper. Compared to healthy people, those who live with degenerative disease has higher awareness raising to be physically active, and they could accomplished world health organization recommendations for physical activity, but they need more stimulus factor such as the presence of their health care professional. In order to commit on good exercise behaviour, changing exercise behaviour strategies is applicable for everyone, with emphasizing on mental training particularly imagery, and other stimulus control like social supports either from government or citizen community. At last, we do hope that this paper could be used as avenues for future studies.

Keywords: sports psychology, exercise behaviour, physical therapy

THE 4th ASEAN CONFERENCE ON PHYSICAL EDUCATION & SPORT 2018 (ACPES)
“Faster, Higher, Stronger: Technological Advancement in Sports & Physical Education”
25th – 26th SEPTEMBER 2018
Hotel Tenera, Bandar Baru Bangi, Selangor, Malaysia

Introduction

This is a literature review aims to provide an overview about exercise behaviour in healthy people and people with degenerative diseases, and to elucidate differences regarding factors affecting exercise behaviour between those two conditions. We started with problem identification; study literacy and data analysis from 12 scientific journals and articles (Table 1); constructing an alternative problem solving; and at the end conclusion making.

Table 1: List of Study Literacy.

| Author (s), Year | Title | Note |
|---|---|--|
| Paul J. Anderson et al., 2016 | A survey of social support for exercise and its relationship to health behaviours and health status among endurance Nordic skiers | <i>BMJ Open</i> doi:10.1136/bmjopen-2015-010259 http://bmjopen.bmj.com |
| Mark Uphill et al., 2016 | Behaviour change: physical (in)activity | <i>The British Psychological Society</i> www.bps.org.uk/behaviourchange |
| Mahboubeh Ghayour Najafabadi et al., 2015 | Mental training can improve physical activity behavior in adolescent girls | <i>Journal of Sport and Health Science</i> 6 (2017) 327-332 www.sciencedirect.com |
| Dunchan S. Buchan et al., 2012 | Physical activity behaviour: an overview of current and emergent theoretical practies | <i>Journal of Obesity</i> Volume 2012, doi:10.1155/2012/546459 |
| Terry Ellis et al., 2011 | Factors associated with exercise behavior in people with Parkinson Disease (PD) | <i>Physical Theraphy</i> Volume 91, Number 12 |
| Yap Sheau Fen and Liew Kok Hong, 2009 | Exercise as a healthy lifestyle choice: a review and avenues for future research | <i>International Business Research</i> Vol. 2, No.1 www.ccsenet.org/journal.html |
| Brenda L. Greene et al., 2006 | Factors affecting physical activity behavior in urban adults with arthritis who are predominantly African-American and female | <i>Physical Therapy</i> Volume 86, Number 4 |
| Gustavo de Sa e Souza and Maria de Fatima da Silva Duarte, 2005 | Behavior change stages related to physical activity in adolescents | <i>Rev Bras Med Esporte</i> Vol. 11, No. 2 |
| Jeffrey Martin, 2005 | Behavior analysis in sport and exercise psychology | <i>American Psychological Association</i> Vol. 15, No. 2, 148-151 |
| Maura D Iversen et al., 2004 | Predictors of exercise behavior in patients with rheumatoid arthritis 6 months following a visit with their rheumatologist | <i>Physical Therapy</i> Volume 84, Number 8 |
| M. Conner, 2002 | Health Behaviors | <i>University of Leeds UK</i> |
| Rena R. Wing, Amy Gorin, and Deborah Tate, 2001 | Strategies for changing eating and exercise behavior | <i>Book. Present Knowledge in Nutrition, Chapter 57/8th Edition.</i> International Life Sciences Institute |

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Regular Exercise as Part of Health Behaviours

Conner states that health behaviors defines as any activity undertaken for the purpose of preventing or detecting disease or for improving health and wellbeing. There are seven things of healthy lifestyle (tobacco-free, low alcohol intake, avoiding snacks, eating breakfast regularly, sleeping 7-8 hours every night, regular exercise, and ideal body weight) which are applicable to maximize our health status and related to long life span, (Conner, M., 2002).

