

Media Usage Mapping in Accessing Information on Reproductive Health among Adolescents in West Java

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Abstract--- *In Indonesia, BKKBN (National Family Planning and Population Board) is responsible for providing information related to reproductive health towards Indonesians, adolescents included. This research proposes a study on reproductive health literacy, attempting to map the adolescents' preferences of media and communication method related to dissemination of reproductive health information. This study aims to describe (1) the knowledge of reproductive health, (2) media preferences, (3) attitudes towards the media, and (4) communication behavior towards the media of adolescents in West Java. This study uses descriptive approach with a population of adolescents with a range of ages 18 to 24 years in West Java with a number of sample of 1006 respondents spreaded from all over West Java. This research employs a descriptive approach, with quantitative data obtained through questionnaire. The aim of this study is to map the patterns of information media usage behavior among adolescents in Java West. Through this research, an insight on the use of information media among adolescents when seeking reproductive health information is obtained. We believe that the findings can be used as a ground for policy making in optimizing information dissemination through the media to improve reproductive health awareness among adolescent.*

Keywords--- *Health Communication, Reproductive Health, Media Usage, Adolescent.*

I. INTRODUCTION

Unlike western education system that includes sex education as part of the formal/compulsory program, sex education or “reproductive health” (euphemism) in Indonesia is somewhat controversial due to the eastern cultural background that considers sex education as taboo, specifically for teenage and/or adolescence students [1]. Culturally, Indonesians believe that sex would comes ‘naturally’ after marital institution. As the largest population of Islam country, there is also a cultural barrier from the society about sex education from the Islamic perspective [1].

Only few education establishments allow sex education by allocating their resources to conduct the process formally. The policy from the Ministry of Education of Indonesia is to allow sex education to be explained in

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classes, through relevant subjects e.g. Biology, Religious Studies, Sociology [2, p. 2]. Delivery of the topic of sex education, is up to the teachers. Teacher are given freedom of the delivery process, provided with an abstract guideline on the topic of sex education from the local office of ministry of education [3].

The Youth, resort to self-teaching. That is a problem, since their references are pornographic matters, rather than resorting to more reliable/educative sources [4], [5]. Most of the references related to sexual and reproductive health are obtained through online materials that includes porn sites [5]. Studies also showed that students do not believe that they are currently being provided with adequate information/education concerning with the matter [4].

In Indonesia, BKKBN (Badan Koordinasi Kependudukan dan Keluarga Berencana; State Ministry for Population and Family Planning) is the responsible government institution for providing information related to reproductive health towards Indonesian youth. It is stated as one of the main objectives of BKKBN [6] which is to provide '*Progam Kesehatan Reproduksi Remaja*' (Reproductive Health Program on Youth). Unfortunately, due to limited resources, BKKBN is unable to provide enough education/information on reproductive health for Indonesian Youth, in a sense that enough information is comparable as compulsory education through public schools [7], [8].

The complexity of how teenagers interact with online media related to sexuality is has already been addressed, where various online platforms provide unique interactions with teenagers in respect to how they share and gain information on the matter (Stern, 2009). Challenges of sex education on global perspective has also been discussed [9]. Problems that is found in Indonesia, currently also exist in other countries, Asian countries, Africa, and Australia. The urgency of sex-education in schools for adolescent is always up for debate [10], [11]) and whether the content should be focused on the value or the reproductive health info also need to be addressed [12]

To have sexual-literacy is critical for youth everywhere, including in Indonesia, since sexual-literacy can be associated with better comprehension and behaviour [13]. BKKBN needs to address this matter, to answer the demand of sex education for youth in Indonesia. Although BKKBN is the governing body responsible for reproductive health literacy, issues and challenges related to reproductive health literacy is the responsibility of all Indonesian. Therefore, it is accordingly for academicians to also address this matter through researches to provide new insights that may contribute to the development of Reproductive Health Literacy in Indonesia. There are already plentiful of studies conducted by member of the academics with different perspectives, approached from multitude of knowledge disciplines. Health, communication, psychology, and educational studies predominantly address the matter of reproductive health literacy.

