

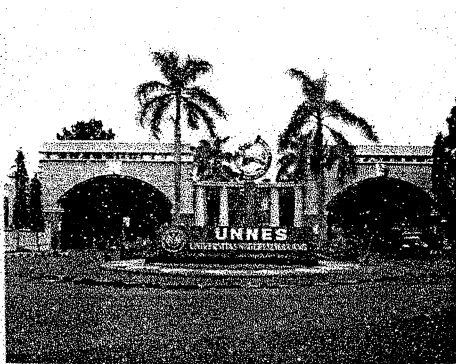


ISPHE 2015

INTERNATIONAL SEMINAR ON PUBLIC HEALTH AND EDUCATION

The 2nd International Seminar on Public Health and Education

PROCEEDINGS



Semarang, April 23, 2015

BOOK 2

Public Health Department in collaboration with Sport Education Department
Postgraduate Program, Semarang State University

Supported By :





ISPHE 2015

INTERNATIONAL SEMINAR ON PUBLIC HEALTH AND EDUCATION

The 2nd International Seminar
on Public Health and Education

PROCEEDINGS

BOOK 2

Public Health Department in collaboration with Sport Education Department
Postgraduate Program Semarang State University

**THE SECOND INTERNATIONAL SEMINAR ON PUBLIC HEALTH AND EDUCATION
2015 (The 2nd ISPHE 2015) PROCEEDINGS**

Postgraduate Program, Semarang State University

Published by:

Postgraduate Program, Semarang State University

Bendan Ngisor, Semarang 50233

Email : isphe.unnes.2015@gmail.com

Telp. +6224 8440516, Fax. +6224 8449017

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of the Public Health Department in collaboration with Sport Education Department, Postgraduate Program, Semarang State University.

First published in April 2015

Editor : Oktia Woro K.H., Tandiyo Rahayu, Donald, Ross Sadler, Min Jeung Park, Budi Laksono, Arastio Soares, Keang Ratchy, Bashir Lakhal

Manuscript Team : Muhammad Azinar, Lukman Fauzi

Layout : Efa Nugroho, Thomas Sugeng H

Cover design : Muhammad Iqbal

Library cataloguing in Publication Data:

The Second International Seminar on Public Health and Education 2015 (The 2nd ISPHE 2015) Proceedings
published by Postgraduate Program, Semarang State University – includes bibliographical references.

Series ISBN 978-602-14215-8-1

Distributed by:

Public Health Department in collaboration with Sport Education Department

Postgraduate Program, Semarang State University

Bendan Ngisor, Semarang 50233

Email : isphe.unnes.2015@gmail.com

Telp. +6224 8440516, Fax. +6224 8449017

PREFACE

Assalamu'alaikum warahmatullaahi wabarakaatuh,

Firstly, may we made our highest praise and thank to Allah The Almighty, for His bless so that we are able to continue a precious event; The Second International Seminar on Public Health and Education 2015 (The Second ISPHE 2015) in Semarang Indonesia, to share our knowledge and idea with so much warm and friendship from worldwide public health and education community.

The Second ISPHE 2015 is a continuation of The First ISPHE 2014 that had been held in Semarang, Indonesia on September 2, 2014. This second seminar is organized by Public Health Department in collaboration with Sport Education Department, Postgraduate Program, Semarang State University and supported by researcher team from Indonesia-Australia, Indonesian Health Education National Network (*Jejaring Nasional Pendidikan Kesehatan Indonesia – JNPK*), and Indonesian Public Health Association – Central Java (*Ikatan Ahli Kesehatan Masyarakat Indonesia Pengda Jawa Tengah – IAKMI*).

The Second ISPHE 2015 is aimed to gather all of experts, researchers, academicians, and practitioners in health education field in general as well as national and international level in one prestigious academic forum which to discuss the role of evidence based research in public health, health education, and health promotion decision making. This second seminar also proposed to contribute to the focus of health decision making; by considering the evidence based research, empirical data, and also local wisdom from each region, both national and regional levels as well as its relation to global health trends.

I would like to deliver our highest respect and appreciation to our honorable speakers, Prof. Donald, M.P.H, Ph.D. from Griffith University, Australia, Ross Sadler, B.Sc., Ph.D. from Griffith University, Australia, Min Jeung Park, Ners M.Sc., Ph.D. from University of Tokyo, Evaristo Soares from Department of Public Health Timor Leste, Ratha Phok from Institut de Technologie du Cambodge, Bashir Lakhali, M.Kes. from Department of Public Health, Lybia, and Dr. dr. Budi Laksono, M.HSc. from Health Department of Central Java, Indonesia. I really expect that this second seminar will be beneficial for all of us and to the development of the public health and education field.

Allow me to express my gratitude to all participants from Indonesia and other foreign countries who are enthusiastic in attending this seminar. I do hope that all participants will gain important values and collaborate it into our own fields and also able to make significant changes in the future. Besides, I also convey my appreciation to all organizing committee who have given their outstanding commitment for presenting this occasion.

Wassalamu'alaikum warahmatullaahi wabarakaatuh.



Sincerely yours,

Chairman of the Committee

Dr. dr. Oktia Woro Kasmini Handayani, M.Kes.

WELCOME MESSAGE

Assalamu'alaikum warahmatullaahi wabarakaatuh,

Dear Conference Participant,

I extend my most sincere welcome to all participants of The Second International Seminar on Public Health and Education 2015, held in Semarang, Indonesia on April 23rd, 2015. Semarang State University is proud of being important part to develop public health, especially in public health education, through hosting this important event.

