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International Seminar of
Sport Culture and Achievement

ISSCA2014
PROCEEDINGS

"Global Issues of Sport Science & Sport Technology Development"

Diterbitkan Oleh:
Fakultas Ilmu Keolahragaan
Universitas Negeri Yogyakarta

International Seminar of Sport Culture and Achievement

"Global Issues of Sport Science & Sport Technology Development"

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Editor
Saryono, M.Or.
Soni Nopembri, M.Pd.
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Satya Perdana, S.S.

Design & Lay Out
Sugeng Setia Nugroho, A.Md.

Secretariat:
Yogyakarta State University, Indonesia Telp: +62274 550307
Email: issca_2014@uny.ac.id - Website: seminar.uny.ac.id/issca2014

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24 April 2014

Preface

Salam Olahraga!

Praise and be grateful to the Lord, so that this proceeding can be issued. The International Seminar of Sport Culture and Achievement with "Global Issues of Sport Science & Technology Sport Development" theme is held on 23rd- 24th April 2014 at Yogyakarta State University Hotel. The seminar is conducted by Faculty of Sport Science, Yogyakarta State University.

The seminar was conducted in order to enliven the 50th anniversary of Yogyakarta State University.The Seminar aims at revealing any growing sport potentials and recent worlwide research results. There are three pillars of sport: recreational sports, physical education/ sports pedagogy, and ellite sport that in common have one goal to form characters and support achievement.

Hopefully, the publication of this proceeding can bring benefits to the participants in particular and readers in general. Final words for all those who have helped this seminar, we thank you.

Dean of Faculty of Sport Science
Yogyakarta State University,

Drs. Rumpis Agus Sudarko, M.S.

Preface

Assalammualaikum Warrah Matullahi Wabarakatuh

The honorable speakers, Prof. Dr. Djoko Pekik Irianto, M.Kes. AIFO (Deputy of Achievement Improvement of Sport and Youth Ministry), Dr. Wayne Cotton (Australia), Dr. Jose Vicente Garcia Jimenez (Spain), Dr. Achara Soachalerm (Thailand), Dr. Lim Peng Han (Singapore), and Dr. Gunathevan A/L Elmulai (Malaysia). The distinguished guests.

First of all, on behalf of the committee of the International Seminar of Sport Culture and Achievement, let me express great thank to God Allah SWT who gives us opportunity and health, so that we can join this international seminar on sport culture and achievement. it is my pleasure to welcome you to the International Seminar of Sport Culture and Achievement in Faculty of Sport Science Yogyakarta State University.

The international seminar is in order to celebrate the 50th anniversary of Yogyakarta State University. In this opportunity, we invite five speakers from five countries; they are from Spain, Australia, Thailand, Singapore, and Malaysia. The participants of the seminar are 250 participants.

Finally, allow me to express my gratitude to all audiences, especially the honorable speakers and the distinguished guests for paying attention to this seminar. I hope that the seminar will run well and be successful.

Thank you very much.

Wassalamualaikum Warrahmatullahi Wabarakatuh

Yogyakarta, 24rd April 2014
Chairman of ISSCA,

Dr. Panggung Sutapa, M.S.

CONTENT

THE FIELD OF LECTURERS EXPERTISE BASED ON SPORT SCIENCE DEVELOPMENT

Bambang Priyonoadi[1], Saryono[2], & Soni Nopembri[3]

Faculty of Sport Science, State University of Yogyakarta

Abstract

This research is motivated by not clearly identified areas of lecturer expertise at the Faculty of Sport Science Yogyakarta State University based on the sport science development. Therefore, research needs to be done to get an idea of the field of lecturer expertise distribution at the Faculty of Sport Science Yogyakarta State University in the context of the sport science development. The study is descriptive quantitative research. The data source was taken from various documents totaling 106 lecturers of Faculty of Sport Science Yogyakarta State University scattered in Sports Education Major, Coaching Education Majors, and Health and Recreation Education Majors. Data collection techniques by documents tracing (documentation) related to lecturers expertise on the employment office, such as: certificate of Employment and Occupation, Certificate Degree, Certificate of Teaching/learning, and others. This research uses documentation sheet as an instrument to help researcher's data collecting. Data analysis is used percentage techniques. The results of this study illustrate that lecturers expertise of faculty of sport science Yogyakarta State University scattered in the main theoretical dimensions of sport science as many as 76 people (72 %), a specific theoretical field of sport science as many as 11 people (10 %), the field theoretical emerging of sport science as one person (0.9 %), and sports discipline (sports branch) as many as 18 people (17 %). These results imply that the lecturers who have expertise in the field of main theoretical dimensions, theoretical emerging field and the field of sports disciplines aligned to be more specific field studies to provide maximum contribution to the development of sport science.