In a study of 100 students in Jatinangor, Sumedang, West Java, 71 respondents admitted to have seen pornographic materials, 41 respondents have downloaded porn videos, 39 downloaded porn images. 62 respondents believed that online pornographic materials affect their sexual behaviour, that includes masturbating, kissing, fondling, petting, and sexual intercourse [14, pp. 70–71]. As part of the lifestyle media consumption is believed to have great influence towards sexual behaviour [15, p. 30]. Media consumption is also considered as part of social factors that affects teenagers attitudes towards pre-marital sex [16] besides from parents control and peer group pressure.

In a research that studied young middle-class people in Jakarta, Yogyakarta and Palembang, showed that Indonesian youth are subject to two powerful, opposing influences in determining their sexuality. On one hand, the idealised morality portrayed through religion promotes a more conservative approach. On the other hand, Western influences, especially through the media, promote a more liberal approach [17].

A study of high school students in Baturaden and Purwokerto argued that media consumption as internal factors that influence personal attitudes towards sex, greatly affects sexual behaviour of the students [18]. Attitudes on pornographic media significantly correlated to pre-marital sexual behaviour in adolescents in a study on students in boarding houses in Bali [5], while students with negative attitudes towards pornographic media tend to disapprove pre-marital sex behaviour. A study on 65 students in the West Java rural areas indicated that internet media contributed the most towards reproductive health literacy and greatly affects sexual behaviour. Combined with peer-group communications, media usage related to pornographic materials really contributes to pre-marital sex behaviour [19]. Students with poor reproductive health literacy tend to be more permissive when accessing and posting online content related to sexual topics. They also believed that there aren't many online media which they can access to gain knowledge related to reproductive health [20]

II. LITERATURE REVIEW

A research by Susanto found that there was a significant positive relationship between attitudes towards pornography and sexual behavior. Positive attitudes towards pornography on premarital sexual behavior generally contribute 44% to premarital sexual behavior. The conclusion in this study is that there is a significant positive relationship between there is a positive relationship between attitudes toward pornographic media and premarital sexual behavior in adolescents. This means that the more positive the attitude towards pornography media, the higher the premarital sexual behavior in individuals. Conversely, individuals who have a negative attitude towards pornography media, the lower premarital sexual behavior in individuals. The attitude towards pornography in most research subjects (80.8%) was included in the positive category and 19.2% of the subjects were included in the negative category. Premarital sexual behavior research subjects 44.2% included in the high category, 32.7% included in the medium category and 23.1% included in the low category [5].

It is stated that media that is often used by adolescents are television, film, music, and magazines. Brown et al. believed that media is a strong factor in influencing adolescent sexual behavior. This is because the media often provides content and portraits about sexuality as a fun and risk-free thing. Content and portraits of sexuality are presented in the media in various ways. Mass media is also used as a means to convey information about reproductive health to adolescents. For the Republic of Indonesia, the body directly responsible for providing information about reproductive health is the BKKBN [21].

Sarwono states that adolescence is known as a stage of physical development where the human genitals reach the peak of maturity. The age range of adolescents according to Sarwono is at the age of 15-24 years[22]. Hurlock describes adolescence as a period of sexual development, this development is characterized by the arrival of first menstruation in adolescent girls which occurs at the age of 11 years and nocturnal emission (wet dream) which is the discharge of sperm fluid which includes male sex male, in adolescent boys who occur at the age of 13-14 years.

Adolescence is divided into three periods, namely early adolescence aged 12-15 years, middle adolescence aged 15-18 years, and late adolescence aged 18-21 years [23].

Gunarsa and Gunarsa stated that adolescence as a period of transition from childhood to adulthood, includes all developments experienced in preparation for adulthood. All developmental aspects in adolescence globally last between 12-21 years of age, with the division of the age period into 12-15 years of early adolescence, 16-18 years of middle adolescence and 19-21 years of late adolescence [24].

