Abstract—Risky sexual behavior in unmarried adolescents tend to increase and this can risk the occurrence of adolescent pregnancy, sexually-transmitted infection (STIs), abortion, early marriage, etc. By the right information, adolescents should have a good attitude and responsibility toward their reproductive health. Health promotion effort to prevent risky sexual behavior by using social media is expected to be an innovative breakthrough. The use of social media such as YouTube in health promotion has been significantly increased. This study aims to analysis content media of YouTube videos that appealing to adolescents is needed as one of the medias as prevention of risky sexual behavior in adolescents. This is descriptive research with a qualitative approach using the content analysis technique. The subject of this study is videos from a social media platform YouTube that were chosen using the keywords "kesehatan reproduksi remaja", "perilaku seksual beresiko remaja", "dampak perilaku seksual beresiko remaja" and "pencegahan perilaku seksual beresiko remaja" all the videos are using Indonesian and the maximum duration for each video is 45 minutes. Selected 55 videos that are feasible to analyze are grouped based on video characteristics, upload time, duration, the number of views, likes, dislikes and also video forms. From 55 selected videos, 4 most watched videos are the ones in form of short films and they are divided into categories namely reproductive health, the impact of risky sexual behavior, prevention of risky sexual behavior, and others. Information media that are innovative and right on target to prevent risky sexual behavior in adolescents on YouTube is still not enough. YouTube as a social media video platform has the potential as one of the health promotion media in order to prevent risky sexual behavior in adolescents.

Keywords: risky sexual behavior in adolescents, YouTube, health promotion

I. INTRODUCTION

According to WHO adolescents are residents in the age range of 10-19 years. [1] Adolescence can be interpreted as a transition from childhood to adulthood. In adolescence, there are several process changes, including changes in the physical and psychological changes. Physical changes are rapid and hormonal changes are things that encourage adolescent health issues seriously for the first occurrence of a sex drive that makes teens prone to diseases and reproductive health (reproductive health), teenage pregnancy with all the consequences that premarital sex, abortion, sexually-transmitted infection (STIs), HIV-AIDS and narcotics,[2], [3] 208 million pregnancies in the world with 41 million leading to abortions and 11 million leads to spontaneous abortion. In developing countries 90% of data obtained with unsafe abortion occur so that 11% -13% of maternal deaths occur. According to the WHO, about 4.2 million abortions performed each year in ASEAN with 1.3 million occurred in Vietnam and Singapore, from 750,000 to 1.5 million in Indonesia, in the Philippines 155000-750000 and 300000-900000 in Thailand.[4]

Indonesia is a country with a large population of teenagers. Of the approximately 237 million Indonesians, 63.4 million or around 26.7% are teenagers. Adolescents in Indonesia first dating at the age of 15-17 years, where at that age are at risk of having risky sexual behavior such as having premarital sex because they do not have adequate life skills. [1] This is supported by the number of teenage pregnancies at ages less than 15 years 0.02% and pregnancy in adolescents aged 15-19 years 1.97%, with higher proportions in rural areas than in urban areas. [5], [6] Based on data Survei Terpadu Biologis dan Perilaku Survey as many as 2.05% of adolescents who sit in class XI SMA have had sex. [7]

Risky sexual behavior among adolescents, especially among unmarried adolescents tend to increase. It can be seen from the 2012 IDHS data report that dating teenagers in Indonesia tend to be more courageous and open, including 72% of women and 80% of men starting to hold hands. 48% of men and 30% of women kiss. 30% of men and 6% of women feel/stimulate their partners with each other. 77% of girls have a perception that virginity for a woman is more than male as much as 66%.[5] In general, male adolescents who have had sexual intercourse are 8% higher than girls who are 2%.[6]

Pre-marital active sex behavior in adolescents can be at risk of unwanted pregnancy, sexually transmitted infection (STIs), abortion, and early marriage. The causes of premarital sexual intercourse were mostly 57.5% of men out of curiosity, 38% of women felt just like that and 12.6% of causes of curiosity, 38% of women felt just like that and 12.6% of women were forced by partners.[5], [8]