Exercise as part of health behaviours is a subset of physical activity that comprises planned, structured, repetitive movements that someone engages in for the purpose of improving or maintaining physical fitness, this term is often used interchangeably with physical activity. Physical activity is described as any movement produced by skeletal muscle contraction which results in energy expenditure like walking, stair climbing, doing house work and etc., (WHO, 2010; Uphill, M. et al., 2016). Exercise as a healthy lifestyle is strongly recommended to all ages. Thirty minutes for each exercise session, per day for five days in a week is good to maintain our cardio-respiratory system, and eight to ten of weight training exercise mode particularly which purposed to use major muscle groups is best way to maintain our bone and skeletal muscle health, while flexibility exercise (for joints health) can be done at any time, (ESSA, 2010).

Unfortunately, even though people have known the benefits of regular physical exercise for both physical and mental health, but majority of them fails to meet the recommended levels of activity, (Uphill, M. et al., 2016). This phenomenon is in line with study from Jayanti and Burns, they state that health education does not give any significant effect on preventive-health care behaviour, (Jayanti and Burns, 1998). Further, several factors affecting exercise behaviour are attitude towards exercise, social, perception of control, self-efficacy, motivation, demographic factors, and personality characteristics, (Fen and Hong, 2009).

Exercise Behaviour in Healthy People

Maintaining good behavior related to exercise is definitely important to reach goal sets, and it is indirectly affecting the results of exercise program, (Martin, J., 2015). In 2005, a study by Gustavo and Maria was aimed to classify the practice of physical exercise according to the Behavior Change Stages (BCS) theory, according to gender, and age. Based from analysis according by gender, male participants were obviously more active physically compare to female, while according by age as people getting older, they were tend to decline the practice of physical activities, (Gustavo and Maria, 2005).

Table 2: Behavior Change Stages and Their Characteristics Adapted from Prochaska and Marcus (1994) in Gustavo and Maria (2005).

| Stages | Characteristics |
|--------------------------|--|
| Pre-contemplation | Individual does not intend to change behaviour in the next six months |
| Contemplation | Individual is strongly inclined to change behaviour in the next six months |
| Preparation | Individual intends to act in a near future (generally next month) |
| Action | Behavior has already been incorporated for at least six months |
| Maintenance | Action already happens for over six months and the chances to return to old behavior are few |

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A study what we have just discovered about exercise behaviour of 256 healthy young adults age 19.89 ± 1.3 (17 to 23 years old) results that they have very good commitment to do regular physical exercise, and it is strongly affected by self-liberation (experiential factor) and dramatic relief (behavioural factor), while their self-efficacy is depended on the mood, (Rahayu, S. et al, 2018). Additionally, self-efficacy is affecting the goal sets of engagement in physical activity participation, (Buchan, D. S. et al., 2012).

Exercise Behaviour in People with Degenerative Disease

Lisabetta Divita defines degenerative disease as medical problem that worsen over time. It is able to affect our vital systems in the body like central nervous system, cardiovascular, skeletal and muscle system, and etc. Fortunately, some medications and therapies (including exercise therapy) could be used to treat it, (Divita, L., 2017). Studies have proof that exercise and physical activity are able to maintain or improve health status in healthy person or people with diseases, (Ali, M. A. et al., 2017; Nawawi, U., 2014).

Adults (African-American) with osteoarthritis and rheumatoid arthritis have high awareness of how important to be physically active, their total active time was about 3.1 hours each day, and it was (85%) majority of household and leisure activities. Although physical activity behavior of both group people were not the same, but their behavior is quite similar, (Greene, B. L. et al., 2006). This condition is very good according to WHO recommendations, (WHO, 2010). Furthermore, good exercise behavior of people with degenerative disease (Rheumatoid Arthritis) also can be predicted from their past history of exercise, and surprisingly Rheumatologist's current exercise behavior has an impact to their patient's behavior too, (Iversen, M.D. et al., 2004).

