



PROCEEDINGS

The 4th International Conference on Sustainable Innovation (ICoSI) 2020

Cutting Edge Innovations for Sustainable Development Goals

Universitas Muhammadiyah Yogyakarta (Indonesia)

October 13 - 14 2020

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Focal Conferences



- ✔ (ICPU) The 2nd International Conference on Pharmaceutical Updates
- ✔ (ICOMS) The 6th International Conference on Management Sciences
- ✔ (ICLAS) The 9th International Conference on Law and Society
- ✔ (ICMHS) The 4th International Conference Medical and Health Sciences
- ✔ (ICAF) The 6th International Conference for Accounting and Finance
- ✔ (ILEC) The 2nd International Language and Education Conference
- ✔ (ICONURS) The 2nd International Conference on Nursing
- ✔ (ICITAMEE) The 1st International Conference on Information Technology, Advanced Mechanical and Electrical Engineering
- ✔ (IConARD) International Conference on Agribusiness and Rural Development
- ✔ (ISHERSS) The 2nd International Symposium on Social Humanities Education and Religious Sciences
- ✔ (ICONPO) The 10th International Conference on Public Organization
- ✔ (DREAM) The 5th Dental Research and Exhibition Meeting
- ✔ (ICHA) The 5th International Conference on Hospital Administration
- ✔ (ICOSA) The 3rd International Conference on Sustainable Agriculture





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Preface by the Chairperson of the 4th ICoSI 2020



Dr. Yeni Rosilawati, S.IP. S.E., MM.

Assalamu'alaikum Wr. Wb.

All praise is due to Allah, the Almighty, on whom we depend for sustenance and guidance. Prayers and peace be upon our Prophet, Muhammad SAW, his family and all of his companions.

On behalf of the organizing committee, it is my pleasure and privilege to welcome the honourable guests, distinguished keynote & invited speakers, and all the participants.

With the main theme of “Cutting-Edge Innovations on Sustainable Development Goals (SDGs)”, the 4th International Conference on Sustainable Innovation (ICoSI) 2020 serves as a forum to facilitate scholars, policy makers, practitioners, and other interested parties at all levels from Indonesia and abroad to present their novel ideas, promote cutting-edge research, and to expand collaboration network. The conference has about 1373 participants participating from more than 8 countries 4 continents all over the world, making this conference a truly international conference in spirit.

This multidisciplinary conference was first held in 2012 and has undertaken various changes and adopted to the current technological trends of our education system. From having this conference with just 175 participants back in 2012 we have come a long way in making the conference a huge success with more than 1373 participants participating in this two-day conference.

Formerly, this conference consisted of only 9 (nine) focal conferences. This year, there are 14 focal conferences from various disciplines, namely: 1) The 2nd International Conference on Pharmaceutical Updates (ICPU), 2) The 6th International Conference on Management Sciences

(ICoMS), 3) The 9th International Conference on Law and Society (ICLAS), 4) The 4th International Conference Medical and Health Sciences (ICMHS), 5) The 6th International Conference for Accounting and Finance (ICAF), 6) The 2nd International Language and Education Conference (ILEC), 7) The 2nd International Conference on Nursing (ICONURS), 8) The International Conference on Information Technology, Advanced Mechanical and Electrical Engineering (ICITAMEE), 9) The 2nd International Conference of Agribusiness and Rural Development (IConARD), 10) The 10th International Conference on Public Organization (ICONPO), 11) The 2nd International Symposium on Social Humanities Education and Religious Sciences (ISHERSS), 12) The 5th Dental Research and Exhibition Meeting (DREAM), 13) The International Conference on Hospital Administration (ICHA), and 14) The 3rd International Conference on Sustainable Agriculture (ICoSA).

Accordingly, We are proud to announce that this year, the 4th ICoSI 2020 breaks the Museum Rekor-Dunia Indonesia (MURI) record as the Virtual Multidisciplinary Conference with the Largest Number of Area of Fields in Indonesia

In addition, this year, this conference holds special value since this is the first conference in the history of our university where the entire conference is taking place remotely on a digital platform through the use of advance technologies due to the Covid-19 Pandemic.

I would take this opportunity to express my highest respect to the Rector of Universitas Muhammadiyah Yogyakarta, Dr. Gunawan Budiyanto who gave approval and ensured the maximal support from all the faculty members of Universitas Muhammadiyah Yogyakarta (UMY) that made this event a big success. In addition, my appreciation goes to all the support teams who have provided their valuable support and advice from planning, designing and executing the program.