Sanrock believed that with the development of cognitive aspects in adolescence, differences of opinion often arise between adolescents and their parents or other adults. They no longer view parents as human beings who know everything, so many people think that adolescence is a period full of opposition, rejecting the values set by their parents [25]. Sanrock also believes that adolescents will look at who they are, how they are, and the direction of their lives. These identity questions will emerge over the life span of their teenagers, when they begin to realize they will be responsible for themselves and their lives, teenagers begin to look for the life they will live.

This study uses the rationale of the Theory of Uses and Gratifications, a theory of the effects of mass communication that focuses on audiences who actively choose media messages according to their needs. The theory is known by the assumption that an active audience and the use of media are intended to be highlighted. This is because, every individual has a degree of activity in the use of their media. The Uses and Gratifications theory provides a mindset to understand when and how individuals consume media products become more or less active and have an impact on increasing or decreasing involvement. Some of the assumptions of the Uses and Gratification Theory put forward by the inventors in this approach are Katz, Blumer and Gurevitch in 1973, that there are five basic assumptions in the Uses and Gratifications Theory are: 1). The audience is active and using media is purposeful. 2). The initiative for the involvement of satisfying the needs for the selection of certain media is in the hands of the public. 3). Media and other sources together meet the needs of the audience. 4). People have enough awareness of media use, interests and motives. This makes the researchers get a more accurate picture of the use of these media. 5). Assessment of media content can only be done by the audience itself [26].

Media preferences generally require media users to sort which media is most preferred. In general, reference terminology is defined as the main choice, so the word media preference can be interpreted as the main choice of media [27]. The use of media preference words is commonly used in viewing mass media usage by audiences. The current mass media is quite numerous and varied, so that the community determines the choice of media that is most preferred to be used according to its purpose. In the context of this study, the intended media preference is the choices of adolescent reproductive health communication media in West Java.

Azwar stated that attitude is a form of evaluation or feeling reaction. A person's attitude towards an object is a feeling of supporting or taking sides or feeling not supporting or not taking sides with the object. Azwar also stated that the attitude is the degree of positive affect or negative affect on a psychological object. It can also be defined as regularity in terms of feelings (affections), thoughts (cognitions), and predisposing actions of someone to an aspect in the surrounding environment [28].

The attitude towards the media is what forms of evaluation or feeling reaction, which is the positive and negative

degrees of the audience towards the communication media that become the audience's social stimuli. In the context of this research, it is a communication medium for adolescent reproductive health.

Knowledge is the result of "knowing" and this happens after people have sensed a certain object. Sensing occurs through the five human senses, namely: the sense of sight, hearing, smell, taste and touch. Most human knowledge is obtained through the eyes and ears [29].

In the context of this research, the knowledge sought from the sample is reproductive health knowledge. Knowledge is measured by a number of questions about adolescent reproductive health, namely knowledge about the anatomy and health care of reproductive organs, knowledge of pregnancy, infectious sexually transmitted diseases, and contraception.

Behavior is a function of the interaction between an individual and his environment, an act or action of an organism that can be observed and can even be studied [29].

Communication behavior refers to the tendency of individuals to express feelings, needs, and thoughts by using indirect messages and behavioral impacts [30]. In the context of this study, the intended media preference is the choices of adolescent reproductive health communication media in West Java.

III. RESEARCH METHOD

The research employs a descriptive approach with quantitative data, aiming to describing objects and phenomena related to health communication in increasing adolescent awareness regarding of reproductive health.

Descriptive research method is one research method that is widely used in research that aims to explain a phenomenon. As stated by [31] descriptive research is a study that aims to provide or description of situation or phenomenon that occurs at a specific time by using scientific procedures to answer the problems. Descriptive research method is a method that attempts to describe, interpret something, for example conditions or relationships that exist, opinions that develop, ongoing processes, consequences or effects that occur or about ongoing trends [32].

The reason we use this type of research is to be able to provide a comprehensive and clear picture of one situation with another social situation or from a certain time to another, or can find patterns of relationships between certain aspects and other aspects, and can find hypotheses and theories. From the descriptive data we hoped that good insights can be produced for the formulation of hypotheses and theories. We expect the data to explains the behavior of respondents in using media and obtaining reproductive health information. From this data, the respondents' media preferences will be identified in seeking information on reproductive health, and other aspects of behavior in the context of obtaining reproductive health information.