Semarang State University (Unnes) is one of the biggest state universities in Indonesia which was established in 1965. It is the first university that declared itself as the Conservation University in Indonesia. The idea of conservation has become its vision to be an international conservation university which is healthy, outstanding, and prosperous. Regarding the vision, Unnes determine to consistently uphold the idea of protection, preservation, utilization, and sustainable development of natural and cultural resources of Indonesia. Unnes also put conservation as a manifestation of the main duties of university, namely education, research, and community service.

In line with Unnes vision of healthy, this seminar is projected to be an international event in the field of public health education and aims to become a benchmark for decision-making in health, especially in promotion and prevention sector through evidence based research. The seminar theme, "The Role of Evidence Based Research in Public Health, Health Education, and Health Promotion Decision Making" will highlight different initiatives and projects that will help direct collective vision towards securing better health status to our nations. At this seminar, we will be able to consider application of public health research as a basic of making decision in public health area.

I am convinced that the seminar will produce valuable result for improving public health education through different presentations and discussion by our distinguished speakers and participants. I hope you find the seminar sessions and program material in framing the direction of your work. I am confident that the efforts made by all organizing committee will make it a definite success and a valuable experience for participants.

Finally, I sincerely look forward to your participation and contribution to this event.

Wassalamu'alaikum warahmatullaahi wabaraakatuh.

Sincerely yours,

Rector of Semarang State University
Prof. Dr. Fathur Rokhman, M.Hum.

WELCOME MESSAGE

Assalamu'alaikum warahmatullaahi wabarakaatuh,

Dear Conference Participant,

On behalf of Postgraduate Program Semarang State University, we are pleased and honored to welcome you to The Second International Seminar on Public Health and Education 2015. It is a great privilege for us to be in Semarang, Indonesia on April 23rd, 2015. Postgraduate Program is proud to be working jointly with researcher team from Indonesia-Australia, Indonesian Health Education National Network (*Jejaring Nasional Pendidikan Kesehatan Indonesia – JNPK*), and Indonesian Public Health Association – Central Java (*Ikatan Ahli Kesehatan Masyarakat Indonesia Pengda Jawa Tengah – IAKMI*) at this important event.

Today is a time for change and we hope that the seminar will help us in confronting this change by bringing new opportunities for advancing public health education, nationally and globally. We are expecting the seminar to offer us with new material for improving our way of thinking and operation in confronting many public health problems. This seminar proposed to contribute to the focus of health decision making; by considering the evidence based research, empirical data, and also local wisdom from each region, both national and regional levels as well as its relation to global health trends.

Let's take advantage of this excellent opportunity and work together in strengthening our regional and national network and in sharing our interests and experience, particularly in public health education field. We are confident that the seminar will help us in building our network connections and in strengthening relationship.

We would like to thank each of you for participating in The 2nd ISPHE 2015 and bringing your knowledge and skills to this event. We expect you to be engaged in the sessions and to be proactive and inquisitive. Hopefully, all of you would enjoy your stay in Semarang, Indonesia. Finally, we would like to say thanks to all the organizing committee, who made this event possible be held.

Wassalamu'alaikum warahmatullaahi wabaraakatuh.

Sincerely yours,
Director of Postgraduate Program, Semarang State University
Prof. Dr. H. Achmad Slamet, M.Si.

WELCOME MESSAGE

Assalamu'alaikum warahmatullaahi wabarakaatuh,

Dear Conference Participant,

On behalf of Postgraduate Program Semarang State University, we are pleased and honored to welcome you to The Second International Seminar on Public Health and Education 2015. It is a great privilege for us to be in Semarang, Indonesia on April 23rd, 2015. Postgraduate Program is proud to be working jointly with researcher team from Indonesia-Australia, Indonesian Health Education National Network (*Jejaring Nasional Pendidikan Kesehatan Indonesia – JNPK*), and Indonesian Public Health Association – Central Java (*Ikatan Ahli Kesehatan Masyarakat Indonesia Pengda Jawa Tengah – IAKMI*) at this important event.

Today is a time for change and we hope that the seminar will help us in confronting this change by bringing new opportunities for advancing public health education, nationally and globally. We are expecting the seminar to offer us with new material for improving our way of thinking and operation in confronting many public health problems. This seminar proposed to contribute to the focus of health decision making; by considering the evidence based research, empirical data, and also local wisdom from each region, both national and regional levels as well as its relation to global health trends.

Let's take advantage of this excellent opportunity and work together in strengthening our regional and national network and in sharing our interests and experience, particularly in public health education field. We are confident that the seminar will help us in building our network connections and in strengthening relationship.

We would like to thank each of you for participating in The 2nd ISPHE 2015 and bringing your knowledge and skills to this event. We expect you to be engaged in the sessions and to be proactive and inquisitive. Hopefully, all of you would enjoy your stay in Semarang, Indonesia. Finally, we would like to say thanks to all the organizing committee, who made this event possible be held.

Wassalamu'alaikum warahmatullaahi wabaraakatuh.

Sincerely yours,
Director of Postgraduate Program, Semarang State University
Prof. Dr. H. Achmad Slamet, M.Si.