Let me conclude my speech by encouraging the delegates to participate with an increasing number in all the activities and discussions through the digital platforms for the next two days. I wish everyone a successful, safe, and fruitful conference.

Thank you!

Wassalamu'alaikum Wr. Wb.

Yogyakarta, Indonesia, 14 October 2020



Welcoming Remarks by the Rector of Universitas Muhammadiyah Yogyakarta



Assoc. Prof. Dr. Gunawan Budiyanto

Innovation is the beginning of the development of technology, and technology is a development machine that is expected to provide benefits to humans and provide the smallest possible impact on environmental quality. In the concept of sustainable development, development must improve the quality of human life without causing ecological damage and maintain the carrying capacity of natural resources.

International Conference on Sustainable Innovation (ICoSI) is an international conference which is an annual conference held by the University of Muhammadiyah Yogyakarta (UMY), Indonesia. In 2020 this raises the issue of "Cutting-Edge Innovations on Sustainable Development Goals." Therefore, on behalf of all UMY academics, I would like to congratulate you on joining the conference, hoping that during the Covid-19 Pandemic, we can still provide suggestions and frameworks for achieving sustainable development goals.

About The 4th International Conference on Sustainable Innovation (ICoSI) 2020

Cutting Edge Innovations for Sustainable Development Goals

The 2030 Agenda for Sustainable Development is enacted by the United Nations as a shared blueprint for peace and prosperity for people and the planet, now and into the future. It consists of strategies to improve health and education, reduce inequality, and spur economic growth while also conserving natures by 2030.

This year, however, at the first one-third of its timeline, the SDG Reports shows that the outbreak of COVID-19 did hinder the achievement, or at least decelerate the progress of achieving the 17 goals. In fact, according to the report, “some number of people suffering from food insecurity was on the rise and dramatic levels of inequality persisted in all regions. Change was still not happening at the speed or scale required”, accordingly.

Therefore, in this event of pandemic, the quantity and quality of research, innovation, and more importantly multi-disciplinary collaboration are indispensable. Furthermore, there needs to be clear ends of those works. That is how those research are applicable and benefits directly to the society. That is how those research is incorporated as the drivers of policy making, and used practically in the society. Hence, the stakeholders especially the triple helix of higher education institution, government, and industry must be re-comprehended and supported to reach the common goal of the SGD.

International Conference on Sustainable Innovation (ICoSI) has been essentially attempting to strengthen this regard since its first establishment. One of the goals of ICoSI is to provide primarily a platform where scholars, practitioners, and government could grasp the development and trends of research. Hopefully, meeting these actors altogether would result in stronger collaboration, sophisticated and advantageous research, and brighter ideas for further research. Based on these reasoning, this year, the 4th ICoSI 2020 UMY is themed ‘Cutting-edge Innovations for Sustainable Development Goals’.

Improving from last year conference which brought nine focal conference, this year ICoSI 2020 UMY brings 14 disciplines, from social sciences, natural sciences, and humanities. ICoSI 2020 received as much as 1005 papers. The paper works submitted in ICoSI 2020 UMY will be published in Atlantis Proceedings, IOP Proceedings, National/International Journals, and ICoSI ISBN-indexed Proceedings.

Nevertheless, ICoSI believes that publication is only the beginning of research dissemination. The publications will enhance the chance of the research known by wider audience, and then used, applied, and incorporated at either system, institutional, or personal level of human lives.



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TRACK ECONOMICS, LAW, EDUCATION, SOCIAL, AND HUMANITIES



Family Support for Type 2 DM Patients in Controlling Blood Sugar levels in Kebonsari Surabaya

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ABSTRACT

Diabetes mellitus is a chronic disease that requires long-term treatment to control the stability of blood sugar levels. The success of controlling blood sugar levels is influenced by several things including family support. Family support is defined as a form of interaction between family members that can provide physical and psychological comfort. The purpose of this study was to get deep understanding of the meaning of family support for type 2 DM patients in controlling blood sugar levels. This research is a qualitative research with a phenomenological approach. Participants in this study were 15 people with type 2 DM. Data collected in the form of records from in-depth interviews and field notes. In-depth interview recordings were made with verbatim transcripts and analyzed using Open Code 4.02 method. The results of this study identified 2 (two) themes, namely information and financial support. Information support received by type 2 DM patients in the form of information related to the rules of adhering to diet, exercise and medication. Financial support in the form of costs for treatment. The recommendations of this study are the importance of education to improve family knowledge and skills in providing maximum support for people with type 2 diabetes to control blood sugar levels to avoid complications