Keywords: expertise, lecturers, science, sports.

INTRODUCTION

University is the highest education unit in knowledge development. In fact university is educated society (including lecturers, students and technical employees in college area) that have tasks to advance man's prestige and cultures by research, learning and service, that could be given to local society, national, regional and international (F. Soesianto, 2013). According to that fact, learning and dedication to people is known as "Tri Dharma" of Higher Education.

Yogyakarta State University (YSU) that owns faculty of sports science is unique, because only few numbers of universities have sports field. The development of dynamic sports is one of the challenges to Faculty of Sport Science which is part of Yogyakarta State University (YSU). The development of sports science as an acknowledged knowledge is not easy. Existence of knowledge depends on sensitive investigation the lecturers do.

The numbers of lecturers in faculty of Sport Science are 106 that divided into 3 majors. The majors have different characteristic, they are Sports Education Major, Coaching Education Majors, and Health and Recreation Education Majors. Lecturers with various skills have important role to support each majors. This situation causes sports as specific knowledge so that each lecturer able to develop anything about body and sport education as an interesting knowledge. However, the development that happens about sports profession association and supporting knowledge in sports field are very complex and specific. The complexity and specification itself are going to be an interesting knowledge about necessity of lecturer's mapping to classify specification.

According to national sports policy by National Sport System of Laws declares that sports consist of 3 sections; sport or body education; achievement sport; recreation sport. On the other hand, tree of sports becomes the base starting point of division of sport expertise. From that policy lines support of specific sport knowledge have important role. Development of sport knowledge in Indonesia is related to the western education. It is because originally the knowledge is taken from western culture that has been spread to Indonesia. Dynamic and great development can make sport knowledge interesting to discuss. Some established sport fields like medical sport, pedagogy sport, psychology sport are some specific expertise fields.

To adopt knowledge that is made as foundation to map lecturer's expertise, FIK UNY needs to be examined to know how deep lecturers' expertise according to their works and publication they have done. This lecturers mapping becomes one of the main key for the development of FIK UNY which are directed and will be useful toward lecturers' placement system in teaching, doing research and dedication to people. Therefore, it is needed to do a research which able to see the lecturers' interest toward developing specific sports knowledge so it can be seen the gradation of knowledge they have. According to that, so it is needed to do a research which describes lecturers' expertise of FIK UNY according to sport knowledge development.

LITERATURE REVIEW

Lecturer as profession actually directed to efforts done by instructor as a realization from educators and students role in university (Yusuf Sayyid Mahmud, 2009). Therefore, development of lecturers' professionalism means large efforts to upgrade competence, learning quality and instructor academic role in university. Education experts declare several of opinions about this profession development program. According to J.G. Gaff and Doughty, quoted by Miarso, there are three efforts related to one another, they are instructional development (ID), organization development (OD), and professional development (PD). Bergquist and Philips said that lecturers' development is main part of institutional development, which covers part of personal development, professional development, organization development and people development. Meanwhile Nur Syam said, lecturers profession development covers four competences, they are: Pedagogical competence or lecturers' skill to manage learning, Personal competence or authority standard, maturity and leadership, Professional competence or lecturers' skill to master content and learning methodology, and Social competence or skill to do social communication to students or society.

Sport as a knowledge is being admitted and constructed formally in Indonesia is still new, that is since 1999 when High Education Department, National Education Department formed Sports Knowledge Discipline Commission as 13th Knowledge Discipline Commission, beside other 12 Knowledge Discipline Commission had constructed by Knowledge Consortium. Before Sports Knowledge Discipline Commission was formed, formally the existence belonging to Education Knowledge that was constructed by Education Knowledge Consortium (Sugiyanto, 2001). Result of sport knowledge had arranged in knowledge structure as one of academic discipline structure or knowledge discipline. With same material object and formal, it turns out to be made up knowledge structure and the knowledge discipline terminology leans to be different in every country (Sugiyanto, 2001).