Content

Cover	i
Preface	v
Welcome Message	vii
Content	xi

Book 2

OCCUPATIONAL AND ENVIRONMENTAL BASED RESEARCH

<i>Determination of Environmental Health Indicator Related to Environmental-Based Diseases</i> Nurjazuli ¹ , ¹ Diponegoro University.....	299
<i>The Relation Between Noise Exposure and Period Of Work With Hearing Loss in Employee PT.X</i> Rara Marisdayana ¹ , Suhartono ¹ , Nurjazuli ¹ , ¹ Diponegoro University	312
<i>Temperature Variability and Bionomics of Anopheles in Endemic Malaria Area of District Purworejo Central Java Province Indonesia</i> Mursid Raharjo ¹ , ¹ Diponegoro University	321
<i>Preparing Future Evidence Based Occupational Health Practitioners : Students Initiated Program</i> Vitri Widyaningsih ¹ , ¹ Sebelas Maret University.....	331
<i>Involvement in Farming Activities and Personal-Protective-Equipment Use on Childbearing-Age Women in Farming Area</i> Arum Siwiendrayanti ¹ , ¹ Semarang State University.....	338
<i>The Risk Factor Which Lungs Vital Capacity in Work in Rice Milling</i> Herry Koesyanto ¹ , Wahadi ¹ , ¹ Semarang State University.....	348
<i>Spasial Analysis of Environmental Conditions and The Spread of Filariasis Disease in Pekalongan City</i> Siska Candrawati Anggraeni ¹ , Rudatin Windraswara ¹ , ¹ Semarang State University.....	355

SPORT AND NUTRITION BASED RESEARCH

<i>The Effect of Physical Activity Trough Senam Lansia on Elderly Muscle Tone in The Working Area of Sronol Public Health Center of Semarang Municipality</i> Arwani ¹ , Purnomo ¹ , Rodhi Hartono ¹ , ¹ Semarang Health Polytechnic	365
---	-----

Physical Fitness Profile Related to Gateball Player Health of Bantul Regency Fakurrahman Arjuna ¹ , Ahmad Nasrullohi ¹ , Yogyakarta State University	373
Effect of Aquarobics Exercise on Adiponectin and Il-6 Level in Obese Women Siti Baitul Mukarromah ¹ , Hardhono Susanto ² , Ign. Riwanto ² , Tandiyo Rahayu ¹ , Chia-Hua Kuo ³ , ¹ Semarang State University, ² Diponegoro University, ³ Taipe Physical College Taiwan	385
Food Security and Nutritional Status of Under The Age of Five Children in Low Income Family in Sukarame Tasikmalaya Lilik Hidayanti ¹ , Sri Maywati ¹ , ¹ University of Siliwangi	394
Effects of High Protein Diets on Body Mass Index, Percentage Body Fat and Muscle Strength and Speed Anies Setiowati ¹ , ¹ Semarang State University	401
Correlation of Food Consumption Containing Sucrose With The Incidence of Dental Caries On 11-12 Years Old Children (Research of SD Bandarjo 1 Ungaran Students) Endah Aryati ¹ , Denny Setyo Kusdiantoro ² , Diyah Fatmasari ¹ , Ani Subekti ¹ , ¹ Semarang Health Polytechnic, ² Sultan Agung University Semarang	413
Playing as a Means to Develop Movement Skills and Physical Fitness of Preschool Children Yudanto ¹ , ¹ Yogyakarta State University	421
Behavior and Motivation Aerobic Gymnastics Mother Isti Mulyawati ¹ , Ranu Baskora Aji Putra ¹ , ¹ Semarang State University	428
Total Number of Bacteria and The Acceptance of Chicken Nugget With Galangal Addition Ika Ella Fitriyana ¹ , Galuh Nita Prameswari ¹ , ¹ Semarang State University	436
Physical Fitness and Asthma Hanik Liskustyawati ¹ , Imran Agus Nurali ² , ¹ Sebelas Maret University, ² Indonesian Sport Medicine Association	442
Effect on Quality of Life Gymnastics Postpartum Mother in Normal Postpartum Hospital City Semarang Heny Prasetyorini ¹ , Nuring Pangastuti ² , Wenny Artanty Nisman ¹ , ¹ Gadjah Mada University, ² Sardjito Hospital	449
The Relationship Between Prepregnancy BMI and Weight Gain During Pregnancy with Low Birth Weight Incident in The Working Area of Cirebon City Health Office in 2014 S.A. Nugraheni ¹ , Sheila Mahardini ¹ , ¹ Diponegoro University	460
Outbound Game Models as an Extracurricular Material Development of "Penjasorkes" in Primary School Niken Fatimah, ¹ Diponegoro University	465

