



3rd ISoPH

PROCEEDING

**3rd INTERNATIONAL SYMPOSIUM OF
PUBLIC HEALTH**

2018



**“Challenging Public Health Roles
Towards Global Health Issues”**

**UNIVERSITAS AIRLANGGA
KAMPUS C MULYOREJO
SURABAYA**



**DOCTORAL PROGRAM
STUDY PROGRAM OF PUBLIC HEALTH
FACULTY OF PUBLIC HEALTH
UNIVERSITAS AIRLANGGA**

PROCEEDING

The 3rd International Symposium of Public Health (The 3rd ISoPH)

“Challenging Public Health Roles Towards Global Health Issues”

Surabaya, 31st Oktober – 1st November 2018



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FOREWORD

The 3rd International Symposium of Public Health (3rd ISOPH), was held at Wyndham Hotel, Surabaya, East Java, Indonesia from 31st October-1st November 2018. More than three-hundred attendees from 5 countries gathered to discuss research and applications in public health roles. The papers contained in this *Proceedings* cover a wide range of topics including: nutrigenomics and public health: the paradigm shift to disease prevention, tobacco use and dependence, health financing and health insurance, the application of ICT in health care, emerging and re-emerging infectious diseases: threats to human health, maternal and child health, primary health care, mental health, nutrition-enhancing as strategic investment, occupational health, environment health, health politics and policy, non-communicable disease, communicable disease and tropical disease, emerging and re-emerging disease, health service management, community resilience and public health practice, disaster management. The members of 3rd ISoPH Review Committee reviewed 290 abstracts and selected 73 papers published in ISBN publication. Preparation of these proceedings would not be possible without the assistance of 3rd ISoPH scientific committee. Thank you to Prof. Dr. Mohammad Nasih, SE., Mt., Ak., CMA (Rector of Universitas Airlangga), Prof. Dr. Tri Martiana, dr., M.S. (Dean Faculty of Public Health), Dr. Nyoman Anita Damayanti, drg., MS. (Coordinator of Doctoral Programme in Public Health) and Purwaningsih, S.Kp., M.Kes (Chair of 3rd ISoPH Organizing Committee) for their guidance and encouragement.

3rd ISoPH Committe

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**WELCOME MESSAGE
THE CHAIR OF ORGANIZING COMMITTEE**

Assalamu'alaikum Warahmatullahi Wabarakatuh

On behalf of the all committee members, I would like to thank all speakers, all conference committee, all participants, Wyndham Hotel, our sponsorships, our donors and to everyone who had contributed in many ways to ensure the success of this conference and all of whom have worked tirelessly on this conference.

The Conference is organized by Doctoral Program of Public Health, Faculty of Public Health, Universitas Airlangga, in collaboration with Universitas Ciputra, Universitas Muhammadiyah Malang, Universitas Muhammadiyah Purwokerto, Institut Ilmu Kesehatan Bhakti Wiyata Kediri and Universitas Nahdlatul Ulama Surabaya, Universitas Pekalongan. The aim of this symposium is to disseminate knowledge, share it to the public and develop ideas for policy makers, from various levels in addressing programs to global health issues.

Purwaningsih
Chair of Organizing Committee

**THE COORDINATOR OF DOCTORAL PROGRAM IN PUBLIC HEALTH
FACULTY OF PUBLIC HEALTH
UNIVERSITAS AIRLANGGA**

Assalamu'alaikum Warahmatullahi Wabarakatuh

Dear Colleagues,

I would like to thank all participants, conference committee, Co-Host, sponsors and all speakers who give their contributions in the 3rd ISoPH:

1. Prof. H. Mohamad Nasir, Ph.D, Ak, Ministry of Research, Technology and Higher Education of the Republic of Indonesia
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3. Prof. Dr. dr. Fachmi Idris, M.Kes, Social Security Administrator for Health, or BPJS Kesehatan
4. Prof. dr. Ali Ghufron Mukti, M.Sc., Ph.D., Directorate General of Resources for Science, Technology and Higher Education, Ministry of Research, Technology and Higher Education of the Republic of Indonesia
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7. Supawadee Thaewpia, RN., Ph.D, Boromarajonani College of Nursing Khon Kaen, Thailand
8. Widodo J. Pudjirahardjo, dr., M.S., M.PH., Dr.PH, Universitas Airlangga
9. Dr. Salmiah binti Md. Said, MD., M.Comm.Med, Department of Community Health, Faculty of Medicine & Health Sciences, Universiti Putra Malaysia