For the validity of the data we utilize the triangulation of experts conducting interviews with several key informants with specific criteria include: 1) Social observers, especially on media usage behavior; 2) Psychologists who observe communication behavior among adolescents / teens; 3) representation of institutions that have interests around the issue of reproductive health information and media use, namely representatives of BKKBN and Diskominfo West Java

The instrument used for this study is a closed question questionnaire, with questions divided with the following subjects: (1) the knowledge of reproductive health, (2) media preferences, (3) attitudes towards the media, (4) and communication behavior towards the media. The question items are the result of consultations with adolescent media observers, deciding on topics that are relevant to the pattern of communication and information seeking of adolescents on reproductive health media. Regarding the population, unfortunately, there is no accurate data regarding the population of adolescents based on each regency and city. For this reason, we determined the sample proportion based on the proportion of the entire population of West Java based on the data of the West Java Central Bureau of Statistics per District City in the table below. The proportion of the population of each Regency/City, will be divided relative to the total population of West Java, then the percentage will be multiplied by the specified sample quota of as many as 1,000 samples.

Table 1: Quota Sampling Proportion based on West Java Population Proportion

<i>Population in City/Regency</i>	<i>2016</i>	<i>Percentage</i>	<i>Sample Quota Proportion</i>
West Java	47.379.389	100%	1000
Kab. Bogor	5.587.390	11,8%	118
Kab. Sukabumi	2.444.616	5,2%	52
Kab. Cianjur	2.250.977	4,8%	48
Kab. Bandung	3.596.623	7,6%	76
Kab. Garut	2.569.505	5,4%	54
Kab. Tasikmalaya	1.742.276	3,7%	37
Kab. Ciamis	1.175.389	2,5%	25
Kab. Kuningan	1.061.886	2,2%	22
Kab. Cirebon	2.142.999	4,5%	45
Kab. Majalengka	1.188.004	2,5%	25
Kab. Sumedang	1.142.097	2,4%	24
Kab. Indramayu	1.700.815	3,6%	36
Kab. Subang	1.546.000	3,3%	33
Kab. Purwakarta	932.701	2,0%	20
Kab. Karawang	2.295.778	4,8%	48
Kab. Bekasi	3.371.691	7,1%	71
Kab. Bandung Barat	1.648.387	3,5%	35
Kab. Pangandaran	392.817	0,8%	8
Kota Bogor	1.064.687	2,2%	22
Kota Sukabumi	321.097	0,7%	7
Kota Bandung	2.490.622	5,3%	53
Kota Cirebon	310.486	0,7%	7
Kota Bekasi	2.787.205	5,9%	59
Kota Depok	2.179.813	4,6%	46
Kota Cimahi	594.021	1,3%	13
Kota Tasikmalaya	659.606	1,4%	14
Kota Banjar	181.901	0,4%	4

Source: West Java Central Bureau of Statistics, 2015

According to Sugiyono (2011: 60) quota sampling is a technique for determining samples from populations that have certain characteristics to the desired number (quota). The target of this questionnaire is 1,000 sample people who must represent all districts and cities in West Java. The number of 1,000 samples is considered to be able to meet the representation of adolescent populations in West Java by determining proportions based on population ratio based on the following data.

IV. DISCUSSIONS/ANALYSIS

Knowledge on Reproductive Health

The distributed questionnaire attempts to map respondents' knowledge about reproductive health and also their preferences regarding reproductive health communication methods and their attitudes towards media. Knowledge measurement is done by testing the respondent with the right and wrong questions where the wrong answer will be given a zero value (0) and the correct answer will get the value 1. While preference measurement uses a Likert scale with a maximum score of 5 for the most positive answer, and a minimum value of 1 for the most negative answers.