.Sports knowledge is basically the root of knowledge include multi dimension life and human life. Life and human life are always in birth dimension, growth, and death; physical dimension, mental, and emotion; biologic dimension, personal, and behavioural; individual and social dimension; time and space dimension; natural dimension, humanist, and cultural (Sugiyanto, 2001). Sports knowledge study about sport phenomenon, and the human who do it, Therefore sports knowledge has complex dimension along with human existence complexity. Sports Knowledge develops from predecessor knowledge that study about human and dimensions, by focusing to learn about human who do sports activity, the sports they do and anything with it. Sports knowledge is also known as systematic and organized knowledge about sports phenomenon that is formed by scientific research system. Knowledge discipline stands

alone actually Sports Knowledge can be supported by ontology study, epistemology, and class axiology and can be accountable. Anthology study is done to answer question about actual object in sports study which is considered unique and it is not learned in other knowledge discipline. Epistemology study is done to answer question about how the way and study system that is used to develop sports knowledge. Whereas axiology study is done to answer question about what is the real value which sports knowledge has given for human's benefit (Sugiyanto, 2001).

Study about sport body of knowledge, according to Herbert Haag concept in Sugiyanto (2001), can be identifies existence of 3 bodies of knowledge dimensions, they are: 1) theoretical dimension; 2) knowledge dimension; and 3) sport discipline dimension. Sport theoretical dimension covers: Sports Philosophy, Sports Biomechanics, and Medical Sports. Beside other 7 established theory fields, there are other more specific developing theories, they are: Motor Learning, Motor Development, Play Theory, Movement Theory, Training and Coaching Theory. The theories that is developing include: Sport management, Sport infrastructure, Sport Industry, Sport communication and mass media, Sport Economy, Sport Law, and Sport Politics.

RESEARCH METHOD

This research is Quantitative Descriptive research by main data collecting documentation method. Descriptive research gives image of certain condition and indication. The image of condition that is mentioned is lecturers' skill field according to sport science development. Variable in this research is lecturers' skill field according to sport science development. Operationally this variable can be definite as a special skill which is owned by FIK lecturers in efforts to develop sport science discipline that is acquired with kinds of information by biographical data, promotion, and fields that they are particularly interested in. This research is a population research so that researchers use all research subjects. The subjects of this research are 106 FIK's lecturers which divided into three majors, they are: Sport Education Majors (POR), Coaching Education Majors (PKO), and Health and Recreation Education Majors (PKR). Instrument of this research are documents and biographical data related to education, occupation and grade data, skill fields, teaching, research and publication, and dedication to people (PPM). Data collecting technique is done with documents research in administration analysis section using data quantitative analysis with percentage.

RESEARCH RESULT

Lecturers of FIK UNY's Expertise according to the Main Theoretical Dimensions of Sport Science

According to table 1 above it can be concluded that 76 persons (72%) of FIK UNY's lecturers have expertise field include theoretical sport knowledge. POR has 25 persons or (51%) of POR's lecturers that expert in sport theoretical knowledge. PKL has 28 persons or (93%) of PKL's lecturers that expert in sport theoretical knowledge. PKR has 23 persons or (85%) of PKR's lecturers that expert in sport theoretical knowledge. Sport pedagogy theory field has highest percentage in POR majors (35% of POR's lecturers) and PKL majors (70% of PKL's lecturers). Sport Medical theory has the highest percentage in PKR (48% of PKR's lecturers).

Table 1. Lecturers of FIK UNY's Expertise According to The Main Theoretical Dimensions of Sport Science

		POR		PKL		PKR	
		F	%	f	%	f	%
the main theoretical dimensions of sport science	Sport Philosophy					1	4
	Sport History					1	4
	Sport Pedagogy	17	35	21	70	6	22
	Sport Psychology	1	2	1	3		
	Sport Sociology	2	4.1	1	3		
	Sport Biomechanics	1	2	2	7	2	7
	Sport Medical	4	8.2	3	10	13	48
		25	51	28	93	23	85

Lecturers of FIK UNY's Expertise according to Specific Theoretical Field of Sport Science

According to table 2 above, it can be concluded that 11 persons or (10%) FIK UNY's lecturers have expertise field include in specific sport science theory. POR majors have 6 lecturers or 12% of POR's lecturers with specific sport science theory field expertise. PKL majors have 2 lecturers or 7% of PKL's lecturers with specific sport science theory field expertise. PKR majors have 3 lecturers or 11% of PKR lecturers with specific sport science theory field expertise. In POR majors there are lecturers that have specific sport science theory field expertise in movement field, motor development, and play theory. In PKL major there are lecturers that have sport science theory field expertise in motor development and exercise theory. In PKR majors there are lecturers that have sport science theory field expertise in movement study and exercise theory.