.Keywords: Family Support, Type 2 DM, phenomology

1. INTRODUCTION

Diabetes mellitus (DM) is a chronic metabolic disorder characterized by persistent hyperglycemia. It may be due to impaired insulin secretion, resistance to peripheral actions of insulin, or both. Type 2 diabetes mellitus (T2DM) accounts for around 90% of all cases of diabetes. In T2DM, the response to insulin is diminished, and this is defined as insulin resistance. During this state, insulin is ineffective and is initially countered by an increase in insulin production to maintain glucose homeostasis, but over time, insulin production decreases, resulting in T2DM. (Zheng Y, Ley SH & Hu FB, 2018).

The population of diabetes mellitus increases from year to year. WHO estimates that, globally, 422 million adults over 18 years of age were living with diabetes in 2014. The largest number of people with diabetes are estimated to come from Southeast Asia and the West Pacific, accounting for about half of the world's diabetes cases (WHO, 2016). International Diabetes Federation estimates that that it will increase to 11.1% in 2045 where Indonesia ranks 6th after China, India, the United States, Brazil, and Mexico with 10.3 million people with diabetes mellitus (IDF, 2017). Clients of Diabetes mellitus in Indonesia also continued to increase up to 8.4 million in 2013, which means that 1 in 40 people suffer from diabetes mellitus and this figure is predicted to continue to exceed 21.3 million by 2030 (Infodatin Kemenkes RI, 2018).

Riskesdas (2018) showed that an increase in the prevalence of diabetes at the national level, from 6.9 percent in 2013 to 8.5 percent in 2018. The incidence of diabetes in East Java also increased, from 2.1 percent in 2013 to 2.6 percent in 2018.

Type 2 diabetes mellitus is a chronic disease that requires continuous management even for life to prevent further complications. Perkeni (2015) states that there are five pillars of the management of type 2 diabetes mellitus, namely the education, medical nutritional therapy (diet), physical exercise, pharmacological therapy and monitoring of blood sugar levels. Proper socialization regarding the control program for diabetes mellitus is one of the factors that influence the success of diabetes mellitus management. The successful management of type 2 diabetes mellitus also requires the client's active role and family support. The family is a subsystem in the community that is responsible for diabetes mellitus clients (Friedman, Bowden, & Jones, 2003).

Family support is attitude, action and acceptance family to their family members who are always supportive ready to provide assistance and assistance if needed. In terms of these family support recipients will know that there are others who cares for, appreciates and loves him. The family has several types of support, namely instrumental, assessment, emotional, financial and spiritual support (Friedman, 2010). Family support that can be given includes providing motivation and healthy food and sports facilities for clients of type 2 diabetes mellitus, as well as

encouraging them to comply with treatment programs and controlling blood sugar levels.

Stanhope and Lancaster (2012) state that community nurses have an important role in seeking diabetes mellitus clients as vulnerable populations to obtain health services and develop programs in response to their needs. Community nurses can carry out nursing care through the assessment process until implementation is in accordance with the client's needs for diabetes mellitus. Stanhope and Lancaster (2012) stated that community nurses focus on prevention of diabetes mellitus and health promotion and maintaining client health. This goal can be achieved by community nurses developing three prevention levels, namely primary, secondary and tertiary.

2. METHOD

This research is a qualitative research with a phenomenological approach. The phenomenological qualitative approach was chosen with the aim of exploring client experiences related to family support in controlling blood sugar level for client type 2 diabetes mellitus.

The researcher is an instrument for collecting data (Cresswell, 2010). The researcher conducted a trial interview of three participants before the research data collection began. Other data collection tools used by researchers in this study are interview guides, field notes and digital recording devices. The researcher collected participant data with the help of interview guidelines. The application of ethical principles in this study is autonomy, beneficence and maleficence, confidentiality, and justice (KNEPK, 2005). In-depth interviews were carried out within 30 - 60 minutes for each participant. Furthermore, the interviews were made verbatim transcripts and analyzed using the Open Code 4.02 method to produce sub-themes and themes.

3. RESEARCH RESULT

Participants consisted of eleven women and four men. The age characteristics of participants involved during this study varied, the youngest age was 47 years and the oldest was 65 years. The fifteen participants consisted of five widows and ten married. Participant education consisted of six high school graduates, three junior high school graduate and six college graduate. Participant work is divided into five people as housewives and ten people are retired. The duration of type 2 DM patients varies, at least 3 years to 12 years.