<i>Physical Fitness as A Potential Modality Elderly Pilgrims in Fulfilling Our Worship in The Holy Land of Mecca</i> Yudik Prasetyo ¹ , Muchsin Doewes ¹ , Noer Rahma ¹ , Sapja Anantanyu ¹ , ¹ Yogyakarta State University	474
<i>Effectiveness of Nutrition Counseling to Improve Knowledge, Attitude and Mother's Feeding Practices among Malnutrition Children</i> Etika Ratna Noer, Desi Sofiyana ¹ , ¹ Diponegoro University	480
<i>The Importance of Physical Exercise of Competition Periode</i> Devi Tirtawirya ¹ , ¹ Yogyakarta State University	489
<i>The Standardization Urgency of Martial Arts Kicking Technique for Beginner Fighter on The Match Category</i> Awan Hariono ¹ , ¹ Yogyakarta State University	494
 THE MAKING OF PUBLIC HEALTH DECISION	
<i>Factors Affecting the Participation of Independent Workers in National Health Insurance (JKN) at Outpatient Unit, Semarang Hospital</i> Indriati ¹ , Mugi Hartoyo ¹ , Sri Widiyati ¹ , ¹ Semarang Health Polytechnic	509
<i>A Study on The Quality of Health Services to Hospital Patients in The Assisting Hospital 07.08.06 Polewali Mandar West Sulawesi 2010</i> Patmawati ¹ , Umar Wirahadi Kusuma ¹ , ¹ Al Asyariah Mandar University	517
<i>Implementation Evaluation of Provider Initiated HIV Testing and Counseling (PITC): A Case Study at Balai Besar Kesehatan Paru Masyarakat (BBKPM) Surakarta</i> Julia Pertiwi ¹ , Intan Zainafree ¹ , ¹ Semarang State University	521
<i>Companie's Perception about BPJS in Health Insurance Implementation for Worker at Medan</i> Eka Lestari Mahyuni ¹ , ¹ Sumatera Utara University	531
<i>The Role and Impact of Traditional Health Services in Indonesia</i> Rindra Eriska Hidayat ¹ , ¹ University of Indonesia	536
<i>Midwife Duties in Stand by Village Related to Authority by Kepmenkes No 900/Menkes/SK/VII/2002 about Midwife Registration and Practice (Case Study in Tuntang District Semarang Regency)</i> Ambar Dwi Erawati ¹ , ¹ STIKES Widya Husada	542
<i>Budgeting Participation : A Solution for BPJS Kesehatan Deficits which Represent Budgetary Slack</i> Nugroho Wisnu Murti ¹ , ¹ STIE AUB Surakarta	548

<i>Performance and Competence Analysis to Dental Nurse Reorientation (Studies on Dental Nurse Performance and Competence in Puskesmas of Central Java)</i> Bedjo Santoso ¹ , Hari Kusnanto ² , Al Supartinah ² , Niken Sriyono ² ¹ Semarang Health Polytechnic, ² Gadjah Mada University.....	553
<i>Intensification Strategy of Mother Class: Efforts to Reduce Maternal Mortality Through Early Detection and Awareness-Raising of The Target Group in Blacanan Village Pekalongan District</i> Rr. Vita Nur Latif ¹ , ¹ Pekalongan University.....	564
<i>Qualitative Study of Maternal Mortality in JAMPERSAL Financing Era</i> Dewi Sari Rochmayani ¹ , ¹ STIKES Widya Husada.....	567
<i>Description of Knowledge and Perceptions of Family Planning Methods IUD in Non-IUD Acceptors in Gunungpati Subdistrict, Semarang District</i> Fitri Indrawati ¹ , ¹ Semarang State University.....	574
<i>Single Server Queuing Model for Outpatients at The RSUD Toto Bone Bolango of Gorontalo Province</i> Herlina Jusuf ¹ , ¹ Gorontalo State University.....	580

POSTER PRESENTATION

<i>Differences of Knowledge and Attitudes Public Health Students of Diponegoro University Before and After Intervention Module Integrity of Anti-Corruption in The Health Sector</i> Yulia Septi Damayanti ¹ , Septo Pawelas Arso ¹ , Sutopo Patria Jati ¹ , ¹ Diponegoro University.....	589
<i>Application of Software Interactive Education Media in Improving Dental Health Knowledge of Children</i> Ani Subekti ¹ , Subinarto ¹ , Bambang Sutomo ¹ , Endah Aryati Ekoningtyas ¹ , ¹ Semarang Health Polytechnic.....	597
<i>The Effect of Nursing Care Quality to Patient Satisfaction in Inpatient Unit</i> Indriati ¹ , Sugiarto ² , Wahyu Hidayati ² , ¹ Semarang Health Polytechnic, ² Diponegoro University.....	605

PHYSICAL FITNESS PROFILE RELATED TO GATEBALL PLAYER HEALTH OF BANTUL REGENCY

Fatkurahman Arjuna, Ahmad Nasrulloh

Yogyakarta State University, Indonesia

Corresponding Author: fatur.arjuna@yahoo.com

Abstract

Introduction : This study aims to determine the level of physical fitness related to gateball players' health of Bantul Regency which includes: heart lung endurance, muscular strength and endurance, flexibility, and body composition.

Method : This research was descriptive. The method used was a survey method with data retrieval technique using a test measurement. The population of the research was gateball players of Bantul. The sample was the total population of all gateball players of Bantul Regency for 12 players. The data analysis techniques done was pouring the frequency into percentage form.

Results : The results show that the cardiopulmonary endurance of gateball players in Bantul Regency is in the category of less for 6 players (50%) and very less for 6 players (50%). The strength of the back muscles of the gateball players are at once both categories of 7 people (58.3%), while the leg muscle strength is in good category for 6 players (50%). The measurement results of muscular endurance tests of gateball players with sit ups are at fewer categories as many as 7 players (58.3%) and to push-up test are in the category of very less category for 10 players (83.3%). The flexibility of gateball players of Bantul Regency is in the good category for 5 players (41.7%). The body composition of gateball players in Bantul is measured from body mass index shows that most of the players have BMI in the normal category for 6 players (50, 0%), while based on fat percentage measurement, it shows that all players that are in the category of excess (100%).

Keywords: cardiorespiratory endurance, back and legs muscular power, muscle endurance, flexibility, body composition.