Lack of knowledge about reproductive health can encourage teens to experiment and could cause misunderstandings. Adolescent reproductive health needs to know in order to
have the right information about the reproductive process and the various factors that exist in the vicinity. By the right information, adolescents should have a good attitude and responsibility toward their reproductive health.[8], [9]

Media is an important suggestion which is used to convey health-related information in an effort to prevent sexual risk behavior in adolescents is needed. Today more teens are accessing the Internet using social media. [10], [11] Video is an audio-visual media are quite effective because the media has four functions, namely the function of attention, effective function, cognitive function, and compensatory function.[12], [13]

YouTube is the social media platform for accessing the most popular video sites used. Health promotion in terms of preventing risky sexual behavior in adolescents by using social media in the form of videos on YouTube is an innovative breakthrough that can reach the layers of society in Indonesia and the world. Then the availability of information content is needed according to the characteristics of adolescents, providing information correctly and appealing to teenagers.[14]–[16] Based on the causes of this study aims to analysis content media of YouTube videos that appealing to adolescents is needed as one of the media as prevention of risky sexual behavior in adolescents.

II. METHOD

This is descriptive research with a qualitative approach using the content analysis technique. The subject of this study is videos from a social media platform YouTube as of August 15, 2018, that were chosen using the keywords "kesehatan reproduksi remaja", " perilaku seksual beresiko remaja", " dampak perilaku seksual beresiko remaja", and "pencegahan perilaku seksual beresiko remaja". List of videos to be analyzed in research and selected with the following criteria:

1) Video analyzed are videos containing about reproductive health and the impact of risky sexual behavior for the prevention of risky sexual behavior through health promotion videos and short films up to 45 minutes duration.[12]
2) Relevance to the substance of the keyword is "kesehatan reproduksi remaja", " perilaku seksual beresiko remaja", " dampak perilaku seksual beresiko remaja", and "pencegahan perilaku seksual beresiko remaja" directly which there is some information:
   a. Reproductive health: contents of messages in health promotion videos stating adolescent reproductive health starting from the definition of adolescents, characteristics of changes that occur in adolescents, to things that can occur when there are changes that occur in adolescents including risky sexual behavior.
   b. Impact of risky sexual behavior: Fill in the message in a health promotion video that outlines the effects of risky sexual behavior such as the occurrence of unwanted pregnancies, abortion, early marriage, to psychological impacts and the social impact of society.
   c. Prevention of risky sexual behavior: the contents of the message in the video health promotion and describe ways to prevent risky sexual behavior.
   d. Other information related to reproductive health and risky sexual behavior; messages in videos that are not included in the category of reproductive health, causes of sexual behavior are at risk, the impact of sexual behavior is at risk, and prevention of risky sexual behavior.
3) Use Bahasa Indonesia as this will make it easier for the audience to understand YouTube video content [16].

There are 5,568 videos posted with this keyword. After searching on the YouTube platform only 638 videos were found. Based on the selection criteria, out of 638 videos, 583 videos were excluded because they did not meet the criteria so that the remaining 55 videos were feasible to analyze. Furthermore, 55 are grouped based on video characteristics, upload time, duration, the number of views, likes, dislikes and also video forms. Then taken 4 most watched video with the same video format is a short film to be analyzed using content analysis.

III. RESULTS

By using the keywords “kesehatan reproduksi remaja”, “perilaku seksual beresiko remaja”, “dampak perilaku seksual beresiko remaja”, and “pencegahan perilaku seksual beresiko remaja” n social media in the form of YouTube videos, there were found 5,568 videos posted. After searching on the YouTube platform only 638 videos were found. Based on the criteria of the 638 videos as much as 583 videos removed from the list because it does not meet the criteria so that the remaining 55 videos that deserve to be analyzed.
Furthermore, posting these videos are grouped according to characteristics in the following table:

