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Developing Premarital Education Application for Midwives at Puskesmas Around Semarang

Dewi Puspitaningrum Midwifery Program University of Muhammadiyah Semarang Semarang, Indonesia dewipuspita@uimus.ac.id Nuke Devi Indrawati Midwifery Program University of Muhammadiyah Semarang Semarang, Indonesia Indri Astuti Purwanti Public Health Program University of Muhammadiyah Semarang Semarang, Indonesia

Abstract—A family contributes a significant role in the family's health status. In a family, mother and children are considered to be susceptive. It relates to women and their prenatal, antenatal, postnatal, and the development of children. There are six programs of EMAS program, from the government's program which didn't include premarital service, one of the element to reduce the rate of maternal mortality. Maternal mortality ratio at Semarang reaches 77% during the postnatal period. It made Semarang in the second level right above Brebes in case of maternal mortality ratio or AKI. Therefore, technological development is needed to health workers, especially midwives, to give premarital education at Puskesmas with premarital education application. This research uses survey research methods. Survey research is one of the approaches used to obtain large-scale data. This study with a population of 37 coordinating midwives and conducted research using qualitative methods with a saturated sample conducted on 37 coordinating midwives in Puskesmas around Semarang. The research finding showed that the majority of coordinator midwives can give good response related to each application item about premarital education. In addition, the midwives mostly suggest the additional item for the application, especially in case of premarital education for men, the information about family planning program or KB, information about violence against women, the psychological status of bride and groom candidate, information about nutrition for fertility and pregnancy planning.

Keywords-application, education, premarital, development

I. INTRODUCTION

Family is one component in public health. A family has a significant role in the family's health status. In a family, mother and children are considered to be susceptive. It relates to women and their prenatal, antenatal, postnatal, and children development. This is the reason why mother and children get priority in term of health service. One of health indicator is the maternal mortality ratio (AKI) which was raised to 359 mortality per 100000 birth. The number was based the SDKI 2012. However, according to SUPAS 2015, the maternal mortality ratio was reduced to 305 per 100000 birth life. There were numbers of governmental program related to the problem. . The programs was EMAS which was established in 2012 to improve healthcare and better medical worker. In EMAS program, there were six programs which included pregnancy care, TT immunization care, antenatal and postnatal care, midwifery complication care, family planning care [1]. The program has not included premarital care as one of the factors of maternal death.

Besides, maternal mortality ratio around Semarang many caused by some factors, and most of it, (77%) was the bleeding during the postnatal period. That Semarang City in the second level right above Brebes in case of maternal mortality ratio [1]. Puskesmas is the health facility give primary care for public health in case of affordable preventive and promotion effort. The 37 Puskesmas around Semarang is the potential to reduce the maternal mortality ratio [1]. In terms of facilitating health workers especially midwives in giving the education, some instruments are needed such as leaflet and web as the implementation of technology to health education [5]. The web-based application are becoming popular recently as the accessibility offered for the couple to comprehend the premarital information [6].

II. METHODS

The research method used in this study is survey research. Survey research is one of the research approaches that is generally used for broad and extensive data collection. The population used was 37 coordinator midwives in 37 Puskesmas in Semarang City, samples taken were 37 coordinator midwives with saturated samples. This research approach is quantitative and qualitative, data analysis with description on coordinating midwives at 37 Puskesmas in Semarang City.

III. FINDINGS

The research finding was obtained by developing the webbased application for premarital education was decided based on some items about the premarital needs. Below are the items available on the premarital education web.



Fig. 1. The Homepage of Premarital Education Web

The premarital education web explained about the premarital information screening, prenatal, antenatal, and postnatal period, and the other thing needed to care about related to premarital information. A small dictionary about the medical term was attached to the application so that the bride and groom candidate are understand will the meaning of the words used [3].

After the socialization of the premarital education web, the evaluation of midwives who used the application was done. The suggestion was also accepted to find out the usage of the premarital education application. Here is the result of the evaluation.

| TABLE I. | MIDWIVES' COMPREHENDING LEVEL IN USING THE |
|----------|--|
| | PREMARITAL EDUCATION APPLICATION |

| No | Statement | Very Good | Good | Adequa te | Les s Ade qua te |
|----|---|--------------|---------------|--------------|------------------------------|
| 1. | The comprehension level in using the premarital education application | 6 (19%) | 26 (73.6%) | 5 (7.1%) | 0% |
| 2. | The Comprehension of the content on premarital education application | 8 (26.2%) | 24 (66.7%) | 5 (7.1%) | 0% |
| 3. | The Comprehension of information contained in the premarital education application | 7 (21.4%) | 26 (73.8%) | 4 (4.8%) | 0% |
| 4. | The Comprehension about the use of the application for in-depth information about the premarital check-up | 5 (14.3%) | 29 (83.3%) | 3 (2.4%) | 0% |
| 5. | The Comprehension of the use of the application for effective premarital counseling | 5 (14.3%) | 29 (83.3%) | 3 (2.4%) | 0% |
| 6. | The Comprehension of the efficiency of time in giving premarital counseling | 8 (26.2%) | 23 (64.3%) | 6 (9.5%) | 0% |
| 7. | The Comprehension about premarital information update | 7 (21.4%) | 26 (73.8%) | 4 (4.8%) | 0% |
| 8. | The Comprehension of the language used in the application | 5 (14.3%) | 27 (78.6%) | 5 (7.1%) | 0% |