This study identified the essence of family support related to controlling of blood sugar levels of type 2 diabetes. Family support obtained includes information, instrumental and financial support. Type 2 DM clients have received family support in controlling the disease. This is illustrated by the participant's statement as follows:

3.1. Information Support

"Even though my child is far away, he often call, give advice, don't be late for medicine, check regularly, take care

of food" (P7)

"My wife often reminds me to take care of food, reduce sugary foods and drinks when I am at work"(P2)

"My child often reads about the complications of DM, namely foot wounds that are hard to heal, so I have to be diligent in exercising, dieting and taking medication obediently"(P13)

3.2. Instrumental Support

"My husband always checks my blood sugar, if he notice that i am not feeling well, we have the blood sugar checker." (P2)

"I live with my son, he always provides food for the sugar diet, always reminds me when i am not obedient"(P9)

"My husband bought me a blood sugar checker so I can check it any time"(P15)

"I have a stasis bike at home, i have to exercise every day, so I can reduce my blood sugar level"(P1)

3.3. Financial Support

"My child always buys my medicine, he pays too" (P6)

"Even though my son lives out of town, he often sends me money to see a doctor"(P5)

"I have a BPJS and my child pays the dues, so if I go to the hospital/ public health i don't have to pay anymore" (P3)

"My husband is busy at work so he can only give money for me to buy blood sugar medicine"(P11)

4. DISCUSSION

Families are two or more people who are united by a bond of togetherness and emotional ties and identify themselves as part of the family. Roles in the family are defined as behaviors associated with someone who holds a certain position in a family (Friedman, Bowden & Jones, 2003). The role of the family is very important in family nursing which is manifested in the form of family support.

Family support is defined as a form of interaction between individuals that provides physical and psychological comfort through the fulfillment of the need for affection and security. Family support includes four dimensions, namely empathy, encouragement, facilities and participation. Families with members with type 2 diabetes mellitus must understand each of these dimensions because it involves perceptions of the existence and accuracy of support (Hensarling, 2009).

The family support felt by participants in this study included information, instrumental and financial support. Support for information received in the form of advice or information related to the need to comply with the rules of diet, exercise and treatment. Support for instruments in the form of infrastructure to support DM care programs such as providing blood sugar check tools and assistance with daily home activities. Financial support in the form of assistance with medical expenses, starting to deliver a check-up to a

health care center to buy the appropriate anti-diabetes medication.

All participants in this study lived with their families, both with their spouses or children according to their roles. Roles in the family are defined as behaviors associated with someone who holds a certain position in a family (Friedman, Bowden & Jones, 2003). The role of the family is very important in family nursing which is manifested in the form of family support.

Ismonah (2008) explains that family support has a relationship with self-management, where patients who get family support have a 10-time chance of self-management. Adequate family support for clients of chronic disease type 2 diabetes mellitus will have a positive impact on the quality of life of clients. Yusra's research (2010) at Fatmawati Hospital Jakarta stated that family support is one of the factors that has a strong relationship with the quality of life of type 2 DM clients. Meanwhile, Jin, Dong, Dong and Min (2012) studies in Korea resulted in overall negative impacts in type 2 DM patients on their quality of life due to the absence of family support.

The success of the diabetes mellitus management program is independently supported by the active role of clients and families, and can be achieved with health education by health workers who are quite effective in changing the behavior of clients and their families (Wu, 2007). As stated by Friedman et al. (2010) that the family support was the most important source of assistance in helping family members, including to change the family lifestyle. According to Perkeni (2015), an increase in the incidence of diabetes mellitus was related to lifestyle, therefore, family support was needed to overcome this problem.

Family support provided by families to type 2 DM patients plays a very important role in the management of diabetic treatment. Adherence in self-care management is carried out correctly and regularly, so the patient does not feel too burdened by diabetes but feels enthusiastic in carrying out daily activities, this will result in a good quality of life for patients (.