Table 2. Dissemination Lecturers of FIK UNY's expertise According to Specific Theoretical Field of Sport Science

		POR		PKL		PKR	
		f	%	f	%	f	%
Specific Theoretical Field of Sport Science	Motor Learning	2	4.1			1	4
	Motor Development	2	4.1	1	3	1	4
	Play Theory	2	4.1				
	Movement Theory						
	Training and Coaching Theory			1	3	1	4
		6	12	2	7	3	11

Lecturers of FIK UNY's Expertise According to The Field Theoretical Emerging of Sport Science

Table 3. Lecturers of FIK UNY's Expertise according to recently developing Sport Science Theory Field Dimension

		POR		PKL		PKR	
		f	%	f	%	f	%
the field theoretical emerging of sport science	Sport management					1	4
	Sport infrastructure						
	Sport Industry						
	Sport Communication and Mass Media						
	Sport economy						
						1	4

According to table 3 above it can be concluded that 1 person or (0.9%) of FIK UNY's lecturers has recently developing sport science theory expertise. The lecturer in the PKR major is Sport management field expertise.

Lecturers of FIK UNY's Expertise according to Sport Discipline Dimension (Sport branches)

Table 4. Lecturers of FIK UNY's Expertise are according to Sport Discipline Dimension.

		POR		PKL		PKR	
		f	%	f	%	f	%
Sport Discipline Dimension (Sport Branches)	Badminton	1	2				
	Swim	2	4.1				
	Takraw	1	2				
	Gymnastic	3	6.1				
	Athletics	2	4.1				
	Table tennis	2	4.1				
	Volleyball	2	4.1				
	Soccer	3	6.1				
	Softball	1	2				
	Basketball	1	2				
		18	37				

According to table 4 above it can be concludes that 18 persons or (17%) FIK UNY's lecturers have expertise field include sport discipline dimension or sport branches. Those lecturers are in POR majors (37% of POR's lecturers). PKO and PKR majors do not have lecturers in Sport Discipline Dimension and sport branches.

DISCUSSION

Result of the research shows that FIK UNY's lecturers have the expertise which is appropriate to the Sport Science development. Currently, FIK UNY owns 106 lecturers which is divided into three majors, they are: POL, PKL, and PKR. From 106 lecturers, 76 of them (72%) have skill in Sport Science Main Theory field Dimension, 11 lecturers (10%) have skill in Sport Science Specific Theory Dimension, 1 lecturer (0.9%) has skill in developing Sport Science Theory field Dimension, and 18 lecturers (17%) have skill in Sport Discipline dimension (Sport branches).

The result of the reach also shows that most of FIK UNY's lecturers have expertise in Sport Science Main Theory field Dimension. In this dimension most of POR and PKL lecturers have skill in Sport Pedagogy. This is because body education and exercise field have the basic of pedagogy in developing education subject. This means that body and exercise education have the same strong education circumstances so that lecture's expertise development in this field is needed to be done specifically according to each learning field. For example expertise field in body education is to develop body education curriculum, body education learning technology, body education model, etc. While expertise field in exercise are development exercise program, exercise method, etc.

There are FIK UNY's lecturers that have expertise in sport science specific theory field dimension, like motor study, motor development, play theory, and exercise theory. Expertise field development in specific theory dimension is really needed so that lecturers able to do specific tri dharma as well. In developing sport science theory field dimension, FIK UNY has a lecturer mainly in sport management field development. FIK UNY is expected to be forerunner to develop lecturer's expertise in developing theory dimension. It is really needed because development of sports is not only developing main knowledge but to be harmonized with the requirements of people so that the knowledge is getting wider and specific.