We applaud your contributions to public health. Appropriately themed “Challenging Public Health Roles Towards Global Health Issues”, our conference will address some of global health most critical issues, including: nutrigenomics and public health: the paradigm shift to disease prevention, tobacco use and dependence, health financing and health insurance, the application of ICT in health care, emerging and re-emerging infectious diseases: threats to human health, maternal and child health, primary health care, mental health, nutrition-enhancing as strategic investment, occupational health, environment health, health politics and policy, non-communicable disease, communicable disease and tropical disease, emerging and re-emerging disease, health service management, community resilience and public health practice, disaster management.

Dr. Nyoman Anita Damayanti, drg., MS
Coordinator of Doctoral Program in Public Health
Faculty of Public Health
Universitas Airlangga

WELCOME MESSAGE

**DEAN OF FACULTY OF PUBLIC HEALTH
UNIVERSITAS AIRLANGGA**

Assalamu'alaikum Warahmatullahi Wabarakatuh

The 3rd ISOPH is the third international symposium which is held annually by the Faculty of Public Health to improve knowledge and skills about public health issues, gain network with other health professionals as well as increase the number of scientific publications for students, lecturers and health professionals.

With the theme of the Conference is "Challenging Public Health Roles Towards Global Health Issues", we are hoping that the conference will gather the highest possible level of global health issues which can benefit not only Indonesia nations but also International area with regards to health policies and laws, global health finance and a political commitment to make health a priority.

With our sincere gratitude to the all-conference committee as well as to the Co-Host and sponsors, we would like to say thank you for attending the conference.

Prof. Dr. Tri Martiana, dr., M.S.

Dean

Faculty of Public Health, Universitas Airlangga

THE EFFECT OF QUARTET MENARCHE CARDS ON SANTRIWATI KNOWLEDGE ABOUT MENARCHE IN YAYASAN NURUL-HAQQ SIDOARJO

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Introduction: Menarche is the first menstrual period that can occur in the age range of 10-16 years or in the early teens. Menarche is a sign of a change in social status from children to adulthood. This change can lead to anxiety in young women, so it is necessary to be given the right health education to overcome these anxieties. The purpose of this study is to analyze the effect of quartet menarche cards on santriwati knowledge about menarche in Yayasan Nurul-Haqq Sidoarjo. **Method:** This research was a quasy experimental study with a pre-post test design without control approach. The study population was santriwati in Yayasan Nurul-Haqq Sidoarjo. The sample in this study were 38 santriwati in Yayasan Nurul-Haqq Sidoarjo who met the inclusion criteria as follows: 1) Experiencing puberty (age 10-16 years), 2) Physical and mental healthy, 3) Status as active santriwati. The research instrument used was an observation sheet. Data were analyzed by Wilcoxon Signed Rank Test Test. **Results:** The results of data analysis using the Wilcoxon Signed Ranks Test showed $p = 0.00$ ($p < 0.05$), meaning that there were significant differences in the level of santiwati knowledge before and after being given health education through the menarche quartet card game. **Conclusion:** Health education through the menarche quartet card game could increase santriwati knowledge about menarche in Yayasan Nurul-Haqq Sidoarjo.