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Relationship Family Support with Menstrual Hygiene Behavior in Early Adolescents

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ABSTRACT

Adolescence is a period of change from the condition of children to adulthood, which includes development as preparation for entering adulthood. The cause of poor hygiene behavior is the lack of knowledge and information about hygiene behavior during menstruation. The purpose of this study was to determine the correlation between family support and hygiene behavior during menstruation in early adolescent. This research is a quantitative study, with a correlation study design with a cross sectional approach. The sampling technique in this study was a total sampling of 45 respondents. Data collection used Family Support questionnaire and Menstrual Hygiene Behavior questionnaire. Data analysis technique used *Kendall's Tau Test*. The results showed a correlation between family support and hygiene behavior during menstruation in early adolescent with the result p value of 0.000 with a significant level of 0.05. The conclusions of this study are family support with menstrual hygiene behavior in early adolescents that there is in a good categories as many as 35 students or 77.8%, Hygiene behavior during menstruation in early adolescent that there is in a good categories were 33 students or 73.3%.

Keywords : *Early Adolescents, Menstrual Hygiene Behavior, Family support.*

1. INTRODUCTION

Adolescence is a period of change from the condition of children to adulthood, which includes development as preparation for entering adulthood. Adolescence is divided into three groups, namely early adolescence (10-12 years), middle adolescence (13-15 years), and late adolescence (16-19 years) [2]. But overall, it can be said that the time when someone starts to be separated from their parents [1]. In Indonesia, the age group for adolescents is 10-19 years old. According to the National Family Planning Coordinating Board (NFPCB), adolescents are in the age range of 10-24 years [2]. In 2018 in Special Region of Yogyakarta (DIY), the number of female adolescents in the age range of 10-14 years is 15,754 people. The age of adolescents when they get their first menstruation is in the age range of 10-16 years and on average, they get menstruation at the age of 12 years and 2 months [3].

The cause of poor hygiene behavior is the lack of knowledge and information about hygiene behavior during menstruation. The result of a lack of knowledge about hygiene behavior during menstruation is disruption of reproductive health and has a history of RTI (Reproductive Tract Infection), and will have a negative impact on the future, such as infertility, ectopic pregnancy, and the possibility of cervical cancer [4]. According to the research of Nirwana [5], poor hygiene behavior during menstruation, namely laziness when changing sanitary napkins, not washing hands before and after changing sanitary napkins, and wrong washing from back to front, will result in bacteria growing on the sanitary napkin. the good self-care when menstruation

such as appropriate use of sanitary napkins namely wearing sanitary napkins no more than 6 hours or when full of menstrual blood [6].

Based on research conducted by Farid [7], the main factor affecting personal hygiene behavior during menstruation is family (mother). The results of UNICEF [2] show that young women will get the most knowledge and information about menstruation from mothers (57.6%), even get information from their friends (55.5%), and teenagers who get menstrual hygiene information from health workers only (22.9%).

Family support according to Green's theory is very influential on the development of young women because it is one of the motivating factors in implementing personal hygiene behavior correctly [7]. The better the family support provided to their children, the better the menstrual hygiene behavior will be. Forms of informational, instrumental, emotional support and the assessment given will affect the personal hygiene behavior of adolescents [8]. According to Lutfiati [8] state that respondents who received support from the family had good hygiene behavior, namely 66.4%, and those who did not get support from the family had behavior 45.2%. The purpose of this study was to determine the correlation between family support and hygiene behavior during menstruation in early adolescents.

2. RESEARCH METHODS

This research is a quantitative study, with a correlation research design, using a cross sectional approach. The total Sampling 45 adolescents and the sampling technique by using



total sampling. Data collection used Family Support questionnaire and Menstrual Hygiene Behavior questionnaire. Data analysis using Kendal's Tau test.

2. RESULT AND DISCUSSION

Respondents in this study were early adolescents who were already menstruating at Petinggen Yogyakarta State Elementary School, totaling 45 girls. The characteristics of the respondents in this study included age of the respondent, menarche, class, sources of information about reproductive health and parents' income.

Table 1. Respondent Characteristics

Characteristics		Frequency (n)	Percentage (%)
Age	11 years old	13	28.9
	12 years old	28	62.2
	13 years old	4	8.9
Total		45	100
Menarche	10 years	5	11.1
	11 years old	36	80.0
	12 years old	4	8.9
Total		45	100
Class	V	17	37.8
	VI	28	62.2
Total		45	100
Resources	Family	34	75.6
	Teacher	6	13.3
	Health workers	2	4.4
	Friend	3	6.7
Total		45	100
Income	≤ 1,000,000	5	11.1
	1,000,000 - 2,000,000	22	48.9
	2,000,000	18	40.0
	≥ 2,000,000	45	100

