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**National Cheng Kung University Hospital - TAIWAN**  
Bandung, 16<sup>th</sup> – 17<sup>th</sup> July, 2018

**Conference Book**  
**International Conference on Health Care**  
**and Management**

“Evidence to inform action on supporting and implementation of  
SDGs”

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**Conference Book International Conference on Health Care and Management:**

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## Welcome Message



Assalamualaikum Warahmatullahi Wabarakatuh

Dear honorable guests,  
Sustainable Development Goals (SDGs) as an agreement of sustainable development objectives agreed by all countries at the 2015 UN sessions. Each country including Indonesia has an obligation to implement this joint development plan by applying universal, integration and inclusive principles by ensuring that no one missed or “No-one Left Behind” Indonesia has Nawa Cita or 9 priority agenda which should synergize with SDGs and can be used as health program application in Indonesia to also achieve SDGs.

On behalf of the organizing committee and the Nursing Society of Indonesia, I am glad to invite you to join ICHM 2018 (International Conference on Health Care and Management) in Bandung, Indonesia on July 16-17, 2018.

The conference is expected to reveal some solutions for evidence-based health care and scientific facts to be discussed by various viewpoints from diverse speakers from around the world with the title “Evidence to inform action on supporting and implementation of SDGs. Through the International Conference is expected to improve health services, especially in the field of nursing in Indonesia to improve the human development index.

We hope all participant could benefit from the exciting program and will surpass your expectation and that will be an inspiring event.

Warm regards,



**Dhika Dharmansyah**  
Conference chair



Assalamu'alaykum Wr.Wrb  
Good morning and best wishes for all of us.

Ladies and gentlemen, in such a great and happy day, let's praise and thank to Allah Swt who has given us grace and mercy to all of us to gather in this International Conference on Health Care Management event today.

First of all, we would like to gratitude and appreciate highly to national Cheng Kung University Hospital has given the opportunity and confidence to our institution STIKep PPNI Jabar for the second time in collaboration to organize International Conference on Health Care Management with theme: "Evidence to inform action on supporting and implementation of SDGs". This event is one of follow up The memorandum of Understanding between NCKUH with STIKep PPNI Jabar.

STIKep PPNI Jabar is as a nursing education institution carry out the mandate to create professional nurse, we must implement all TRIDHARMA University activities in academic atmosphere that aims to broaden and improve nursing and existence of nurse profession capacity in nation developing continually.

As we know the university academic quality is determined by its researches and graduates result quality. The research work results may be either a right against managing intellectual wealth equity as well as scientific work which is able to be publicized through scientific journals and scientific gathering forums of the same scientist background both in national and international level.

Nevertheless, the publishing of journal researches is published by its university. Nowadays, it is irregular because there are both financial and scientific manuscript availability drawbacks. Scientific regular manuscripts are very limited because manuscript contributor is only from its university as well.

The high education Research and technology ministry data in 2017, it stated that there were an increase of research work publishing done by practitioners, academicians and researchers of Indonesian. The amount of Indonesian research publishing on international journal certifiable indexed Scopus tended to increase. The high education Research and technology ministry data on December 1<sup>st</sup> 2017 noted that Indonesia scientific research publishing reached 14.100 journals. Meanwhile, on October 1<sup>st</sup> 2017 there were as many as 12.098 journals.

However, internally nurse profession scientific research journals are still less of publishing. It is alleged to the low of quantity and quality publishing about nursing. One of the drawbacks is rarely the interaction between nursing scientists and experts in scientific conferences. Some efforts are carried out by STIKep PPNI to encourage and to accelerate sharing knowledge amongst the nursing experts. Accordance to the goals, National Cheng Kung University Hospital Taiwan and STIKep PPNI have made MoU and held as this International conferences organizer. Hopefully, it is able to bridge all stakeholders, practitioners, and academicians in supporting the quality of the human resources especially, nurses and health workers as well.

The honourable ladies and gentlemen,  
Nowadays, in the global era, the transformation runs rapidly and consequently it makes the knowledge based society. Information and communication technology development are very important in on its role in manifesting society development based on the knowledge. The higher education of society will be higher of health service quality demands specially nurse.

Accordance to the effort, this International conference aims to,

1. Facilitate the knowledge sharing between health experts and nurses to encourage the goal of health human resource quality.
2. Produce health scientific and nursing articles deserve to be published on international scopus indexed journal.
3. Make communication networking amongst Universities, research institution, nurse practitioners, and other stakeholders.