There are FIK UNY's lecturers who have expertise in sport discipline field dimension. According to Sugianto (2001:7), Sport discipline dimension covers kinds and branches of existed sports as: Athletic, Gymnastic, Martial arts, Swim and Fancy diving, Soccer, Basketball, Volleyball, Handball, Badminton, Table tennis, Tennis, etc. There are 49 sport achievement branches and many kinds of healthy sports, sports for disables, exploring nature sport, and traditional sports. This means that is permitted that lecturers have this kind of expertise dimension, however lecturers better to have more specific expertise so that it is easier to the lecturers to develop their expertise.

CONCLUSION

Lecturers are human resources that have high demand value in academic area. This is because lecturers have very specific expertise or competence in certain field. Lecturers' professionalism development is started with special expertise field the lecturers' have. This Lecturers' professionalism development is very important to develop quality of universities in Indonesia. Development program that should get priority is lecturers' professionalism development as main element of university. FIK UNY's Lecturers' expertise development is needed to be done so that sport science field can be leant especially by each lecturer so though contribution toward university becomes more real. FIK UNY's lecturers' expertise development can be done in sport science main theory fields dimension, sport science specific theory fields, and developing sport science theory field. Expertise in sport discipline dimension is expected to be more specific in the knowledge field.

REFERENCES

[1] Komisi Disiplin Ilmu Keolahragaan. 2000. *Ilmu Keolahragaan dan Rencana Pengembangannya.* Jakarta: Dewan Pendidikan Tinggi, Ditjen. Dikti. Depdiknas.

[2] Soesinato. 2013. *Hakikat Universitas*. www.te.ugm.ac.id/~fsoes/.../**Hakekat**%20**Universitas**.d. Downloaded in 17 Juli 2013.

[3] Sugiyanto. 2001. *Dimensi Kajian Ilmu Keolahragaan* (*Sport Science)*. Prodi Ilmu Keolahragaan, Pascasarjana Universitas March eleventh.

[4] Yusuf Sayyid Mahmud. 2009. *Tathwir al-Ta'lim al-Jami'iy*. Cairo: Dar al-Kitab al-Masry al-Lubnaniy.

Teenagers or "Adolescence" (UK), is derived from the Latin "adolescare" which means to grow towards maturity. Maturity in this case is not just physical maturity, but also social and psychological maturity. Adolescent age limit according to WHO is between 12 to 24 years. According to the Indonesian's Ministry Of Health it is ranged between 10 to 19 years old and unmarried. According to BKKBN it is 10 to 19 years (Yani Widyastuti, et al, 2009). Adolescence is a period of transition characterized by a change in the aspects of physical, emotional and psychological. Adolescence, ie, between the ages of 10-19 years, is a period of maturation of the human reproductive organs and is often called puberty. The occurrence of sexual maturation or reproductive organs related to the reproductive system is an important part in the lives of adolescents that required special attention (Yani Widysatuti, et al, 2009).

Nutritional status is a state of equilibrium in the form of a particular variable (Nyoman I Dewa, 2002). Nutrition is a process by which organisms use food normally consumed by the process of digestion, absorption, transport, storage, metabolism, and release of unused substances to sustain life, growth, and normal functioning of the organs, as well as generating energy (Setiyabudi, 2007). Nutritional status is an expression of a state of equilibrium in the specific form, or the embodiment of nutriture in the particular form, endemic goiter is an example of unequal circumstances of the intake and release of iodine in the body (Setiyabudi , 2007). The Measurement of body mass index (BMI) includes: Height is a common indicator of body size and bone length . Weight is an anthropometric measure most widely used. BMI = (Weight (kg))/(Height ^ 2 (m)) . Based on the background of the problem, in order to provide an overview of this dysmenorrhea complaint that these female students of Sports Study have, therefore it is crucial to do some research about the relationship of nutritional status and dysmenorrhea complaint to the female students of Sports Study of Faculty of Sports Yogyakarta State University.

Definition of Dysmenorrhea

Some definitions of dysmenorrhea are:

a. Dysmenorrhea is pain during menstruation until it can interfere with daily activities - day (Manuaba, 2001).
b. Dysmenorrhea is pain in the lower abdomen or in the lower backs as a result of the movement of the uterus squeeze - squeeze (contraction) in an attempt to remove the shifted uterine lining (Faizah, 2000).
c. Dysmenorrhea is menstrual pain that is felt in the lower abdomen, and it appears before, during or after menstruation. The pain may be colicky or continuously. Dysmenorrhea arises due to irregular contraction of the myometrium layer that displays one or more symptoms ranging from mild to severe pain in the lower abdomen, buttocks area and the medial side of the thigh (Badziad, 2003).
d. Dysmenorrhea or menstrual pain is the usual gynecologic symptoms to find. Even women with dysmenorrhea tend to receive recurrent menstrual pain periodically that causes the patient to seek some kind of emergency treatment.