Source: Primary Data 2020

Based on table 1, it can be seen that the characteristics of respondents in this study were mostly 12 years old as many as 28 respondents (62.2%) and the age of menarche (first menstruation) was found in most children aged 11 years as many as 36 respondents (80.0%), class the most was class VI, namely 28 respondents (62.2%). Sources of information on reproductive health hygiene were mostly obtained from families as many as 34 respondents (75.6%), and the least sources of information from health workers were 2 respondents (4.4%). Most parents' income is 1,000,000-2,000,000 as many as 22 respondents (48.9%). From the data on the characteristics of the respondents, it can be concluded that most of the respondents were at the age of 12 years and most of the respondents had menstruation at the age of 11 years. Most respondents who have menstruated are in class VI, and most respondents get the most information about reproductive health from their families, and for parents' income, the most is between 1,000,000 - 2,000,000.

3.1. Family Support with Menstrual Hygiene Behavior in Early Adolescents

This research was conducted in early adolescents by distributing questionnaires in one meeting. Data were collected on February 27, 2020. The data in this study consisted of 2 variables, namely family support and hygiene behavior during menstruation. The research data obtained are then presented in the table as follows:

Table 2. Frequency of Family Support with Menstrual Hygiene Behavior in early adolescents

No.	Family support	Frequency (N)	Percentage (%)
1.	Well	35	77.8
2.	Enough	9	20.0
3.	Low	1	2.2
Total		45	100

Source: Primary Data 2020

Based on table 2, it can be seen that most of the respondents in this study had good family support, 35 respondents (77.8%), and low family support, namely 1 respondent (2.2%).

In this study the respondents were students in early adolescent. Based on the results of the analysis, it shows that 45 respondents who have experienced menstruation, most of the family support played a good role, namely 35 students (77.8%), while family support that played an adequate role was 9 students (20.0%), and family support played a role. less than 1 student (2.2%). This means that there are still 10 students (22.2%) who are not yet good and still need attention from teachers, health workers and from their families.

Family support played a good role as many as 35 respondents (77.8%), namely that family tasks are faced which are often carried out but there are some that are sometimes not done or given. Based on the results of the research, respondents still need support from family members, so that the family plays a role as the closest source of information in helping the development of girls.

According to the research of Lutfiati [8] show that one form of family support is an informational form such as providing advice, direction, and as a source of information to solve problems. Family health problems are interrelated and will affect each other between family members. Family as a health service unit in improving family health status. Therefore, family support is very supportive of achieving success in influencing girls' hygiene behavior in dealing with menstruation at home.

The results showed the characteristics of family support respondents based on parents' income. The highest percentage of income was 1,000,000-2,000,000 as many as 22 respondents (48.9%) with good family support as many as 35 respondents (77.8%). Many reproductive health problems occur in groups of people with low economic status or in rural areas.

The economic status of the family is related to the hygiene behavior during menstruation in children, meaning that the income of parents is very important in fulfilling the needs and in forming hygiene behavior during menstruation in children. An adequate income for parents will facilitate children's needs such as the

availability of sanitary napkins at home, the selection of cotton underwear (absorbs sweat) and can access the internet which can easily obtain information and insights on reproductive health. So that children can form good behavior in health care during menstruation [9].

The results of this study are in line with research conducted by Salangka [10] with the title the correlation between family support and the readiness of young women to face menarche at Kawangkoan State Junior High School 1. This study proves that there is a significant correlation between family support and the readiness of young women to face menarche at Kawangkoan State Junior High School.

3.2. Menstrual Hygiene behavior in early adolescents

The results of research on Menstrual Hygiene Behavior in early adolescents can be seen from the following table:

Table 3. Menstrual Hygiene behavior in early adolescents

No.	Hygiene Behavior	Frequency (N)	Percentage (%)
1.	Well	33	73.3
2.	Enough	11	24.4
3.	Less	1	2,2
Total		45	100

Source: Primary Data 2020

Based on the table 3 It can be seen that most of the respondents in this study had good menstrual hygiene behavior, namely 33 respondents (73.3%), adequate menstrual hygiene behavior, namely 11 respondents (24.4%) and lack of hygiene behavior during menstruation. respondents (2.2%).

Hygiene behavior during menstruation is an activity that is carried out to clean the external and surrounding genitalia [14] It can be concluded that hygiene behavior is a way of maintaining health and hygiene in the outer genital area of women during menstruation or after menstruation.