Introduction

In Indonesia, many contemporary sports are appearing recently. The definition for the contemporary sport is the latest sports or sports that are formed in the present era. The examples for the contemporary sports are futsal, 5-on-5 football, heading ball, sitting volleyball, gateball, and many other things. The trending contemporary sport in Indonesia today is Gateball. It can be seen from the number of championships held with the massive participants in every event. Gateball championship which is regularly held by PERGATSI is National Championship Gateball. It has been held in Jakarta, Bali International Open Gateball, Sleman Mayor Gateball Cup in Sleman, Manado Open to win the trophy from the Minister of Public Works, with the participants' response in each championship is really good.

Gateball game is quite popular and it is alive up to now in Bantul since it has its own uniqueness. Gateball is the only team sport that allows each player in the group consists of women and men or a combination of both, in the sense of not seeing sex on each participant. The achievement of gateball club in Bantul is very unstable as it never becomes a champion of a prestigious tournament and it had also been knocked out in the first round. Achievements that have

been obtained are becoming the first champion in Prambanan cup, Winner of Gateball Gathering in Sleman, but the club is often eliminated in the first round or in the qualifying round as well. Obviously, it can be seen that there is a problem that makes the achievement of Bantul gateball club becomes unstable.

There are some problems in the gateball game in Bantul. It can be seen in the composition of the players who commonly consist of the physical education teachers who are 40 years old and over, the wrong pattern of proper exercise, and the morning activity as a teacher and it affects the game play so that it becomes unstable. Physical fitness is very important for each gateball player because the duration for every game in the championship is for 30 minutes. It should be emphasized especially in the level of physical fitness which is associated with health, such as cardiorespiratory endurance, muscle strength and endurance, flexibility and body composition. The majority of gateball players from Bantul are 40 years old and over players. The officials should be able to make the right exercise program for the players.

In every gateball game, the duration of the game is for 30 minutes with round robin system and it is continued until the final round with the knockout system. Fitness systems which are needed in this game: cardiovascular endurance which is good to finish the match with the maximum performance during the game, muscle strength which is good in hitting the ball, muscle endurance which is used to get the balance for the multiple hits in every gateball game, flexibility which is to support the precision of the hit and body composition to support the game because in every game it requires a good position for a hit.

From the description above, it clearly shows the importance of basic fitness that can support the achievement of gateball players from Bantul. The researchers want to know the profile of physical fitness related to the health condition of Bantul gateball players. The results of this study are expected to provide an overview of the physical fitness profile related to the health condition of the players, so it will be very useful as a guide in making a good exercise and it is programmed especially for the players and gateball officials in Bantul.

Gateball Game

Gateball sport is a sport that aims for the target of the ball into the goal. The way in playing this sport is just like golf and woodball as it resembles on the aspect of placing the ball into the target by using tools such as the gateball stick. Gateball is played by two teams, usually the red team and white team, where each team consists of 5 players. Red team holds the ball with odd numbers (1,3,5,7,9) while the white team holds the ball with even numbers (2,4,6,8,10). Red team hit the ball first and then the white team in the order of numbered balls. The ball is hit and it passes through the three goal posts (goal post 1 to 3) and finish the game when it touches the goal-pole. The winner is determined by the total number of scores obtained during the 30 minutes of game time. Facilities and infrastructure needed in this game are: Soil field with the length for about 20-25 meters and the width for about 15-20 meters, Ball, Stick which is a tool to hit the ball, Gate or goal

post which becomes the target to get the score, lines which are used as a barrier in this game, and the last is a timer with a special shaped clock for a sign in starting the game.

Gateball game is usually played using a standard of 30 minutes in a game, but the time can be adjusted to the needs. In each championship, the game is usually performed for 30 minutes in one game using round robin system in each group then it takes two teams from the two groups in the knockout phase to seek out the winner of the competition.

In every gateball championship, it needs a good level of physical fitness, considering that the game system is quite exhausting. It requires not only physical fitness related to skills but physical fitness related to health as well.

The Nature of Physical Fitness

Djoko Pekik (2000: 2) defines the physical fitness generally as a person's ability to perform daily work efficiently without experiencing excessive fatigue, so that they can enjoy their leisure time. In the sense of someone who has a good physical fitness will be able to do their job well too.

According to Hinson cited by Suharjana (2012: 5) physical fitness is divided into two parts, called Health related fitness and the motor fitness (skills-related fitness). Health related fitness (physical fitness related to health) consists of the following components:

1. Cardiorespiratory Endurance

Cardiorespiratory endurance is the ability of the lungs to supply oxygen to the heart muscle work in a relatively long time.

2. Muscle Strength

Muscle strength is the ability of a group of muscles to resist loads in one attempt.

3. Muscle Endurance

Muscle endurance of the cardiorespiratory system to supply oxygen to the heart muscle in a long duration.

4. Flexibility

Flexibility is the ability of the joints to move freely on its axis.

5. Body Composition

The body composition is the ratio of weight or fatless body shown by the percentage of body fat.

To get a good physical fitness, it requires systematic planning through the understanding of a healthy lifestyle for all levels of society. According to Djoko Pekik (2000: 6) healthy lifestyle includes three components as follows: Eating, resting and exercising.

Physical Fitness Benefits

According to Yohanes Aji (2010: 1) the benefits of physical fitness for the body are: it can prevent various diseases such as heart, blood vessels, and lungs thus improving the overall quality of life. With the finest physical life, it leads into the life full of spirit and fun.

Physical fitness is not merely describing the health condition but rather a way of an individual in doing daily activities. According to Yohanes (2010: 1) there are three important things in physical fitness:

1. Physical condition, relates to the muscles, bones and fat.
2. The function of the organ that is related to the efficiency of the heart, blood vessels and respiratory (lung).
3. Response of muscle, relates to flexibility, strength, speed and weaknesses.