**TABLE I. THE PERCENTAGE OF POSTING YOUTUBE VIDEOS AS PREVENTION OF RISKY SEXUAL BEHAVIOR IN ADOLESCENTS BASED ON CHARACTERISTICS (AS OF AUGUST 15, 2018)**

| Video Posting Characteristics | Frequency | Percentage |
|-----------------------------|-----------|------------|
| Upload time (as of August 15, 2018) | (N = 55) | |
| < 6 months | 10 | 18.2 |
| 6 months-1 year | 17 | 30.9 |
| 1-2 year | 12 | 21.8 |
| > 2 year | 16 | 29.1 |
| Duration (length of time the video is displayed) | | |
| 1-5 minute | 31 | 56.4 |
| 5.1-10 minute | 13 | 23.6 |
| 10.1-15 minute | 4 | 7.3 |
| >15 minute | 7 | 12.7 |
| Views (the large number of viewers who have seen the video) | | |
| < 1000 Views | 11 | 20.0 |
| 1001-10000 Views | 23 | 41.8 |
| 10001-100000 Views | 14 | 25.5 |
| 100001-1000000 Views | 5 | 9.1 |
| > 1000000 Views | 2 | 3.6 |
| Like (number of viewers who like videos) | | |
| 0 like | 2 | 3.6 |
| 1-50 like | 38 | 69.1 |
| 51-100 like | 5 | 9.1 |
| 101-1000 like | 7 | 12.7 |
| > 1000 like | 3 | 5.5 |
| Dislike (number of viewers who don’t like videos) | | |
| 0 Dislike | 17 | 30.9 |
| 1-50 Dislike | 33 | 60.0 |
| 51-100 Dislike | 1 | 1.8 |
| 101-1000 Dislike | 2 | 3.6 |
| > 1000 Dislike | 2 | 3.6 |
| Comment (number of viewers who comment on videos) | | |
| 0 Comment | 28 | 50.9 |
| 1-10 Comment | 19 | 34.5 |
| 11-50 Comment | 5 | 9.1 |
| 51-100 Comment | 1 | 1.8 |
| >100 Comment | 2 | 3.6 |
| YouTube video form | | |
| Animation | 29 | 52.7 |
| Short film | 22 | 40.0 |
| Others | 4 | 7.3 |

The general description of YouTube videos to prevent risky sexual behavior in adolescents based on the characteristics of the table above shows that 30.9% of videos with upload times of 6 months-1 years are the most watched. Characteristics of the duration of the video watched 56.4% liked the video with a duration of 1-5 minutes. A large number of viewers who have watched the 69.1% video has been seen by 1001-10,000 spectators. As for the characteristics like (the number of viewers who like video) and dislike (the number of spectators who do not like a video) showed most of the audience chose to give a 69.1% and 60%. Half the audience 50.9% choose not to provide comment on the video and just watch the video. And 52.7% with some keywords above are videos with animated forms.

Of the 55 videos that have been selected then sorted by the highest number of views to the lowest or the video that has the highest number of viewers. This shows the audience's interest in the video on the YouTube platform with certain keywords. Taken 5 most video views, then taken 4 videos with the same form, the first video *Akihabat Pergaulan Bebas - Film Pendek*, second video *Film Pendek: Luar Nikah* third video *Akihabat Pergaulan Bebas* and the last video *Masa sih?* with short film forms to be analyzed according to the characteristics for short films.[14]

1) Adolescent Reproductive Health

In the four short film videos that analyzed information about reproductive health in adolescents became the focus of the fourth sequence video with the title *Masa Sih?* Information related to reproductive health that is conveyed includes the characteristics of puberty in adolescents such as starting to experience hormonal changes and reproductive organs maturing so that they begin to be attracted to the opposite sex. Start menstruating in women and wet dreams in men until the occurrence of pregnancy and how to overcome sexual attraction and lust. Like the question and answer found in the short film *Masa Sih?* On Table.