Classification of Dysmenorrhea

Menstrual pain can be classified based on the type of pain and the presence or absence of abnormalities that can be observed. Based on the type of pain, menstrual pain can be divided into spasmodic dysmenorrhea and congestive dysmenorrhea.

a. Spasmodic Pain

Spasmodic pain is felt in the lower abdomen before and during menstruation begins or it occurs shortly after menstrual periods begin. Many women are forced to lie down because it was too suffering so she cannot do anything. Some of those women even getting unconscious, felt very nauseous, and some of them even have to vomit. Most sufferers are young women although it also happens to 40 years old women or even older. Spasmodic dysmenorrhea can be treated or at least reduced with the birth of the first baby although there are many women who have not experienced anything like it.

Meanwhile, according to Potter (2006), the relative characteristics of this pain are in its severity or intensity of the pain. Clients often asked to describe the pain as mild, moderate or severe. Descriptive scale is a severity measurement tool that is more objective. Verbal Descriptor Scale (VDS) is a line consisted of 3-5 words. These descriptors are ranked from "no pain" to "unbearable pain". VDS tool allows clients to describe the pain. Pain scale should be designed so that the scale is easy to use and does not consume a lot of time when clients complete. If the client can read and understand the scale, then the pain would be more accurately described. This descriptive scale is very useful as it is not only able to assess the severity of pain, but also, evaluate the client's condition changes. Nurses can use the after therapy or when symptoms become much worse, they can assess whether the pain has decreased or increased (Perry and Potter, 2005).

The Nature of Nutritional Status

Nutritional status is an expression of a state of equilibrium in the form of particular variable or it can be said that nutritional status is a good indicator of poor provision of daily meals (Djoko Pekik Irianto, 2006: 65). According Soeharjo and Hadi Riyadi (1989: 27), the nutritional status is the signs or appearance caused by the balance between nutrient intake and energy release in one hand, on the other hand it is seen through indicators of weight and height. Djoko Pekik Irianto (2006: 65-66), wrote down that the nutritional status is the study that can be done directly and indirectly. As it can be done directly, it can be divided into four kinds that are anthropometric, biochemical, clinical, and biophysics. While it is done indirectly, it includes the examination of consumption surveys, vital statistics, and ecological factors. According to Djoko Pekik Irianto (2006 : 67), the measurements of nutritional status based on anthropometric criteria is considered as the most commonly used because it has certain advantages, among others, as it is the most convenient and practically done and it can be justified scientifically.

From the description above, it can be concluded that nutritional status is a state of a person as a result of consuming some foods and the process in the body and suitability of food nutrients consumed and needed by the body. The health condition of the child as an overview of the consumption of food substances that enter the body and its benefits, as a result, it can be seen from the height and weight of children, which is the best indicator for determining nutritional status. Assessment of nutritional status using the Body Mass Index (Body Mass Index) is the determination of a healthy weight that is widely used and applies to adults over the age 18. The calculations are as follows : Body weight (BW) Ideal BMI are at an interval of 20-25 , were overweight (overweight) have a BMI between 25-30 , while a BMI over 30 is called obesity. Having gained the BMI, then its nutritional status is categorized based on the BMI calculation results by means of tables consulted on the nutritional state of the body. Nutritional state of the body can be seen in the following table:

Table 1. Body Nutrition Circumstances (Djoko Pekik Irianto (2006: 74)

No.	Nutritional Status	Male	Female
1	Petite	<20.1	<18.7
2	Normal	20.1 to 25.0	18.7 to 23.8
3	Overweight	25.1 to 30	23.9 to 28.6
4	Obese	> 30	> 28.7
	Average	22.0	20.8

Research Design

This research is a research with the Mixed methods design because the data retrieval and data processing is done by two methods, both qualitative and quantitative conducted continuously. Quantitative calculation method performed on Nutritional status, whereas qualitative methods undertaken to explore complaints include dysmenorrhea complaints in particular level, kind of perceived complaints, how to overcome the dysmenorrhea complaints, and other things related to dysmenorrhea.