The reproductive health knowledge questionnaire, measured by 10 questions consisting of questions on the themes of reproductive health knowledge, namely maturity (1) marital age, (2) infectious sexually transmitted diseases, (3) contraception, and (4) reproductive health, all Question items have been tested for validity and reliability. The following table 2 and 3 explains about level of reproductive health knowledge of all respondents.

Table 2: Total Score of all Items on Reproductive Health Knowledge

<i>Score</i>	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
20	8	0.8	0.8	0.8
30	35	3.5	3.5	4.3
40	110	10.9	10.9	15.2
50	237	23.6	23.6	38.8
60	264	26.2	26.2	65
70	226	22.5	22.5	87.5
80	94	9.3	9.3	96.8
90	31	3.1	3.1	99.9
100	1	0.1	0.1	100
Total	1006	100	100	

Source: Research Result, 2018

In general, observing the total value obtained from respondents related to reproductive health knowledge by analyzing the central tendency, we concluded that the mean of data is 59.17, mode is 60, minimum score 20, max score of 100 from 10 items of knowledge test, it can be concluded that from the 1006 respondents, generally their knowledge on reproductive health are good, although it cannot be said to be high.

However, if the data between PIK-R/M (Pusat informasi kesehatan remaja/mahasiswa, teenagers trained by BKKBN as peer agents) and adolescents in 'general' should also be separated, so we can observe a change in trend. Note in table 4 and 5, where the average score of PIK-R/M members slightly increases, indicating better knowledge on reproductive health

Table 3: Reproductive Health Knowledge Score Comparison of PIK R/M. Member vs. Non-Member

<i>PIK R/M Members</i>		<i>Non-PIK R/M Members</i>	
N	97	N	909
Mean	61.96	Mean	58.88
Mode	60	Mode	60
Minimum	20	Minimum	20
Maximum	90	Maximum	100

Source: Research Result, 2018

After observing the total value obtained from respondents related to reproductive health knowledge with special central tendency analysis for respondents involved in PIK-R / M we could see that the mean is 61.96, mode 60, minimum 20, max 90, higher compared to compared to respondents 'ordinary adolescents', mean 58 , 88, mode 60, minimum 20, max 100, it can be concluded that out of the 1006 respondents, the knowledge of PIK-R / M tends to be higher than that of most teenagers. It also interesting to separate the data of respondents exposed to information from BKKBN, compared with the data of respondents not exposed to BKKBN info of reproductive health (Table 4).

Table 4: Reproductive Health Knowledge Score Comparison of Sample Exposed to BKKB Literature vs. Not Exposed

<i>Exposed to BKKBN Literature</i>		<i>Not Exposed to BKKBN Literature</i>	
N	257	N	749
Mean	60.04	Mean	58.8
Mode	60	Mode	60
Minimum	30	Minimum	20
Maximum	90	Maximum	100

Source: Research Result, 2018

We may conclude, when comparing the level of knowledge of respondents who have been exposed to information from BKKBN (n = 257) with those who have not been exposed (n = 749) using simple central tendency analysis, knowledge of youth who have been exposed to material from BKKBN tends to be higher with a mean = 60.04 when compared with the mean value of those who have not been exposed at 58.88. This serve as prove that the PIK-R/M or peer group agents have a slightly higher knowledge and also respondents exposed to information from BKKBN also have a marginally higher knowledge level, proving that BKKBN activity are quite relevant in increasing reproductive health knowledge.

Communication/Media Preferences

In the questionnaire that attempts to describe the respondents' preferences, there are 11 closed questions items that attempt to map the communication preferences of the respondents, trying to see the condition of the existing knowledge of respondents based on their own perspectives, preferences related to information delivery from BKKBN, media preferences based on conventional media, mainstream and new media, also three open questions related to the preferences of the communication platform and preferred communication style. In general, related to reproductive health communication preferences can be summarized as follows:

Adolescents generally have good reproductive health knowledge from schools / campuses (index 3.28), so the knowledge in schools about the health of reporudksi is quite good.

Teenagers generally have good reproductive health knowledge from internet media (index 3.07), thus reproductive knowledge from the internet is also quite good even though the index are at the minimum threshold (3) and need to be explored more in what information is actually obtained from the internet related to reproductive health.

