



## The Influence of Online and Offline Health Counseling on Covid-19 Prevention for Pregnant Women

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### Abstract

There were 399 pregnant women who suffered from COVID-19 in Padang in 2021 and the highest number of cases happened in Andalas Health Center. The Objective of this research was to determine the influence of health counseling using online and offline media about covid-19 prevention on the knowledge, attitudes, and actions of pregnant women in the work area of Andalas Health Center of Padang in 2022. This research was a quasy experiment with a two-group pre-posttest group design. The research was carried out in the work area of Andalas Health Center Padang on March 2021 - August 2022. The population was all pregnant women in Andalas Health Center Padang and the samples were 60 pregnant women in two groups; 30 cases and 30 controls. The bivariate analysis used Wilcoxon and Paired Sample T-Test,  $p < 0,05$ . There was an influence of counseling on knowledge, attitudes, and actions in online media groups ( $p=0.027$ ,  $p=0.039$ , and  $p=0.032$ ). There was an influence of counseling on knowledge and action ( $p=0,010$ ;  $p=0,024$ ) but there was no influence on attitudes in the offline media group ( $p=0,063$ ). There were differences in the influence of health counseling on preventing COVID-19 used online and offline media with different means were 1.7, 12.7, and 1.7. In conclusion, there was differences in the influence of health counseling using online and offline media on COVID-19 prevention on the knowledge, attitudes, and actions of pregnant women and health counseling using offline media was more effective than the online.

**Keywords: Knowledge; Attitudes; Actions; Prevention of COVID-19; Pregnant Women**

### INTRODUCTION

Corona Virus-2019 infection, also known as COVID-19, is the name of a very infectious virus at this time. It is a disease that is currently endemic throughout the world. This infection is caused by Corona virus 2 acute respiratory syndrome (SARS-CoV-2). The infection developed rapidly so that it was declared a global pandemic by the World Health Organization (WHO) at the end of 2019 (WHO, 2020).

Based on data, there were 448,563,150 cases of COVID-19 worldwide. The Centers for Disease Control and Prevention revealed that there were 148,330 cases of confirmed COVID-19 pregnant

women with a total of 244 cases who died from January 22 to December (Nurhasanah et al, 2021).

Cases of COVID-19 pregnant women in Indonesia according to data from POGI until April 2021 as many as 536 pregnant women in Indonesia were exposed to COVID-19, of which 16 people died. or it is estimated that for every 1000 pregnant women, 32 of them die. While under normal conditions there is no pandemic, the average maternal mortality rate is for every 1000 pregnant women, approximately 3 died. Thus, the number of deaths of pregnant women during this pandemic is 10 times higher.

The information about the risk for pregnant women to experience COVID-19 is the same as for ordinary people who are not pregnant. This should be evaluated especially for pregnant women who are in countries with low resources because the SARS and MERS epidemics caused significant morbidity of up to 25% in pregnant women (Abdelbadee & Abbas, 2020).

One of the areas in Indonesia that has been affected by COVID-19, namely West Sumatra Province, data as of October 2021 cases of pregnant women with confirmed COVID-19 were 1271 cases and 21 cases of death (Provincial Health Office, 2021). The West Sumatra Health Office, the highest area for the incidence of COVID-19 in West Sumatra, is in Padang. where the highest number of cases of pregnant women suffering from COVID-19 is Andalas Health Center with the number of sufferers in 2020, namely 23 cases and increasing in 2021, namely as many as 38 positive cases. (Padang Health Office, 2021).

Pregnant women with COVID-19 have a 17% risk of preterm labor (< 37 weeks) and a risk of pregnancy complications such as fetal distress (14%) and premature rupture of membranes (8%). Pregnant women with confirmed COVID-19 can increase maternal and infant morbidity and mortality (Adhikari et al., 2020).

Preventive measures that can be taken now are providing Educational Information Communication (IEC) and outreach through social media and print media that can provide information regarding preventive measures for the transmission of COVID-19. One of the efforts that can be made is to provide knowledge regarding preventive measures for the transmission of COVID-19 through online and offline educational videos (Bower, 2019).

Delivery of messages through online educational videos is not only used in information technology, but is also used in other fields such as health (Pradana et al, 2020).

This study provides an explanation of empirical evidence that information related to COVID-19 in various online and offline digital media can trigger behavior to prevent transmission of COVID-19 directly or indirectly. The use of media can motivate positive behavior from its users.

The increase in the number of cases infected with COVID-19 is of course influenced by the health behavior of the public in preventing COVID-19. Health behavior is basically a response of a person (organism) to stimuli related to illness and disease, the health care system, food and the environment. Based on Bloom's theory, behavior is measured through knowledge, attitudes, and actions or practices (Notoatmodjo, 2019). Attitude is one of the factors that influence the prevention of transmission of COVID-19, because with a positive attitude, pregnant women will try to prevent the transmission of COVID-19 (Triyanto et al, 2020).

On the other hand, knowledge plays important role in this case. Knowledge is human self-awareness that is obtained directly from life through a learning process that comes from teaching, training, and the surrounding information media (Kast and Rosenzweig in Yanti et al, 2020).