Gateball Players of Bantul

Gateball sport was first played by a group of physical education teachers joined in MGMPs Bantul in 2014. It begins from a hobby and then more and more teachers were joining to practice and even not just from the physical education teacher, even other teachers and businessmen joined and eventually formed a club named Protari Bantul and entered in the management of Koni in 2013.

The game is quite popular and it survives up to now in Bantul because it has its own uniqueness. Gateball is the only team sport that allows each of each player consists of women and men, or in the sense of not seeing sex on each participant.

Method

This study was a descriptive research that described the level of physical fitness related to health (health related fitness) of gateball players from Bantul, Yogyakarta which included cardiorespiratory endurance, back and legs muscle strength, muscle endurance, flexibility and body composition. The method used was survey with test and measurement technique in collecting the data. The population of this study was all gateball players in Bantul for about 12 persons, consisted of 9 male players and 3 female players.

Results and Discussion

Research Subject

The subjects used were the gateball players from Bantul with the total of 12 persons. The detailed description of the research subject which includes sex and age group can be seen in Table 1 below.

Table 1. Research subject description

No	Characteristics	Total	Percentage
1.	Sex		
	Male	9	75 %
	Female	3	25 %
2.	Age Group		
	30 – 39 years old	2	16,7 %
	40 – 49 years old	7	58,3 %
	50 – 59 years old	3	25,0 %

From Table 1, it is known that the gateball players from Bantul that are used as the research subject for this study mostly are men with the amount of 9 persons or at 75.0%. In terms of age, gateball players from Bantul that are used as the research subject are in the age group of 31-59 years old. From Table 1, it can be seen that the majority of gateball players from Bantul is in the age group of 40-49 years old, for about 7 persons or at 58.3 %.

Research Result

1. Description of Test Result for Cardiorespiratory Endurance

Measurement of cardiorespiratory endurance or cardiorespiratory fitness (VO₂max) is using the method of Rockport test.

Table 2. Result for the measurement of cardiorespiratory endurance from gateball players of Bantul

No.	Rockport Test		
	Time	VO ₂ Max	Category
1	12:16	32	Very Poor
2	19:35	23	Very Poor
3	12:32	31	Poor
4	11:17	34	Poor
5	12:02	32	Very Poor
6	09:59	37	Poor
7	11:50	33	Very Poor
8	11:22	34	Poor
9	13:38	29	Very Poor
10	12:16	32	Poor
11	18:15	24	Very Poor
12	13:10	30	Poor

Table 3. Test result for cardiorespiratory endurance

No	Category	Total	Percentage
1.	Very Good	0	0,0
2.	Good	0	0,0
3.	Moderate	0	0,0
4.	Poor	6	50 %
5.	Very Poor	6	50 %
Total		12	100 %

Based on Table 3, it can be seen that of the 12 players, there are 6 respondents (50.0%) who have heart cardiorespiratory endurance in the category of very poor and 6 respondents (50.0%) who have cardiorespiratory endurance in the same level. In the graphic for the test result of cardiorespiratory endurance of gateball players Bantul, it can be seen that among the players who have the levels of cardiorespiratory endurance are at the level of very poor for cardiorespiratory endurance at 50%.

2. Test Result Description for Muscle Strength

Muscle strength measurements are conducted by measuring the strength of the back muscles and leg muscles using the tool of back and leg dynamometer.

The measurement results of back muscle strength show a mean value at 141.71 kg with a minimum value at 78.5 kg and a maximum value at 256.50 kg. The categorization results of back muscle strength from Bantul gateball players are presented in Table 4 below.

Table 4. Measurement results for back muscle strength of Bantul gateball players

No	Test Result	Category
1.	133,5	Good
2.	130,5	Good
3.	78,5	Moderate
4.	157	Very Good
5.	131	Good
6.	256,5	Very Good
7.	171,5	Very Good
8.	84,5	Moderate
9.	189	Very Good
10.	145	Very Good
11.	111	Very Good
12.	112,5	Very Good

Table 5. Test results for back muscle strength of Bantul gateball players

No	Category	Total	Percentage
1.	Very Good	7	58,3 %
2.	Good	3	25,0 %
3.	Moderate	2	16,7 %
4.	Poor	0	0,0 %
5.	Very Poor	0	0,0 %
Total		12	100,0 %

Based on Table 5, it can be seen that of the 12 players gateball Bantul, there are 7 respondents (58.3%) have a very good level of back muscle strength, 3 respondents (25.0%) have good level of back muscle strength and 2 respondents (16.7%) have a moderate level for back muscle strength.

Meanwhile the categorization result for the leg muscle strength of Bantul Gateball players are shown in Table 6 below.

Table 6. Measurement result for leg muscle strength of Bantul gateball players

No	Test Result	Category
1.	151	Good
2.	118	Moderate
3.	69,5	Poor
4.	175	Good
5.	144,4	Good
6.	228,5	Very Good
7.	197	Very Good
8.	88	Moderate
9.	263,2	Very Good
10.	134	Good
11.	123,5	Good
12.	128,5	Good

Table 7. Test result for leg muscle strength of Bantul gateball players

No	Category	Total	Percentage
1.	Very Good	3	25,0 %
2.	Good	6	50,0 %
3.	Moderate	2	16,7 %
4.	Poor	1	8,3 %
5.	Very Poor	0	0,0 %
Total		12	100,0 %

Based on Table 7, it can be seen that of the 12 players gateball Bantul, there are 3 respondents (25.0%) have a very good level of leg muscle strength, 6 respondents (50.0%) have a good level of leg muscle strength, 2 respondents (16.7%) have moderate levels of leg muscle strength and 1 respondent (8.3%) have poor level of leg muscle strength.