Teenagers generally do not receive good reproductive health knowledge from BKKBN (index 2.86), this index shows that most respondents feel that they have not been exposed to reproductive health information from the BKKBN.

Television is considered an effective medium for delivering reproductive health information to adolescents

(index 3.41), it is quite clear that TV is indeed still considered effective in conveying reproductive health messages. Radio is considered as a non-effective medium for delivering reproductive health information to adolescents (index 2.97).

Textbooks and scientific books are effective media to convey reproductive health information to adolescents (index 3.61), this shows that if reproductive health content uses textbooks, adolescents feel that the media is an effective reference, can be a consideration for supplementary curriculum.

It is not true that a website is an effective medium for delivering reproductive health information to adolescents (index 3.42), quite clearly, the website is one of the online medias that is considered effective in conveying information about reproductive health.

It is wrong that social media such as Instagram, Facebook, Twitter is not an effective medium for conveying reproductive health information to adolescents (index 3.52), as well as online media based on social media is indeed considered effective in delivering reproductive health info.

It is true that the use of effective Genre Ambassadors to communicate information on reproductive health to adolescents. (index 3.39), indicating that effective use of genre ambassadors.

It is true that the use of Selebrita (famous people) and public figures is effective for communicating information on reproductive health to adolescents (index 3.59).

Utilizing the online website of genrejabar.or.id will is considered effective in communicating information on reproductive health to adolescents (index 3.47), indicating that this web has performed its function well to communicate reproductive health info to adolescents.

Furthermore, to find out the depth of media preferences and ways of communication related to reproductive health messages, the researcher gave three open questions to determine the priority of media and ways of communication.

Table 5: Preferred Media in Delivering Reproductive Health Information

<i>Media Platform</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Cumulative Percentage</i>
Website (website BKKBN, website GENRE, dll.)	261	25.9	25.9
Social Media (Instagram, Twitter, Facebook, dll.)	489	48.6	74.6
Online Chatting Platform (Line, Whatsapp, Snapchat, dll.)	96	9.5	84.1
Television	59	5.9	90
Radio	5	0.5	90.5
Newspaper	2	0.2	90.7
Magazines	12	1.2	91.8
Others...	82	8.2	100
Total	1006	100	

Others include: role of school (teachers, books), family, seminar, direct counseling, BKKBN counseling, using peer group agents, advertisement, line today, Duta Genre, doctors.

Source: Research Result, 2018.

From the questionnaire, the media which is considered the most effective, with the highest response is

predictably the social media, followed by the use of websites. Consistent with the previous question, the most ineffective media are newspapers and radio.

Table 6: Preferred Communication Method in Delivering Online Reproductive Health Information

	<i>Frequency</i>	<i>Percentage</i>	<i>Cumulative Percentage</i>
Meme	344	34.2	34.2
Infographic	389	38.7	72.9
Cool Pictures	114	11.3	84.2
Twitpic	24	2.4	86.6
Scientific Article	32	3.2	89.8
Popular article	87	8.6	98.4
Others...	16	1.6	100
Total	1006	100	

Others include: Video, fun video, Video campaign, short video in instagram, study-purpose video

Source: Research Result, 2018

The preferred way to communicate is infographics, memes, cool photos and videos. Videos, even though they appear in open question options 'other' numbers are high, which is 100 from 1006. The preferred social media platform is Instagram, followed by Line.

Table 7: Preferred Social Media Platform in Delivering Reproductive Health Information

	<i>Frequency</i>	<i>Percentage</i>	<i>Cumulative Percentage</i>
Line	256	25.4	25.4
Whatsapp	49	4.9	30.3
Kakao	2	0.2	30.5
Facebook	62	6.2	36.7
Twitter	31	3.1	39.8
Instagram	589	58.5	98.3
Snapchat	4	0.4	98.7
Others...	13	1.3	100
Total	1006	100	

Others include: Influencer in Instagram, Youtube, Official account (Line).