Based on research conducted by Dewi et al (2020) regarding the influenceiveness of counseling and the benefits of counseling, evaluation or giving posttests to counseling is carried out by giving a break of 1 day with the aim that respondents can understand the material given during counseling and get memories information provided so as to increase their knowledge.

Knowledge about COVID-19 can be interpreted as the result of knowing someone about the disease, understanding the disease, how to prevent it, treat it and its complications. During (online) it can be done by means of media zoom, whatsapp group chat and others, even though this condition is not influenceive, it is the safest way to keep mothers and future babies healthy

and safe from the COVID-19 virus (Herliandry et al, 2020)

However, there are other alternatives that can be carried out so that health services for pregnant women regarding the prevention of transmission of COVID-19 can still be carried out in more influenceive conditions, namely by providing health information offline such as placing banners, distributing leaflets, brochures, and others where staff Health services that provide services must strictly adhere to the established health protocols in order to maintain the safety and health of both pregnant women and their babies (Adhikari et al., 2020).

This research is essential to do since Padang is the area with the highest COVID-19 cases in West Sumatra Province (Health Department, 2021). Besides, the number of COVID-19 in pregnant women has increased in this city. In the initial research survey, there were still pregnant women who violated health protocols, especially when visiting the health center. Considering that COVID-19 is a disease that spreads quickly, one effort to prevent and reduce this number is to take preventive measures and provide health education about preventing COVID-19 to pregnant women.

Based on the problems aforementioned, the researcher is interested in writing it in the form of a research article entitled "Influence of Online and Offline Health Counseling on Covid-19 Prevention for Pregnant Women."

## **METHOD**

This type of research uses the Quasy Experiment method (pseudo-experiment) with the "Pretest-Posttest two Group Design". Considering the difficulty of controlling all variables that influence the variables being studied, the researcher chose quasy experiment method. Health counseling is an educational activity carried out by spreading messages,

instilling confidence, so that participants are not only aware, know and understand, but are also willing and able to carry out recommendations related to health. The increase in respondents' post-counseling knowledge is influenced by several factors, namely the instructor, the counseling participants, the counseling methods and the media used. Counseling via online media has its own advantages, namely that the information is more personal in nature and can be accessed by anyone, anytime and anywhere. Another advantage is that the information distributed can be updated at any time if necessary every second. Moreover, counseling through online media also provides news search and news preparation facilities that can be accessed easily. counseling using online media, namely in the form of PDF booklets and powerpoints regarding the prevention of COVID-19 in pregnant women, consisting of the definition, distribution, causes, signs and symptoms and preventive measures for pregnant women. Counseling is delivered via WhatsApp Group. PDF booklets and powerpoints were distributed and stored on respondents' cellphones. Besides, Offline counseling has the characteristics of fast dissemination of information and can be accessed easily by everyone, without the intermediary of an internet network, and is current compared to online media. Counseling using offline media is conducted in the form of lectures, booklets and powerpoints presented via laptop regarding prevention of COVID-19 in pregnant women consisting of definition, distribution, causes, signs and symptoms and preventive measures for pregnant women. Counseling is delivered for  $\pm$  20 minutes. Printed booklets and leaflets were distributed to respondents. In this study, pregnant women were first given an initial test (pretest) to find out the extent of knowledge, attitudes and actions of pregnant women regarding the prevention of COVID-19. After being given the initial test, pregnant women were then given

intervention, namely counseling through online media and offline media about preventing COVID-19 in the intervention group. After completing the counseling, pregnant women are then given a final test (posttest) to find out how significant the influence of online media and offline media on preventing COVID-19 is on the knowledge, attitudes and actions of pregnant women.

The sampling technique uses systematic random sampling. After obtaining a sample size of 60 subjects, then the sample was taken using a non-proportional random sampling technique, namely random sampling where each member of the population has the same opportunity to be taken as a sample regardless of where the sample resides.

Primary data collection obtained sources of information directly from the respondents. The data collected from the interviews included the respondent's name, address, telephone number, education, and ANC visits. This research was assisted by midwives and cadres to conduct research starting with a pretest with  $\pm 15$  minutes individually, then conducting counseling. Details of the counseling time each 15 minutes. Furthermore, the researchers conducted a posttest with  $\pm 15$  minutes individually. Secondary data in this study were obtained from a review of documents belonging to Padang health office and Andalas Health Center.

In terms of data analysis, univariate analysis was carried out to describe the characteristics of the research subjects according to groups of pregnant women who used online media and groups of pregnant women who used offline media which was carried out by presenting each variable using a frequency distribution table. In addition, Bivariate analysis in this study was carried out to see the influence of health counseling about COVID 19 on knowledge, attitudes, and actions of pregnant women who use online media and pregnant women who use offline media before and after counseling and to see differences in health counseling about COVID 19 on knowledge, attitudes

and actions between mothers who use online media and pregnant women who use offline media.