Keywords: *santriwati, menarche, knowledge, health education, quartet menarche cards*

Introduction

Adolescence is a period of transition from childhood to adulthood which includes all developments such as physical, emotional, and social developments that will be experienced by young women as a preparation process into adulthood (Rumini & Sundari, 2004). In general, among the changes that occur during this period, physical change tends to dominate because it is one of the important characteristics of adolescent development. Physical changes that occur between boys and girls are very different, in boys physical changes are indicated by pubic stem growth (penis) and pubic sac (scrotum) or commonly characterized by wet dreams. Meanwhile, in girls, there is a change in the breasts and genitals (vagina) or usually marked by the appearance of first menstruation or menarche (Mar'at, 2005). These physical changes such as menarche will lead to anxiety in young women, so it is necessary to provide appropriate health education to overcome these anxieties (Wulansari, 2013). Health education is not always synonymous with lectures and questions and answers, nowadays many methods of health education are more interesting and not monotonous for example through games. One form of the game that can be used is playing a quartet card. This quartet card is modified according to the material to be provided so that it is expected that young women are more active and easy to receive material (Agustina et al., 2016).

According to 2010 Basic Health Research, in Indonesia Nationally the age of 13-14 years menarche occurs in 37.5 percent of Indonesian children. The average age of 11-12 years menarche occurs in 30.3 percent of children in DKI Jakarta, and 12.1 percent in West Nusa Tenggara. An anxiety that is often experienced by young women is anxiety when they face

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menarche. In the United States in 2003 the prevalence obtained from research on adolescent problems in dealing with puberty, results were obtained from 5-50% of adolescents experiencing premature anxiety (Ghozally, 2007). The results of a preliminary study at the Nurul Haqq Foundation in Sidoarjo showed that almost 70% of students did not know about menarche or menstruation for the first time. Some santriwati said that they had not received information regarding menarche. Based on Sudjana's research (2015) most students were anxious about facing menarche because of their lack of knowledge about menarche. This lack of knowledge results from the lack of information they receive related to menarche.

Puberty in women is characterized by the presence of the first menstruation or menarche. Menarche is the first menstruation that can occur in the age range of 10-16 years or in the early teens. Menarche is a sign of a change in the social status of children into adulthood, and the presence of other changes such as breast growth, hair growth in the pubic and axillary regions, and fat distribution in the hip area (Proverawati & Misaroh, 2009). Young women will have difficulty in dealing with the first menstruation if previously they have never known or talked about it with peers or their mothers. Lack of knowledge about menstruation in young women can have an impact on readiness in facing menarche (Wulansari, 2013).

According to the research of Utami and Mulyati (2008), most of the emotional reactions to first menstruation in young women are anxious and some are afraid. Only 10% of those who received menarche were feeling enthusiastic, curious and proud. The results of this study indicate that almost a number of young women respond negatively to menarche. Psychoanalytic observations show that psychological reactions during the first menstruation include a variety of negative shadows accompanied by unreal anxiety and fear, accompanied by feelings of guilt or sin which are all related to the menstrual process. Anxiety and fear are reinforced by the desire to reject these physiological processes. If this disorder continues and is not immediately treated, it can cause phobias or hypochondria to menstruate. Phobias or hypochondria that occur continuously will be able to affect several physical functions, such as sex hormones so that it can cause retention (cessation) in menstruation (Lubis, 2013).

Pre-menstrual anxiety can be reduced by providing appropriate information to young women. Sudjana's research (2015) shows that health education can reduce the level of anxiety in the face of menarche for female students in Semarapura 1 Junior High School. Media in counseling can help overcome obstacles in understanding and facilitate information delivery. The use of media that attracts attention is proven to make school-age children more easily understand the material presented. Quartet cards are better known as a form of card games played by two to four players and are very popular among children (Fatimah et al., 2013). The use of quartet cards can be applied in extension activities as an alternative effort to provide health information that aims to produce clean and healthy life behaviors (Agustina, 2016).

Method

This research is a quasi experimental study with a pre-post test design without control approach. The study population was santriwati in Yayasan Nurul-Haqq Sidoarjo. The samples in this study were 38 santriwati in Yayasan Nurul Haqq Sidoarjo who met the following inclusion criteria: 1) Experiencing puberty (age 10-16 years), 2) Physical and mental healthy, 3) Status as active santriwati. The research instrument used was an observation sheet regarding knowledge about menarche. Subjects were given a pre-test with a knowledge

questionnaire sheet, after which quartet card games were carried out divided into 4 groups, the winners were entitled to the prize. After the game is done, post-test with the knowledge questionnaire sheet is done. Data that has been collected is then processed using SPSS using the Wilcoxon Signed Rank Test.