V. CONCLUSION

In general, from the results of the questionnaire analysis that has gone through triangulation from the key informants (media, experts, and pshychologist), it can be concluded that the general knowledge of reproductive health information among adolescents in West Java is currently in the middle range. Knowledge is measured by several questions; knowledge on contraceptives, sexually transmitted diseases, delaying the age of marriage, and time spacing on pregnancy. However, the numbers change when the characteristics of respondents are separated between adolescent PIR-R / M (peer group educators) and adolescents in general, where adolescents of PIK-R / M in general have a slightly higher level of knowledge regarding reproductive health.

Likewise, when separating adolescents who have been exposed to information from BKKBN with those who have not been exposed, exposed respondents have better knowledge. This support the fact that BKKBN program in general, also using peer group educators in specific, do serve the purpose of increasing the knowledge of reproductive health among adolescents well.

Whereas the perceptions of adolescents related to the media used by BKKBN in conveying reproductive health messages are considered to inadequate (with an emphasis on their preference for online media), teenagers also feel that they are not getting enough reproductive health information, both from the BKKBN, schools, and other party that should be concern on the matter.

The most preferred communication media platform is social media, especially Instagram and Line, while newspaper is the platform that was least chosen by respondents followed by radio and magazines. The method of delivery that was felt to be most effective by respondents was infographics and memes, this became something that needed to be considered in packaging reproductive health messages for adolescents, both by the BKKBN, and other interested parties.

VI. LIMITATIONS AND FORWARD STUDIES

Measurements of reproductive health knowledge, is limited with only 10 items of questions, can be developed into more detailed items. Closed-ended questions are results of discussions with adolescents' experts (media, academician, psychologist), the contents are also subject to discussion whether the items can accurately describe the media and communication preference of adolescents.

Although the findings are quite predictable, the findings can serve as a ground for policy on reproductive health information from BKKBN, particularly on deciding the appropriate media. Based on an in interview with Arif Zaidan, sub head of Communication, information, and Education of BKKBN West Java, the media policy for disseminating reproductive health information is still dictated by the central office of BKKBN, imposing policy that requires utilizing high-cost and ineffective media (newspaper, magazine, and radio).

Discussions around the issue of reproductive health communication have highlighted the issue of the lack of coordination of the relevant government agencies in processing reproductive health information. In addition, discussions about the importance of exploring various communication platforms, especially those that are favored by adolescents, such as social media platforms with various derivatives, are recognized as being still untouched by related government agencies.

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REFERENCES

- [1] I.D. Utomo and P. McDonald, "Adolescent Reproductive Health in Indonesia : Contested Values and Policy Inaction," *Stud. Fam. Plann.*, vol. 40, no. 2, pp. 133–146, 2009.
- [2] I.D. Utomo, P. McDonald, and T. Hull, "Gender and Reproductive Health Study Improving Reproductive Health Education in the Indonesian National Curriculum," 2012.
- [3] A. Mustikawanto, "Interview with Abur Mustikawanto, staff of West Java Education Office, Ministry of Education." Bandung, 2016.
- [4] D. Salirawati, K. Ratna, and M.L. Endarwati, "Survey Terhadap Pemahaman Pendidikan Seks dan Sikap/Perilaku Seks di Kalangan Remaja di Daerah Istimewa Yogyakarta," *J. Penelit. Hum.*, vol. 19, no. 1, pp. 85–95, 2014.