**TABLE II. TOP 5 VIDEO WITH VIEWERS**

| No | Title | Upload Time | Duration | Views | Like | Dislike | Video Form |
|----|-------|-------------|----------|-------|------|---------|------------|
| 1  | Akihabat Pergaulan Bebas - Film Pendek (short film) | 1.5 years | 05:00 | 10.507.175 | 8300 | 4300 | Short film |
| 2  | Film Pendek: Luar Nikah | 7 years | 06:14 | 4.841.657 | 4400 | 1600 | Short film |
| 3  | Akihabat Pergaulan Bebas | 4 years | 32:02 | 754.977 | 489 | 380 | Short film |
| 4  | Iklan Layanan Masyarakat - Pergaulan Bebas oleh D3 FISIP Advertising UNS | 5 years | 01:24 | 175.221 | 98 | 26 | Others |
| 5  | Masa sih? | 3.5 years | 18:16 | 109.882 | 2500 | 35 | Short film |

The general description of YouTube videos to prevent risky sexual behavior in adolescents based on the characteristics of the table above shows that 30.9% of videos with upload times of 6 months-1 years are the most watched. Characteristics of the duration of the video watched 56.4% liked the video with a duration of 1-5 minutes. A large number of viewers who have watched the 69.1% video has been seen by 1001-10,000 spectators. As for the characteristics like (the number of viewers who like video) and dislike (the number of spectators who do not like a video) showed most of the audience chose to give a 69.1% and 60%. Half the audience 50.9% choose not to provide comment on the video and just watch the video. And 52.7% with some keywords above are videos with animated forms.
In the short film *Akibat Pergaulan Bebas – Film Pendek*, an unwanted pregnancy is only seen in the scene after having a fight with her lover after showing a positive test of pregnancy. Likewise, in the short film *Masa Sih?* that shows the impact of risky sexual behavior on adolescents, that is, pregnancy can occur, there is a dialogue between teacher and student. The psychological impact is seen in the first to third video after knowing pregnancy is feeling shocked, sad, disappointed and angry. Then the second video *Film Pendek: Luar Nikah* in the postpartum phase, a female figure who is not ready to have a child throwing away and leaving her baby on the roadside. After that, the feeling of guilt and the sound of the baby's crying continued to haunt him to make the female character commit suicide. Likewise, with the third video *Akibat Pergaulan Bebas*, when she learned about his pregnancy, Angel's response was wanted to abort her pregnancy because she was embarrassed to get pregnant while still in school and in his teens. Then when the pregnancy entered the 6th month, Angel wanted to commit suicide because she met his lover Raka, but Raka did not want to be responsible. And in the last scene, Angel was mentally ill because he felt depressed and could not accept his condition as in figure 3 (b).

The social impact seen in the first to third video is that lovers as sexual partners don’t want to be responsible and leave their lovers. In addition, the social impact that appeared again in the third video with the title *Akibat Pergaulan Bebas*, when Mama Angel found out Angel was pregnant immediately responded shocked by slapping Angel's cheek. Then because the family cannot accept Angel's condition while pregnant makes Angel leave home in a state of pregnancy.

4) Prevention of risky sexual behavior

The message of preventing risky sexual behavior is found in the second video with the title *Film Pendek: Luar Nikah*. In the video there is a prevention message in the verses of the Koran and Hadith. And in the first video *Akibat Pergaulan Bebas – Film Pendek*, there is also a message of prevention at the end of the scene with writing "PILIHAN HIDUPMU MENENTUKAN MASA DEPANMU". Unfortunately, the four short films lack emphasis on preventing sexual behavior in adolescents.
Sexual risk behavior among adolescents is increasing every year and this is a concern for health promotion to prevent risky sexual behavior in adolescents. The right media, easily accessible, and in accordance with the characteristics of the target is very important because in the mass media has a function to inform, to educate, to entertain, and to influence. [17] YouTube is the most popular and widely used video social media platform today and can be one of the health promotion media. [14]–[16]

In this study found 55 videos to be analyzed according to the characteristics of the video. Of the 5 videos most, views can be seen that 4 of them are in the form of short films. It can be said that YouTube viewers are more interested in watching educational videos in the form of short films than those in the form of animation or others. Short films can be one of the effective media for health promotion, because films have the power to bring viewers into the film scene so that viewers can be made to cry, laugh, and many expressions that spur adrenaline on the audience. [12], [18]

In line with research analyzing East Los High’s web series in serial short films as one of the edutainment arrangements to provide a real picture of each scene and characters ranging from setting places, property, costumes, makeup, lighting, and music effects and visual effects such as written information to support inner emotions. short films. [12]