1. **Characteristics of Respondents**

Characteristics of female students of Sports Science Departemet Sports Science Yogyakarta State University as research subject are summarized in Table 4 below.

Table 4. Characteristics of study respondents (n = 30)

No.	Respondents Characteristic	Category	Frequency	
			f	%
1.	Age	• 17 – 18	7	23,3
		• 19 – 20	13	43,3
		• 21 – 22	7	23,3
		• >22	3	10,0
2.	Pain	• No Pain	1	3,3
		• Lightweight Pain	15	50,0
		• Moderate Pain	9	30,0
		• Heavy Pain	5	16,7
		• Unbearable Pain	0	0,0

2. Variable Description Research

a. Nutritional Status

The value of nutritional status from female students of Sports Science Departemet Sports Science of Yogyakarta State University in this study uses the Body Mass Index (Body Mass Index), which is the determination of a healthy weight that is widely used and applies to adults over 18 years old. From the analysis of the data with the help of computer software, it is gained central tendency values as follows: the average (mean) of 21.48; median 21.30; 20.3 mode; and a standard deviation of 2.288; and the lowest score of 16.0 and the highest 25.9.

Frequency distribution of the nutritional status of female students of Sports Science Departemet Sports Science of Yogyakarta State University based on the categorization scores are presented in Table 5. Below.

Table 5. Distribution Data Female Students of Sports Science Departemet Sports Science of Yogyakarta State University

No.	Weight Category	Interval	Frequency	
			f	%
1.	Skinny	< 20,1	4	13,3
2.	Normal	20,1 – 25,0	21	70,0
3.	Overweight	25,1 – 30,0	5	16,7
4.	Obesity	> 30,0	0	0,0
Total			30	100,0

Based on the frequency distribution above, it is noted that of the 30 female students of Sports Science Departemet Sports Science of Yogyakarta State University as research subjects; 4 (13.3%) were on the nutritional status of skinny categories; 21 (70.0%) normal; 5 (16.7%) are overweight; and none (0.0%) were obese student. Judging from the mean score obtained, amounting to 21.48 being the norm in the interval (20.1 to 25.0) normal category; as well as when viewed from the majority (70.0%) were in the normal category; thus it can be said that the nutritional status of female students of Sports Science Departemet Sports Science of Yogyakarta State University are in the normal category.

b. Dysmenorrhoea Complaints

2. Linearity Testing

Linearity testing is done with the help of computer software SPSS. Overall, the price of F (Deviations from Linearity) obtained indicates the price of F with p> 0.05, which means it does not deviate from linearity. Linearity test results can be seen briefly in Table 8 below.

Table 8. Summary for the Results of Linearity Relationship Test

Fungsional Relationship	F Deviation	p Value	Conclusion
Relationship between the nutritional status (X) and the dysmenorrhea complaints on female students of Sports Study of Yogyakarta State University in 2013 (Y)	2,486	0,139	Linear

Notes: F is F Deviation from Linearity, which means the deviation from linearity, if p> 0.05 means it does not deviate or linear.

Data Analysis and Hypothesis Testing

The hypothesis in this study is: "there is a relationship between the nutritional status and the dysmenorrhea complaint of female students from Sports Study of Yogyakarta State University in 2013". The hypothesis is the alternative hypothesis (Ha), for the purposes of hypothesis testing is converted into a null hypothesis (Ho), becomes: "there is no relationship between the nutritional status and the dysmenorrhea complaint of female students from Sports Study of Yogyakarta State University in 2013".

The above hypothesis was tested by using Product Moment relations and regression analysis. Data analysis used a computer software program SPSS for Windows. The calculation results obtained from table 9. Following:

Table 9. Coefficient Product Moment Correlation between Nutritional Status and Dysmenorrhoea Painful

Tested Variable	r_{XY}	p (sig.)	Specification
Nutritional Status (X) and Dysmenorrhea Complaints (Y)	-0,418	0,021	Significant

From the table above, it is noted that the product moment correlation coefficient (Pearson Correlation) between the nutritional status and the dysmenorrhea complaint of female students from Sports Science Departemet Sports Science of Yogyakarta State University in 2013 amounted rxy -0.418 with p (sig.) at = 0.021. Turns p < 0.05 ; and negative direction (-) ; thus Ho is rejected and Ha is accepted ; and concluded that there is a significant negative relationship between the nutritional status and the dysmenorrhea complaint of female students from Sports Study of Yogyakarta State University in 2013.