- [5] Susanto, "Hubungan Antara Sikap terhadap Media Pornografi dengan Perilaku Seksual Pranikah pada Remaja," *J. Fak. Psikol. Univ. Ahmad Dahlan*, vol. 9, 2013.
- [6] BKKBN, "BKKBN documents on Communications, Information, and Education." 2010.
- [7] E. Triyuli, "Interview with Elma Triyuli, Head of Communication, Information, and Education West-Java Province." 2017.
- [8] BKKBN, "Analisis Data dan Evaluasi Program Kependudukan dan Keluarga Berencana," 2014.
- [9] V. Sundaram and H. Sauntson, *Introduction: Global Perspectives and Key Debates in Sex and Relationships Education: Setting the Scene*. 2016.
- [10] J. Elders and P. Pardini, "Sex Education Should be Taught in School," in *Sex Education*, T. L. Roleff, Ed. San Diego, CA: Greenhaven Press, 1999, pp. 9–12.
- [11] L. Allen, "Young People and Sexuality Education," vol. 4, no. 4, pp. 247–249, 2011.
- [12] A. Etzioni, "Sex Education Should Emphasize Values," in *Sex Education*, T. L. Roleff, Ed. San Diego, CA: Greenhaven Press, 1999, pp. 26–33.
- [13] G. Herdt and C. Howe, "21st Century Sexualities: Contemporary Issues in Health, Education, and Rights," 2007.
- [14] F. Syuderajat, "Perilaku Seksual Mahasiswa: Studi Deskriptif pada Salah Satu Perguruan Tinggi di Jatinangor," *J. Kaji. Komun.*, vol. 2, no. 1, pp. 66–72, 2014.
- [15] A. Suryoputro, N.J. Ford, and Z. Shahuliyah, "Faktor-Faktor yang Mempengaruhi Perilaku Seksual dan Layanan Kesehatan Seksual dan Reproduksi," *Makara, Kesehat.*, vol. 10, no. 1, pp. 29–40, 2006.
- [16] E. Setya and A. Widyastuti, "Personal Dan Sosial Yang Mempengaruhi Sikap Remaja Terhadap Hubungan Seks Pranikah," *J. Promosi Kesehat.*, vol. 4, no. 2, pp. 75–85, 2009.
- [17] I.D. Utomo and P. McDonald, "Religion , Media , Westernisation and Sexuality among Young People in Urban Middle - Class Indonesia," *Intersect. Gend. Sex. Asia Pacific*, no. 18, pp. 1–14, 2008.
- [18] I. Nur, "Pengaruh Faktor Personal dan Lingkungan terhadap Perilaku Seksual Pranikah pada Remaja di SMAN 1 Baturaden dan SMAN 1 Purwokerto," Universitas Ahmad Dahlan, 2009.
- [19] I. Saputra, "Pengaruh Penggunaan Media dan Interaksi Komunikasi Kelompok Teman Sebaya terhadap Perilaku Seksual Remaja," Institut Pertanian Bogor, 2014.
- [20] S. Lukman, S. Dida, P. Subekti, A. Rahmat, and R. Romli, "Altering Students ' Online Information Seeking Behaviour Through Non-Formal Education Activity," in *The Future of Education*, 2017.
- [21] M.J. Sutton, J.D. Brown, K.M. Wilson, and J.D. Klein, Shaking the tree of knowledge for forbidden fruit: Where adolescents learn about sexuality and contraception. 2002.
- [22] S.W. Sarwono, "Pengantar psikologi umum," *Jakarta Rajawali Pers*, 2010.
- [23] E.B. Hurlock, *Developmental psychology*. Tata McGraw-Hill Education, 2001.
- [24] Y.S.D. Gunarsa and S.D. Gunarsa, *Psikologi remaja*. BPK Gunung Mulia, 1983.
- [25] J.W. Santrock, *Adolescence*, 15th ed. McGraw-Hill, 2014.
- [26] E. Katz, J.G. Blumler, and M. Gurevitch, The uses of mass communications: Current perspectives on gratifications research. *Sage publications Thousand Oaks, CA*, 1974.
- [27] J. Vivian and P. J. Maurin, The media of mass communication. *Pearson Canada*, 2012.
- [28] S. Azwar, Sikap Manusia: Teori dan Pengukurannya. *Liberty*, 2013.
- [29] S. Notoatmodjo, Pendidikan dan perilaku kesehatan. *Jakarta: Rineka Cipta*, 2003.
- [30] M. Ivanov and P.D. Werner, "Behavioral communication: Individual differences in communication style," *Pers. Individ. Dif.*, vol. 49, no. 1, pp. 19–23, 2010.
- [31] Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: CV Alfabeta, 2010.
- [32] N.S. Sukmadinata, Metodologi penelitian pendidikan. *Bandung: Remaja Rosdakarya*, 2005.