Based on the characteristics of the video duration available on YouTube, the maximum duration is 1-5 minutes which is in line with the most watched videos with several keywords on YouTube lasting 3 minutes. However, the next sequence of videos has a sufficient duration range from 6 to 30 minutes with a short film form and still has many viewers. Based on the agreement of the film festival in the short film category which has a duration of films under 60 minutes, the four videos analyzed are still included in the short film. It should be noted that formulating the information to be conveyed in the media must be clear and on target. Then the right time is needed to convey information and in the form of pleasant media. [12], [20] The selection of stories and characters in all four films is aimed at teens who end up as students or unmarried workers and for high school students. This can be seen from the stories in the short films and characters contained in the short films, and become important so that they are right on target. In addition, the four most watched videos are also supported by an artistic arrangement to provide a real picture of each scene and characters ranging from setting places, property, costumes, makeup, lighting, and music effects and visual effects such as written information to support inner emotions. short films. [12]

Availability of information in short film videos analyzed includes reproductive health, causes of risky sexual behavior in adolescents, and prevention of risky sexual behavior in adolescents. The information conveyed in short films is delivered through dialogue of characters and stories in every scene in a short film. As in Akibat Pergaulan Bebas – Film Pendek and Film Pendek: Luar Nikah is a short film without character dialogue, but information can still be conveyed through stories, supported by musical effects and written information as in Short Films: Outside Marriage there are verses of the Koran and hadith. [21] The impact of sexual behavior is the focus of 3 videos Akibat Pergaulan Bebas – Film Pendek, Film Pendek: Luar Nikah, Akibat Pergaulan Bebas and videos about adolescent reproductive health in short films Masa Sih? information on the causes of sexual behavior is present in every short film, but the message for prevention of sexual behavior has not been clearly seen in short films. Focusing on the impact of physiological, psychological, and social sexual behavior is expected to be able to make the audience know the impact and cause deterrent effects that can occur when having sexual relations in adolescents so that it can be used as a message in preventing teen sexual behavior. [16]

Overall, from the 4 short films with the largest number of viewers based on the availability of information as an effort to prevent risky sexual behavior in adolescents, it is still considered lacking. Because in one short film video the information obtained only focuses on one or two material that becomes. On the side of the audience expect to be able to get complete and comprehensive information through existing media. [12]

A. Video on the YouTube Platform as a Health Promotion Media

5 videos with the highest number of viewers in Table 2 have an audience of over 100,000 and even the first order video entitled Akibat Pergaulan Bebas – Film Pendek has an audience of 10,507,175 as of August 15 2018 within 1.5 years of being uploaded by Mas Alvin on the YouTube platform. The video with a duration of 3 minutes contains a comparison of overseas female students who live in boarding houses, the first figure to graduate on time and the second figure with free association must bear the pregnancy. The short film can invite 583 732 viewers each month or the equivalent of 19 458 spectators each day. With the number of viewers who can reach hundreds of thousands or even millions in Indonesian language videos related to the prevention of risky sexual behavior in adolescents becomes an opportunity that needs to be considered by those who want to provide innovative health promotion.

B. Limitations

This research is limited to Indonesian-language videos taken on August 15, 2018 from YouTube and is not done on other video platforms such as Vimeo so it cannot represent the entire video as an effort to prevent risky sexual behavior in teens on the Internet. The YouTube video data used is anonymized because the video uploader cannot be identified. [14]–[16]

The video used is the video with the highest number of viewers, therefore we selected the top 4 videos with the same short film form and not all 55 videos. Of the 4 total
V. CONCLUSION

Based on the results of the study it can be concluded that from 55 videos on YouTube with several keywords that can be analyzed, 4 of the 5 videos with the highest views are in the form of short films rather than animation or other. 4 short film videos with several keywords analyzed include some information as an effort to prevent risky sexual behavior in adolescents such as reproductive health, the causes of risky sexual behavior, the impact of risky sexual behavior, and prevention of risky sexual behavior. But in one short film video, the information obtained is still incomplete and only focuses on one material. On the other hand, YouTube as the social media video platform has the potential as one of the health promotion media to provide information to prevent risky sexual behavior in adolescents as seen from a large number of viewers on videos up to hundreds of thousands and even millions of viewers.

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