The significant negative correlation means the better the nutritional status, the lower the dysmenorrhea complaint of female students from Sports Study of Yogyakarta State University in 2013; and conversely the increasingly poor nutritional status (underweight), the higher the dysmenorrhea complaint of female students from Sports Study of Yogyakarta State University in 2013. To further corroborate these results, the data was also analyzed by regression analysis, regression analysis where the dependent variable is able to predict the top independent variables. Summary of the regression analysis can be seen below, as it can be seen in the attachment.

Table 10. Summary of Regression Analysis, Nutritional Status of Dysmenorrhea Painful of Female students from Sports Science Departemet of Yogyakarta State University

determined by factors outside of the study. Due to the negative relationship, then the effect is the decrease in complaints of dysmenorrhoea, meaning that the better nutritional status, the complaints are getting down.

CONCLUSION

Dysmenorrhea is pain due to menstruation and the prostaglandin production on pelvic areas. It is often initiated immediately after a first period (menarche). The pain is reduced after menstruation, but in some women may continue to experience pain during the menstrual period. The cause of the pain comes from the muscles of the uterus. Like all other muscles, the muscles of the uterus start to contract and relaxation. The contractions are getting stronger during menstruation. Contraction that occurs is caused by a substance named prostaglandins. Prostaglandins are made by the inner lining of the uterus. Before menstruation occurs, the substances are increased and when menstruation occurs, it gets the decreasing prostaglandin levels.

Dysmenorrhea typically occurs in adolescence, which is about 2-3 years after the first period. Secondary dysmenorrhea often begins to emerge at the age of 20 years old. Other factors that can aggravate dysmenorrhea are: 1) the uterus is facing backwards (retroverted), 2) lack of exercise. 3) psychological stress or social stress.

There was a significant negative relationship between the nutritional status and the dysmenorrhoea complaint on female students from Sports Study of Yogyakarta State University in 2013. Increasingly good nutritional status, the lower the dysmenorrhoea complaint on female students from Sports Study of Yogyakarta State University in 2013, and vice versa. Nutritional status is able to reduce the level of dysmenorrhoea complaint on female students from Sports Study of Yogyakarta State University at 17.5%; The low incidence and severity of symptoms of dysmenorrhea are also low in athletes and it can be caused by low levels of prostaglandins, which are caused by the high anovulatory cycles or changes in patterns of endocrine (reduction of LH, short luteal phase, estradiol/progesterone is low). In addition, athletes may have a high pain threshold. But psychological factors should also be taken into account regarding this dysmenorrhea. (Harzuki 2003, Fox 1993).

REFERENCE

[1] Anamika S, Devender T, Pragya S, Renuka S. Problems related to menstruation and their effect on daily routine of students of a medical college in Delhi, India. Asia Pac J Pub Health. 2008 [disitasi 21 Januari 2009] 20(3):234-41. Diunduh dari: http://aph.sagepub.com/cgi/content/abstract/20/3/234

[2] Arikunto, 2005, Prosedur Penelitian Suatu Pendekatan Praktik. Jakarta: PT. Rineka Cipta.

[3] Arifin, 2009. Nyeri Haid. Majalah Dokter Kita Edisi 7- th II-2009.

[4] Arisman. 2002. *Gizi Dalam Daur Kehidupan. Palembang*: Direktorat Jendral Pendidikan Tinggi Departemen Pendidikan Nasional.

[5] Calis KA, Popat VP, Dang DK, Kalantaridou SN. Dysmenorrhea [disitasi 21 Januari 2009]. Diunduh dari: http://emedicine. medscape.com/article/253812-overview 6. Bieniasz J, Zak T, Laskowska-Zietek A, Noczyska A. Causes of menstrual disorder in adolescent girls – a retrospective study. Endokrynol Diabetol Chor Przemiany Materii Wieku Rozw. 2006 [disitasi 21 Januari 2009] 12(3):205-10. Diunduh dari: http:// www.ncbi.nlm.nih.gov/pubmed/17020657.

[6] Dahono. 2001. *Gizi Dasar*. Bandung. Alfabeth.