In table 1 there are results that the understanding of the use of premarital education applications for premarital many responded well as many as 26 midwives (73.6%), understanding of the use of premarital education application content responded well to 24 midwives (66.7%), understanding the use of information content in premarital education applications as many as 26 midwives (73.8%) good response, understanding the use of premarital education applications for the depth of information about premarital examination as many as 29 midwives (83.3%) good response, understanding the use of premarital education applications will be effective for premarital counseling good response by 29 midwives (83.3%), Understanding the use of premarital education applications will be time efficiency in providing counseling for premarital good response by 23 midwives (64.3%), Understanding the use of premarital education applications will be updated and for updated information for premarital response both 26 midwives (73.8%), and understanding of the use of premarital education applications for the language used easied respons for information for premarital are good response by 27 midwives (78.6%).

The qualitative data from the interview with coordinator midwives at 37 Puskesmas, it was obtained that there were numbers of suggestion and wishes for the better application can be more advantage. Therefore, the resume input and improvement form the coordinator midwives were drawn in the table below:

 TABLE II.
 MIDWIVES' SUGGESTION AND WISHES FOR THE BETTER APPLICATION WITH MORE ADVANTAGE

| No | Midwives' Suggestion | Improvements |
|----|--|--|
| 1. | Need to add the education for groom candidate | Modified using some media including premarital education video |
| 2. | Develop and add some material about family planning | Add more information about the reproductive health of groom candidate |
| 3. | Add more information about violence against women and psychological material. | Attach the data about the premarital couple who has read the material to find out the number of respondents. |
| 4. | Simplify the language so that it can be used by common people | The material on the web can also be developed into leaflet and brochure. |
| 5. | Innovation | More information about nutrition |
| 6. | Keep up with the information update | |

From table 2, it was drawn that the suggestion for the application improvement can be used as the measurement for information update, especially in term of groom candidate, family planning, violence against women, the bride and groom candidate psychological state, information update, premarital education video, male reproductive health.

IV. DISCUSSION

From the finding above, it can be explained that the use of web-based application was very easy in the middle of rapid IT development and the improvement the internet user. People around the world can communicate without worrying about the geographical limitation. The application development is also in line with the recent trend of using web-based application about in providing the premarital education screening [2]. The content of this web application includes reproductive health, premarital screening, fertility, regular pregnancy check up, C-section administration, and postnatal period with mild preeclampsia and postpartum with mastitis, some points needed in premarital education, glossary, and consultation application [4]. In the western world, the characteristic age of the patient population who require the most medical support for longer durations is increasing. The current model for supporting health care is not sustainable for this greater need. Given that the web has emerged as a daily part of life for much of the western world, it may be one route to finding solutions that improve this situation. Commerce, education, entertainment and individuals have embraced the potential of the World Wide Web and seen revolutionary benefits in the way they operate. Indeed the users of the web have influenced the development of the web, co-creating it into the form that it exists today [10].

The others research that application was built in a web version that has several features so that users can get account access according to their respective roles. This web-based application was built using the Waterfall method, using the Hypertext Preprocessor (PHP) programming language and the Code Igniter Framework (CI). With the construction of this application it is possible for students to predict early illnesses and this application can help administrators about managing disease checks on students, doctors can manage consuls on student complaints and can help students know the disease and the overall results of diagnoses obtained [11]. So that this application can also be done in collaboration with doctors in solving premarital reproductive health problems.

By the information above, it was expected that the premarital couple found out the preparation for the marriage. The use of web-based application was considered to be effective and efficient in time as the midwives may use the application to deliver the premarital education which takes a role in identifying and modify the biomedical risk, behavior, and social status related to women's health and pregnancy. The preconception screening was the first step to define the health of mother and prospective children as early as possible, even before the ovulation process [8]. The preconception period care includes the period before the conception and between the conceptions that can begin within a period of two years before conception [9]. Besides, three more advantages for preconception care could be obtained by the medical worker by using the application. The advantages were risk factor screening, intervention recommendation to identify the risk, promote health and give health education [8]. The target for preconception screening was a person, couple, family, and people who susceptible to social and economic problems, the couple with the not good reproductive system, and a person with genetic risk such as thalassemia diabetes or epilepsy with the intervention given based on their need [9].

V. CONCLUSION

The application can be used by midwives at Puskesmas to implement premarital education, identify and modify biomedical risk, behavior, and social problem related to women health and pregnancy. The preconception screening is a first step to define the health of mother and children candidate in the very first stage, even before the ovulation process. Besides, three more advantages for preconception care could be obtained by the medical worker by using the application. The advantages were risk factor screening, the intervention recommendation to identify the risk, promote health and give health education by the development of the web-based premarital education application.

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ETHICAL CLEARANCE

The ethical issue of the Medical Research Bioethics Commission Of Medical Faculty Of Medicine University Sultan Agung Semarang Central Java Indonesia

CONFLICT OF INTEREST

No conflict of interest.

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