Research results based on tables 3 Menstrual hygiene behavior shows that from 45 students, 33 students (73.3%) have good menstrual hygiene behavior, 11 students (24.4%) have adequate menstrual hygiene behavior, and 1 student (2.2%) have poor menstrual hygiene behavior. This means that there are still (26.6%) who have poor menstrual hygiene behavior, and this should be paid attention to from those around them such as teachers, parents, and health workers who collaborate with the school.

According to the research of Retnaningsih [11], good menstrual hygiene behavior is paying attention to health, such as cleanliness of genital organs, paying attention to the frequency of changing sanitary napkins, and choosing the right underwear. Paying attention to cleanliness will have positive impacts such as avoiding irritation, feeling comfortable during activities, and increasing self-confidence [12].

The results of the study based on table 3 show hygiene behavior during menstruation based on the age of the respondents in early

adolescent, the highest percentage were mostly 12 years old as many as 28 respondents (62.2%), with good hygiene behavior during menstruation, 33 respondents (73.3%). Early adolescents in the age range (10-12 years) will begin to enter a period of attainment of maturity, with cognitive development that focuses on one's decision making [1].

The older a person gets, the level of understanding and thought patterns will develop as well. By stepping on adolescence, a good understanding and knowledge is needed to direct a person to good reproductive health behavior. The results of this study are in line with the research of Utami [13] because the older a person is, the more mature he is in thinking and seeking information, the more developed it will be. There is a wider range of information sharing from print, electronic, and local media regarding good hygiene behavior to maintain reproductive hygiene.

The results showed the hygiene behavior during menstruation based on Menarche (first menstruation) in early adolescent. The highest percentage of most children getting their first menstruation at the age of 11 years was 36 respondents (80.0%), with good category of hygiene behavior during menstruation 33 respondents (73.3%). Age greatly influences one's mindset and grasping power, especially early adolescents. The more a person gets older, the more his perceptive power and mindset will be developed, so that the information obtained or knowledge obtained will be more and more improved and will affect the behavior that a person will show. Lack of information and knowledge obtained by early adolescents about reproductive health problems will cause adolescents to not understand what to do when menstruation occurs. So that the unpreparedness of adolescents during menstruation will have a negative impact on hygiene behavior during menstruation [14].

Menstrual Hygiene behavior based on information sources in early adolescents, show the highest percentage most of them get information from the family as many as 34 respondents (75.6%) with good hygiene behavior during menstruation 33 respondents (73.3). The family is a group of people who live together, the function of a family itself is to control, change behavior, and serve as the closest source of information in helping girls prepare for puberty [15].

Parents in a family are the dominant source of information, and are able to provide information about reproductive health. Parents who have tertiary education will have a lot and good knowledge about reproductive health, so from an early age it is better for parents to start conveying important information. In addition, if parents have good communication with their children, it will make adolescents feel comfortable and be more active in finding out about reproductive health and will create good menstrual hygiene behavior in early adolescent [16].

According to the research of Indah Setiani [4], the cause of poor hygiene behavior, namely the lack of information and knowledge about hygiene behavior during menstruation. Lack of knowledge and information will result in such as triggering the growth of bacteria, causing irritation, abnormal vaginal discharge, and having a history of RTI (*Reproductive Tract Infection*). Will have bad effects in the future such as infertility, and the possibility of cervical cancer.

The results of this study are in line with research conducted by Farid [7], with the title the correlation between mother's role and the hygiene behavior of early adolescents experiencing menstruation at Padokan State Elementary School 1. This study proves that there is a correlation between the role of mothers and

the hygiene behavior of early adolescents who experience menstruation at Padokan State Elementary School 1.

3.3. Relationship Family Support with Menstrual Hygiene Behavior in early adolescents

Table 4. Cross Tabulation between Family Support and Menstrual Hygiene Behavior in early adolescents

Family support	Menstrual Hygiene behavior							
	Well		Enough		Less		Total	
	F	%	F	%	F	%	F	%
Well	30	66.7	5	11.1	0	0.0	35	77.8
Enough	3	6,7	5	11.1	1	2,2	9	20.0
Low	0	0.0	1	2,2	0	0.0	1	2,2
Total	33	73.3	11	24.4	1	2,2	45	100.0

Source: Primary Data 2020

Based on table 4, it is known that teenagers who get good family support have good menstrual hygiene behavior as many as 30 children. Meanwhile, 3 children who received adequate family support had good menstrual hygiene behavior.