I truly believe that all participants through the 2 days in international conference, our goals above are able to be manifested well.

Finally, I would like to thank to all of participants diligently and with spirit of attending this international conference on health care management.

Wish the conference is able to be knowledge sharing event and delightful and successful as well, the conference will be enlightened and interchange will do great help for us after attending this conference, especially STIKep PPNI Jabar and generally for all profession nurses to provide health services to communities, aamiin ya robbal alamin.

Wassalamu'alaykum Wr.wb.

Kindest regards,



The Dean of STIKep PPNI Jabar



Excellencies, Distinguished Delegates, Ladies and Gentlemen,  
Selamat Siang,

I'm ChyunYu Yang, the superintendent of National Cheng Kung University Hospital in Tainan, Taiwan.

On behalf of our hospital, it is my pleasure and privilege to welcome all of you to participate in the international conference on health care and management 2018.

To our eminent speakers and delegates who have come from UK, Netherland, Korea, Japan, Thailand, Singapore, Taiwan, and Indonesia, I bid you a very warm welcome to Bandung. We are indeed honoured to have you here with us. We have about 1.000 participants from different place in Indonesia and countries gathered here today, making our conference a truly meaningful one.

This is our second time collaborate with STIKEP PPNI Jawa Barat to hold an international conference. Last year, we have very successful conference with the theme focus on infection control and disaster management. And this year, our conference theme is "evidence to inform action on supporting and implementation of SDGs".

The Sustainable Development Goals (SDGs) known as the global goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. Goal 3 addresses all major health priorities and calls for improving reproductive, maternal and child health; ending communicable diseases; reducing non-communicable diseases and other health hazards; and ensuring universal access to safe, effective, quality and affordable medicines and vaccines as well as health coverage.

However, the world seems still far from ending maternal mortality, with more than 303,000 deaths in pregnancy or childbirth occurring annually. NCDs are also a growing problem, causing 40 million deaths in 2015.

But, All in all, we can take comfort in the fact that SGD indicators are moving in the right direction. Yet we still have plenty of work to do.

I wish in the next two day and a half, we have the opportunity - and indeed the responsibility - to prepare and add knowledge related the current situation and progress reflection of SDGs.

In closing, I encourage delegates to participate actively in the interesting discussions over the next two days. I wish everyone a successful and fruitful conference.

Thank you.

## Conference Committee

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## EFFECTIVENESS OF VESTIBULAR EXERCISE ON RISK OF FALL AMONG OLDER PEOPLE IN NURSING HOME

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### ABSTRACT

**Background:** Aging was associated with many functional declines including declined to maintain balance function. **Objectives:** The purpose of this study was to test the effect of vestibular exercise to reduce the risk of fall among older people lived in the nursing home. **Methods:** A queasy experimental design with one group pretest and posttest was conducted at one of a nursing home located in Bandung. Proportional random sampling was applied to select participants with a total of 15 older people joined this study. **Results:** The majority of participants were at low risk of fall (99.3%), followed by moderate risk (6.7%). There was a significant improvement in the risk of fall after vestibular exercise (mean different=0.34 for item 9 and 0.33 for 14 item of functional ability to do the task). **Conclusion:** Study finding showed that vestibular exercise was useful to reduce the risk of fall among older people in the nursing home. A future study using more rigors methods is needed to confirm the results. Health care provider may modify exercise for older people by using vestibular exercise in the routine activity at nursing home.

**Keywords:** vestibular exercise, elderly, older, fall, risk

### INTRODUCTION

Increasing life expectancy is an important indicator of national development index. In Indonesia, from 2014 to 2015, the life expectancy was increased from 68.6 to 70.8 years old, and it's projected to be 72.2 at 2030 to 2035. According to the National Statistical data, about 10% of Indonesian population was at age over 60 years old at 2020, indicated an aging society or country (Ministry of Health, 2016). The World Health Organization defines aging as middle age (45-59 years old), older age (60-74), very old (75-90), oldest (>90).

Evidence showed that aging was significantly associated with many functional declines. Falls are the most common problems reported in older people (Nugroho, 2008). A fall is an event that causes a person suddenly lying on the floor with or without loss of consciousness. There are many risk factors for fall, including intrinsic and extrinsic factors. Intrinsic factors are more focus on the older people, such as balance problems, visual problems, previous history of falling and for extraneous associated with an environmental condition such as less lighting, a slippery floor surface or abusive (Rubenstein and Josephson, 2002).