Description on Test Result for Muscle Endurance

Measurement for the muscle endurance is done by the method of sit ups and push ups. The measurement results are converted into muscle endurance norms with sit ups test in accordance with the gender of each respondent. The categorization results for muscle endurance Bantul gateball players with sit ups tests is presented in Table 8 below.

Table 8. Muscle endurance test result (*sit up*) from Bantul gateball players

No	Sit Up Test Result	Category
1.	29	Poor
2.	40	Moderate
3.	25	Very Poor
4.	26	Poor
5.	31	Poor
6.	27	Poor
7.	31	Poor
8.	20	Very Poor
9.	34	Poor
10.	38	Moderate
11.	12	Very Poor
12.	30	Poor

Table 9. Muscle endurance test result (*sit up*) from Bantul gateball players

No	Category	Total	Percentage
1.	Very Good	0	0,0%
2.	Good	0	0,0%
3.	Moderate	2	16,7%
4.	Poor	7	58,3%
5.	Very Poor	3	25,0%
Total		12	100,0 %

Based on Table 9, it can be seen that of the 12 players gateball Bantul, there are 2 respondents (16.7%) have a moderate level of muscle endurance, 7 respondents (58.3%) have poor muscle endurance levels and 3 respondents (25.0%) have very poor muscle endurance.

The measurement results compared to the norm of muscle endurance with push-up test according to the sex of each respondent. The categorization results for muscle endurance of Bantul gateball players with push-up tests are presented in Table 10 below.

Table 10. Muscle endurance test result (*push up*) of Bantul gateball players

No	Push up Test Results	Category
1.	9	Very Poor
2.	30	Very Poor
3.	10	Very Poor
4.	25	Very Poor
5.	17	Very Poor
6.	17	Very Poor
7.	16	Very Poor
8.	31	Very Poor
9.	8	Very Poor
10.	38	Moderate
11.	28	Very Poor
12.	36	Moderate

Table 11. Muscle endurance test result (*push up*) of Bantul gateball players

No	Category	Total	Percentage
1.	Very Good	0	0,0%
2.	Good	0	0,0%
3.	Moderate	2	16,7%
4.	Poor	0	0,0%
5.	Very Poor	10	83,3%
Total		12	100,0 %

Based on Table 11, it can be seen that of the 12 Bantul gateball players, there are 2 respondents (16.7%) have a moderate level of muscle endurance and 10 respondents (83.3%) have very poor level of muscle endurance.

Description on Flexibility Test Result

Flexibility measurements are conducted by Sit and Reach method. The result of measurement is compared to the norm of flexibility tests according to sex and age category of each respondent. The results of categorization for flexibility of Bantul gateball players are presented in Table 12 below.

Table 12. Measurement result for flexibility of Bantul gateball players

No	Test Results for Flexibility	Category
1.	12,5	Moderate
2.	23	Very Good
3.	21	Very Good
4.	16,5	Moderate
5.	22,5	Very Good
6.	19,5	Good
7.	22,5	Very Good
8.	18,5	Good
9.	20	Good
10.	22,5	Good
11.	21	Good
12.	18	Moderate

Table 13. Flexibility test results of Bantul gateball players

No	Category	Total	Percentage
1.	Very Good	4	33,3 %
2.	Good	5	41,7 %
3.	Moderate	3	25,0 %
4.	Poor	0	0,0 %
5.	Very Poor	0	0,0 %
Total		12	100,0 %

Based on Table 13 it can be seen that of the 12 players gateball Bantul, there are 4 respondents (33.3%) have a very good level of flexibility, 5 respondents (41.7%) have a good level of flexibility, and 3 respondents (25.0%) have a moderate level of flexibility.

Description on Research Result of Body Composition

Body composition is the composition of the body which is described as two components, body mass index and body fat.

1. BMI (Body Mass Index)

BMI is the determination of ideal weight or healthy weight that now is widely used for adults, over 18 years. Measurements are performed by using the anthropometric data that includes weight (kg) and height (m). The results of the categorization of body mass index for 12 Bantul Gateball Players are presented in Table 8 below.

Table 14. Measurement results for body mass index of Bantul gateball players

No	Height	Weight	Result	Category
1.	176	72	23,18	Normal
2.	172,5	84	28,26	Overweight
3.	160	64	24,96	Normal
4.	166	72	26,16	Overweight
5.	158	61	24,56	Normal
6.	168	58	20,62	Normal
7.	167	76	27,29	Overweight
8.	158	64	25,76	Overweight
9.	161	78	29,90	Overweight
10.	158,5	58	23,17	Normal
11.	155	68	28,10	Overweight
12.	159	59	23,22	Normal

Table 15. Body mass index test result of Bantul gateball players

No	Category	Total	Percentage
1.	Thin	0	0,0%
2.	Normal	6	50,0%
3.	Fat	2	16,7 %
4.	Overweight (+)	4	33,3 %
Total		12	100,0 %

Based on Table 15, it can be seen that of 12 Bantul Gateball players, there are 6 respondents (50.0%) have a body mass index in the normal category, 2 respondents (25.0%) are

categorized in the category of fat in body mass index and fat 4 respondents (25.0%) are categorized in the category of overweight in body mass index. It can be concluded that the majority of survey respondents have a body mass index in the normal category and no one has a body mass index in the category of thin.