Another study about exercise behavior in elder people with PD by Ellis, T. et al. in 2011 conclude that self-efficacy, rather than disability, appears to be strongly associated with whether ambulatory, community-dwelling people with PD exercise regularly, (Ellis, T. et al., 2011). Based on the study literacy above, research about exercise behaviour in people with other degenerative diseases or even complication disease is still lack, and it should be adjusted by the internal factors like age, gender, etc. or external factors like diet, culture, etc., this is a gap for further study.

Strategies for Better Exercise Behaviour

A series of action which designed to mediate the change of exercise behaviour is called as changing exercise behaviour strategies. It consists seven actions, there are: **1) Identifying the behaviours to be changed**, means to identify the specific behaviours to be modified, **2) Setting goals**, means to set specific goals that can be achieved, it must be divided into long-term goals and short-term goals, **3) Self-monitoring**, means to observe and record activities-related behaviour, a variety of information can be recorded through self-monitoring, types and amounts of physical activity can be recorded in minutes or calories, **4) Stimulus control**, means to manipulate our surroundings, we could change the likelihood of behavioral outcomes, **5) Problem solving**, identify a specific problem, generate as many solutions as possible, evaluate the possible solutions and select one (related to decisional balance), implement the solution, and evaluate the outcome and repeat the problem-solving process if necessary, **6) Cognitive restructuring**, means to identifying and modifying maladaptive thoughts contributing to physical inactivity, **7) Relapse prevention**, means to prepare and to plan for any cheating or lapse actions, (Wing, R.R., Gorin, A., and Tate, D., 2001). Additionally, for people with Parkinson Disease, creating stimulus control can be done by involving physical therapist onto design of intervention program, (Ellis, T. et al., 2011).

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Regardless series of action in changing exercise behaviour strategies, mental training (imagery) was investigated in their ability to increase exercise behavior. Results from the study state that exercise imagery is able to increase physical activity, and physical self-concept improved related to mental training program, (Najafabadi, M. G. et al., 2015). At last, social support also has been evaluated that it has positive relationship with health behaviours and health status. The most common forms of social support were verbal such as discussing exercise, invitations to exercise and celebrating the enjoyment of exercise, (Anderson, P. J. et al., 2016).

Conclusion

People have known and understand good benefits of physical exercise or physical activity toward health status, however most of them are fail to do the recommended criteria of good exercise program or minimum physical activity levels, and it is caused by several factors either internal or external. Exercise behaviour of healthy people is affecting mostly by self-liberation, dramatic relief, and their confidence to practice physical exercise is depended on the mood, while gender and age contribute to their behaviour. In another hand, exercise behaviour of people with degenerative diseases was surprisingly good, they have met WHO recommendations, and it seems they are more aware to their health status. Their self-efficacy was more relatable to behaviour (people with PD) than disability, and presence of therapist or health care professional in their exercise program is strongly suggested as stimulus control. Actions in changing exercise behaviour strategies are recommended to everyone who looking to have an excellent health status (for both conditions healthy or with degenerative disease). Additionally, mental exercise like imagery and looking for social supports are suggested as concrete forms of problem solving and stimulus control.

At last, we hope that this literature review could give you an overview of exercise behaviour in healthy people and people with degenerative diseases, and the factors affecting their exercise behaviour. However, we are realized that what we have discussed in this paper probably still have huge errors, but it might be can be used as references for further review or even study.

Acknowledgement

This is an output of international research collaboration and scientific publication program between Faculty of Sports Sciences, Universitas Negeri Semarang, Indonesia and Faculty of Education, Mahasarakham University, Thailand. This study was granted by DIPA FIK UNNES 2018.

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