Results and Discussion

The characteristics of research subjects are based on age as follows:

Table 1. Characteristics of students based on age at the Nurul Haqq Foundation in Sidoarjo

Age	Amount	%
9 years old	5	13,16
10 years old	10	26,32
11 years old	7	18,42
12 years old	8	21,05
13 years old	8	21,05
Total	38	100

Pre-test and post-test santriwati knowledge about menarche in Yayasan Nurul - Haqq Sidoarjo are as follows:

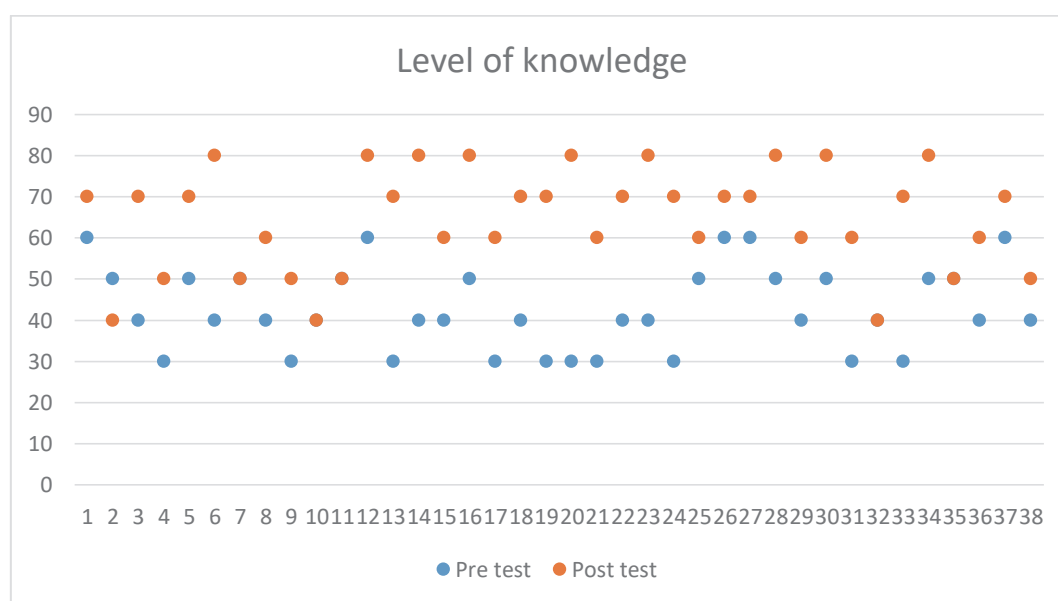


Figure 1. A diagram of santriwati knowledge about menarche before and after being given health education through the menarche quartet card game.

Figure 1. diagram shows that most respondents (86.8%) showed a lack of knowledge (values below 50). The comparison of the pre-test and post-test scores showed (84.21%) the post-test results were higher than the results of the pre-test. This shows an increase in knowledge of respondents after being given health education through the menarche quartet card game.

Table 2. Analysis of santriwati knowledge about menarche before and after being given health education through the menarche quartet card

	n	Mean ± SD	P
Pre test	38	42,11 ± 9,630	0,00
Post test	38	65 ± 12,681	

Based on table 2. shows the comparison of the results of the pre test and post test. After being analyzed by the Wilcoxon Signed Ranks Test, the santriwati' knowledge increased after being given health education through the menarche quartet card game with $p = 0.00$ ($p < 0.05$).

Knowledge is the result of knowing, and this happens after someone senses a particular object. Sensing occurs through the five senses of man, namely the senses of sight, hearing, smell, taste, and touch. Most human knowledge is obtained through the eyes and ears (Notoadmodjo, 2007). Knowledge in the cognitive domain has 6 levels, namely; know, understand, application, analysis, synthesis, evaluation. Knowledge measurement can be done by interview or questionnaire that asks about the content of the material that wants to be measured from the subject of the research or the respondent (Notoatmodjo, 2007). In this study, santriwati's knowledge of menarche was measured using a list of questions about menarche. This list of questions is given before (pre-test) and as easy as (post-test) health education is given through the quartet card game method. The results of observations and interviews for all students understood the purpose of the questions in the questionnaire so that students were able to answer all questions (not counting right or wrong).