2. Fat

Fat percentage is measured by skinfold caliper at the Triceps, Biceps, Sub scapula and Suprailica. The results of categorization for fat percentage of 12 Bantul Gateball players are presented in Table 16 below.

Table 16. Measurement result for fat percentage

Category	Total	Percentage
Poor	0	0%
Normal	0	0%
Overweight	12	100,0%
Total	12	100,0%

(Prima, 2011)

Based on Table 16, it can be seen that the 12 players, all respondents (100.0%) belong to the category of overweight in terms of fat percentage.

Measurement of physical fitness levels associated with health (health related fitness) can be done by using some measurement components. In this study, the measured component includes Rockport cardiorespiratory endurance test methods, muscle strength by measuring the strength of the back muscles and leg muscles, muscle endurance with the test method of sit up and push up, flexibility with the methods of Sit and Reach, and body composition by using body mass index and fat percentage.

The results of this study indicate that the general level of physical fitness related to health (health related fitness) and body composition of Bantul gateball players in general are in the category of poor, the unpredictable result. It is what caused the achievement of Bantul gateball players is unstable. The low level physical fitness and body composition can be happened since most of Bantul gateball players are over 40 years old. The increasing age will be followed by a decline in organ function that can affect the physical activity. In addition, players gateball Bantul who have busy activity as a teacher lead to a lack of regular exercise to maintain fitness physical condition, so that the level of physical fitness and body composition will also decrease. Therefore, it is necessary to exercise regularly to improve fitness levels as expected. As expressed by Djoko Pekik Irianto (2000: 13), that the success of any fitness achievement is determined by the portion of practice that is applied to the concept of FIT (Frequency, Intensity and Time).

Conclusion

Based on the research results on the level of physical fitness related to health (health related fitness) from Bantul gateball players, it can be concluded as follows.

1. Cardiorespiratory endurance for the average Bantul gateball player is at 39.32 ml.kg/minutes. The study concluded that of the 12 Bantul gateball players, there are 6 respondents (50.0%) have a survival rate of poor cardiorespiratory endurance and 6 respondents (50.0%) have a survival rate of very poor cardiorespiratory endurance and there is no one who has the very good, good, and moderate level of cardiorespiratory endurance.
2. The strength of the back muscles for the average Bantul gateball players is at 141.71 kg. The study concluded that of the 12 players, there are 7 respondents (58.3%) have a good level of back muscle strength, 3 respondents (25.0%) have poor level of back muscle strength, and 2 respondents (16.7%) have a moderate level of back muscle strength. Average leg muscle strength for Bantul gateball players is at 151.72 kg. The study concluded that out of the 12 players, there are 3 respondents (25.0%) have a very good level of leg muscle strength, 6 respondents (50.0%) have a good level of leg muscle strength, 2 respondents (16.7%) have a moderate level of leg muscle strength and 1 respondent (8.3%) have poor level of leg muscle strength.
3. Muscle endurance of Bantul gateball players with sit ups test shows an average of 28.58 times as many reps. The study concluded that out of the 12 players, there are 2 respondents (16.7%) have a moderate level of muscle endurance, 7 respondents (58.3%) have poor muscle endurance level and 3 respondents (25, 0%) have very poor muscle endurance level. Muscle endurance of Bantul gateball players with push-up tests show an average of 22.08 times for its repetition. The research results for back muscle test push-ups conclude that out of 12 players, there are 2 respondents (16.7%) have poor level of muscle endurance and 10 respondents (83.3%) have very poor muscle endurance level.
4. Flexibility of Bantul gateball players as measured by the method of Sit and Reach gains an average of 19.8 cm. The results of 12 gateball players Bantul show that there are 4 respondents (33.3%) have a very good level of flexibility, 5 respondents (41.7%) have a good level of flexibility, and there are 3 respondents (25.0 %) have a moderate level of flexibility.
5. The body mass index for Bantul gateball players is at 25.43. The study concluded that there are 6 respondents (50.0%) have a body mass index in the normal category, 2 respondents (25.0%) have a body mass index in the fatty category and 4 respondents (25.0%) have a body mass index in the overweight category.
6. The body composition of Bantul gateball players shows the percentage of total fat percentage at 61.5%. The study concluded that the entire respondents (100.0%) have excess fat in the category of overweight.

References

- BaliGatebal Community.(.....). Permainan Gateball. <http://gateball.wordpress.com/equipment/>
- Djoko Pekik Iriyanto. (2000). *Panduan Latihan Kebugaran*. Yogyakarta: Lukman Offset.
- Ensiklopedjas. (2012) *Contoh Macam-macam Tes Pengukuran Kekuatan (Strength)*. di unduh pada 2012/11 dalam *pendidikan jasmani13.blogspot.com*
- Gilbert WG, (1997). *Flexibility and its effects on sports injury and performance*. Sport Medicine.
- Prima (2011). *Pelatihan Tenaga Laboran Keolahragaan Program Indosesia Emas Menuju Juara Umum Sea Game XXVI 2011*. Kemenpora: Jakarta.
- Suharjana.(2012). *Diktat KuliahKebugaran Jasmani*. Program Studi S2 Ilmu Keolahragaan. Program studi Pascasarjana Universitas Negeri Yogyakarta.