Balance is an ability of people to maintain body posture with or without movement. Balance is divided into two, namely static and dynamic balance. A static balance is the body's ability to maintain position and posture while immovable such as only standing or sitting. Dynamic balance is the ability of the body to be able to maintain body balance while moving, for example walking (Sugiarto, 2005). There were many factors associated with balance, namely the center of gravity, the gravitational line, base-load, the speed of the reaction and the neuromuscular coordination (Suhartono et al., 2005). Also, musculoskeletal weakness can affect the line of and center of gravity. Once people experience weakness and the other side of the body is healthy, the center of gravity will move and leads to impaired body balance (Kisner and Colby, 2007).

The imbalance is usually caused by muscle weakness of an extremity, postural stability, physiological, and aging (Jonathan, 2012). Aging is not a disease, but it is an advanced stage of a life process that can be marked by decreased ability and function of the body both physically and psychologically (Pudjiastuti, 2003). The decline is usually associated with morphological changes in the muscles that cause physiological changes, which is a decrease in muscle strength, muscle contraction, muscle elasticity, muscle flexibility, visual disturbances, vestibular, and reaction time (Nitz and Choy, 2004).

A previous meta-analysis reported that vestibule training effective to improve functional stability in anteroposterior or mediolateral directions, enhancing the motor system (strength and coordination), postural control, anticipate postural control, dynamic balance, sensory integration (vision, vestibular and somatosensory) as well as an effect on the improvement of the cognitive system (Sibley et al, 2015). According to Madureira et al. (2006) stated that balance exercises are effective in reducing the frequency of falling in elderly women. Therefore, the purpose of this study was to test the effect of vestibular training on reducing the risk of fall among older people in the nursing home.

## METHODS

This study was conducted using a queasy experimental design with one group pretest and posttest. The target population of this study was older people lived in a nursing home located in Bandung, with total was 29 people. Proportional random sampling was used to select a participant. A total of 15 older people were joined in this study. The instrument used in this study was an observational sheet, standard operational procedure, and balance assessment.

## RESULTS

The risk of fall before vestibular exercise among older people in a nursing home was 66.7% at low risk, 26.7% at moderate risk, and 6.7% at high risk of fall. After the intervention, above 93% older people were at low risk of fall and 6.7% at moderate risk. There was an increased balance and decreased the risk of fall. The mean of items 9 (bend to take objects from the floor) and item 14 (rack irregularities at runtime) was decreased 0.34 and 0.33, respectively.

Table 1. The proportion of the risk of fall before and after intervention (n = 15)

Item	Before vestibular exercise	After vestibular exercise	Mean Difference
Item 1	0.27	0.13	0.14
Item 2	0.07	0.07	0.00
Item 3	0.20	0.13	0.07
Item 4	0.27	0.13	0.14
Item 5	0.20	0.07	0.13
Item 6	0.27	0.13	0.14
Item 7	0.33	0.07	0.26
Item 8	0.27	0.07	0.27
Item 9	0.47	0.13	<b>0.34</b>
Item 10	0.27	0.07	0.20
Item 11	0.13	0.07	0.06
Item 12	0.27	0.07	0.20
Item 13	0.40	0.20	0.20
Item 14	0.40	0.07	<b>0.33</b>
Item 15	0.47	0.20	0.27

Shah & Kale (2004) stated that changes in balance may increase if balance exercises are combined with vestibular exercise. In this study, we applied balance exercises consist of adaptation and habituation exercise. Vision system, vestibular system, and sensory system includes motion, pressure, and position (proprioception) in the joints, muscles and skin were a systems that continuously provide information to the brainstem (the brain stem is the part of the brain that connects

the brain with the spinal cord) and brain about our position in space and relative to gravity. The brain processes these data and uses this information for a quick assessment of our head, body, joints, and eyes. A right balance indicated a good function of these there system and brain (Miralza, 2008).

The ability to control gravity can be trained through coordination and balance training and exercises to maintain mobility and posture (Sri and Utomo, 2002). The vestibular exercise can increase blood flow to the brain and improve the work of the three sensory systems. Visual input provides important clues about the orientation of space. The vestibular system contains semicircular and vestibula for balance and cochlea for hearing. This system works by connecting the vestibulocochlear nerve with the vestibular center in the brain and the balance and position of the body. A proprioception system consisting of motion sensors, position and pressure on the skin, muscles, and joints, these sensors provide information of touch and location to keep balanced (Joesoef, 2006).

## CONCLUSION

Among older people in the nursing home, above 93% older people were at low risk of fall, 6.7% at moderate risk, and none of them were at high risk of fall.

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