Table 5. Kendall's Tau Correlation Test Results of the Correlation between Family Support and Menstrual Hygiene Behavior in early adolescents

Correlation Test	Correlation Coefficient Value	Results Sig.
Kendall's knows	0.528	0,000

Source: Primary Data 2020

The analysis results in table 5 with the Kendall's Tau correlation test obtained p value of 0.000 which means ($p < 0.05$), so statistically it was found that there was a correlation between family support and menstrual hygiene behavior in early adolescents. The results of this study indicate that the p value is less than 0.05, namely $p = 0.000$. So ($0.000 < 0.05$) can be stated that the hypothesis is accepted, and the correlation coefficient is 0.528, which means that the closeness of the correlation between these two variables is moderate.

Based on the table 5 The results of statistical calculations using the Kendall's Tau sign correlation obtained a value of 0.000, which means that the value ($p < 0.05$) So it can be concluded that the hypothesis is accepted, meaning that there is a correlation between family support and hygiene behavior during menstruation in early adolescent other words that family support influences hygiene behavior during menstruation. Based on the results of this study, it can be seen that most of the family support with hygiene behavior during menstruation, in good categories 35 respondents (77.8%), enough 9 respondents (20.0), and less 1 respondent (2.2%).

Based on these results it is concluded that There is a good category correlation between family support and menstrual hygiene behavior, namely 35 respondents (77.8%). Where family support plays a good role, it will have good menstrual hygiene behavior too, if family support plays a sufficient role, the child's menstrual hygiene behavior is also sufficient, and if students do not get family support, their menstrual hygiene behavior is lacking. It can be concluded that most adolescents have good family support and it is important for adolescents, because the support, knowledge and experience that families give to children can affect children's knowledge and reproductive health behavior [17].

Menstrual hygiene behavior in adolescents is strongly influenced by family support and mother's knowledge in providing correct reproductive health information so that young women can look after and care for their reproductive organs when menstruation occurs. Families, especially mothers, are expected to provide adequate information in order to increase information support in providing menstrual education to their children. It is hoped that the child's attitude must be active and critical in increasing knowledge and seeking information on reproductive health, especially menstruation so that children's behavior in the care of reproductive organs is also good [11].

Good menstrual hygiene behavior is to maintain body health, especially the cleanliness of reproductive organs. Behavior in maintaining cleanliness is generally the first to change sanitary napkins 3-4 times a day. The time to change the pads can be after bathing, after going to the bathroom, or every 4 hours. In addition, you should wash the genitals from the front (vagina) to the back (anus), with good care the child will avoid irritation, excess vaginal discharge, infertility and the possibility of cervical cancer. Previously, dry the reproductive organs first, this can reduce moisture and do not cause infection or irritation [4].

Second, wash hands after or before changing sanitary napkins. When replacing old pads with new ones, you should wash your hands to avoid germs or bacteria that can cause infectious diseases. In question numbers 1 and 2 in this research questionnaire, hygiene behavior during menstruation shows that the behavior of washing hands before and after changing sanitary napkins is 100%, which means that respondents have done well the act of washing their hands before and after changing sanitary napkins to avoid germs.

The third is bathing, during menstruation, the body may feel weak and lazy to move because the body will produce more estrogen hormone. This estrogen hormone will trigger a lot of sweat to be produced that will come out of the body during menstruation and an unpleasant aroma will come out from the body, so the body needs to be cleaned regularly to avoid bacteria. The results showed that 88.8% of respondents took bath 2 times a day while menstruating.

The fourth is to change your underwear regularly, it is highly recommended when menstruating. The results showed 84.4% of respondents changed their underwear at least 2-3 times a day during menstruation. According to the research of Indah Setiani [4], clean underwear will create a sense of comfort and avoid the risk of infection. In addition, the selection of underwear is to use cotton underwear that absorbs sweat easily to avoid disease in the genital area.

Based on the results of research, theory and support from previous research, it can be concluded that there is a significant correlation between the two variables of family support and menstrual hygiene behavior in early adolescent. Judging from the results of the description in table 5 which shows there are still

respondents who have good family support but adequate menstrual hygiene behavior, it can be concluded that family support is only one of the variables that influence, but there are still variables that influence menstrual hygiene behavior. Other variables that influence menstrual hygiene behavior are environment, education, experience and culture.

4. CONCLUSIONS AND SUGGESTIONS

The conclusions of this study are family support with menstrual hygiene behavior in early adolescents that there is a good categories as many as 35 students or 77.8% and Menstrual Hygiene behavior in early adolescents that there is a good categories were 33 students or 73.3%. There is a significant correlation between family support and menstrual hygiene behavior in early adolescents.

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