The knowledge of most students about menarche is lacking, this is shown from the results of the pre-test which showed 86.8% of students did not know menarche (under 50). The results of the interviews were conducted with a number of female students and showed that they did not understand what was first menstruation, what to do. During this time they only knew blood from the genitals. Menarche is the first menstrual period that can occur in the age range of 10-16 years or in the early teens. Menarche is a sign of a change in social status from childhood to adulthood, and other changes such as breast growth, hair growth in the pubic and axillary regions, and distribution of fat in the hip area (Proverawati & Misaroh, 2009). Menstrual events are influenced by several factors that have a separate system, namely the central nervous system with its five senses, the hormonal system of the hypothalamic-pituitary-ovarian axis, changes that occur in the ovary, changes that occur in the uterus as the final organ, and stimulation of estrogen and progesterone in the five senses, directly to the hypothalamus, and through emotional changes (Manuaba, 2010).

Changes that occur cause anxiety in adolescents, plus information about menarche is considered taboo if given to children. This lack of information about menarche resulted in a low level of knowledge about menarche (Sudjana, 2015). The results of the pre-test of santriwati's level of knowledge about menarche show that most of the santriwati do not know about menarche. When interviewed with a number of santriwati, they said that all this time they lacked information about menarche. They get information from peers, and the information obtained is the only word of mouth and is not detailed. This sometimes makes them anxious about facing menarche. Anxiety and fear are reinforced by the desire to reject the physiological process. If this disorder persists and is not immediately overcome, it can cause phobias or hypochondria to menstruate. Phobias or hypochondria that occur continuously will affect some physical functions, such as sexual hormones so that they can cause retention (cessation) in menstruation (Lubis, 2013).

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Menarche knowledge can be improved by providing information in the form of health education regarding menarche. Health education is not always in the form of counseling, because it is considered too monotonous and boring. An interesting alternative method of health education is quartet card games. This quartet card is also quite effective because it is cheap, easy to use, and simple. Quartet cards are a paired 4 card game. Played by 4 children. This game consists of 8 sets of cards with a total of 32 cards (according to the theme). This game is done by collecting 4 cards with the same theme, resulting in a pair of 4 quartet cards (Fatimah et al, 2013). Some female students had no difficulty in playing menarche quartet cards. They understand every instruction given by the researcher. The game can run smoothly, even all students ask to keep repeating the game because they think the menarche quartet game is very interesting. As revealed by Sudjana (2001) effective media is a medium that is practical, students are easy to use, can develop the creativity of teachers and students, can develop the quality of human resources, cheap, and become the main facility in the teaching and learning process. Menarche quartet cards are quartet card games that are usually played by children, in which there is information about menarche material.

Menarche quartet card games proved to be able to increase students' knowledge about menarche, indicated by the results of the analysis using the Wilcoxon Signed Ranks Test ($p = 0.00$). As much as 84.21% of the level of knowledge of female students increased after being given health education through quartet card games. Mufidah's research (2015) proves that health education through quartet card games can increase knowledge and change in hygienic and healthy behavior in elementary school students in Surabaya. This is in line with the opinion of Aserani (2012) which states that quartet card media is a form of game that uses media with its playing techniques relatively similar to ordinary quartet games (which are often played by children and adolescents), the difference lies only in content from the quartet card game.

Conclusion

Most of the students at Nurul Haqq Sidoarjo Foundation have less knowledge about menarche. The level of knowledge about menarche in santriwati increased after being given health education through the menarche quartet card game. Subsequent research is expected to analyze the attitudes of female students after being given health education through the menarche quartet game, so that not only their knowledge increases, but it is expected that the attitude of the santriwati also changes. Health education using the quartet card game method can continue to be developed as an alternative method of health education that is not monotonous and not boring.

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