Data collection was carried out after obtaining permission from the Health Service, namely in June 2021. Data was obtained directly from respondents through interviews conducted by researchers. Data regarding knowledge, attitudes and actions regarding preventing COVID-19 were obtained from questionnaire scores by conducting a pretest and posttest. This research was assisted by midwives and cadres to carry out the research starting with a pretest with an individual time of  $\pm 15$  minutes, then conducting counseling. The detailed time for providing counseling is 15 minutes each. Next, the researcher carried out a posttest with an individual time of  $\pm 15$  minutes.

Secondary data in this research was obtained from reviewing documents belonging to the Padang City Health Service and the Andalas Health Center.

In doing data measurements, the researcher uses several indicators. First, to measure knowledge, the researcher uses Notoatmodjo (2015) point of view stating that a person's knowledge can be known and interpreted using a qualitative scale, namely:

1. Good, if the subject answers 76% -100% of all questions correctly.
2. Sufficient, if the subject answers 56% -75% of all questions correctly.
3. Less, if the subject answers correctly <56% of all questions

On the other hand, attitudes can be measured by asking directly about a person's opinion or statement regarding a particular object using hypothetical questions. One standard that is usually used to measure attitudes is the Likert scale, which is a scale that can be used to measure a person's attitudes, opinions and perceptions about the signs and symptoms of certain phenomena. There are two Likert scale forms of positive statements given scores SS=4, S=3, TS=2, and

STS=1. Meanwhile, negative statements are given scores SS=1, S=2, TS= 3, and STS=4 (Notoatmodjo 2015).

One of the standards usually used in the Likert model scale is the T score, namely:

$$\text{Skor T} = 50 + 10 \left[ \frac{X - \bar{X}}{s} \right]$$

X = respondent's score on the attitude scale to be converted into a T score

$\bar{X}$  = mean group score

s = standard deviation of group scores

The respondent's attitude can be determined by comparing the respondent's T score with the group's average score using the following criteria:

- 1) Positive: If T > mean (50.02) T score
- 2) Negative: If T < mean (50.02) T score

Besides, for actions measurement, it can be grouped into 4 levels based on their quality, namely:

1. Perception (peception), is a practice at the first level. Individuals are able to recognize and select various objects in connection with the actions to be taken.
2. Guided response, the indicator is that the individual is able to do something in the correct order and according to the example, which is an indicator of level two practice.
3. Mechanism, if someone can do something correctly automatically, or something has become a habit, then he has reached level three of practice.
4. Adoption, adaptation is a practice or action that has developed well. This means that the action has been modified without reducing the correctness of the action.

Action measurements are as follows:

0. Not good if the score is < mean/medium
1. Good if the score is  $\geq$  mean/median

Moreover, a reliable instrument means an instrument that, when used several times to measure the

same object, is a valid instrument, then a reliability test is carried out using Cronbach's Alpha formula with the help of SPSS version 26. If r alpha > 0.7, it means that all of the instrument items are reliable.

To prove its reliability, the researcher does reliability test and the result is as follows.

**Table 1. Reliability Test Results**

No.	Variables	Cronbach Alpha	Conclusion
1	Knowledge (X1)	0,725	Reliable
2	Attitude (X2)	0,934	Reliable
3	Action (X3)	0,947	Reliable

Source: Attachment to Data Processing Results, 2022

Based on the table above, it can be concluded that all question items are reliable. All variables are reliable because the Cronbach alpha results are large than 0.7 (for n = 30 r table = 0.7).

## RESULT AND DISCUSSION

The results of differences in health counseling about preventing COVID-19 between pregnant women who use online media and pregnant women who use offline media in the Andalas Padang Health Center in 2022 can be seen in the following table.

**Table 2. Knowledge in Online Media Groups Before and After COVID-19 Health Counseling**

Group	n	Mean	Standard Deviation	Median	p value
Pre test online	30	6,53	2,345	8	0,027
Post test online	30	7,20	2,369	7	

Remark: \*Wicoxon Test

Table 1 shows the results that the average value of knowledge of pregnant women in the group that used online media before counseling about preventing COVID 19 was 6.53. The average value of knowledge of pregnant women in the group that used

online media was 7.2. The results of statistical tests show that there is an influence of counseling about preventing COVID19 on knowledge among pregnant women using online media with a significance value of  $p = 0.027$

**Table 3. Attitudes in Online Media Groups Before and After COVID-19 Health Counseling**

Group	n	Mean	Standard Deviation	Median	p value
Pre test online	30	51.18	4.329	18	0,039
Post test online	30	51.57	4.467	18	

Remark: \*Wicoxon Test

This table shows the results that the average attitude value of pregnant women in the group that used online media before counseling about preventing COVID 19 was 51.18. The average value of attitude of pregnant women in the group that used online media was 51.57. The results of statistical tests show that there is an influence of counseling about preventing COVID19 on the attitudes of pregnant women using online media with a significance value of  $p = 0.039$ .

**Table 4. Actions in Online Media Groups and Offline Media Groups Before COVID-19 Health Counseling**

Group	n	Mean	SD	CI 95%	p value
Pre test online	30	26.47 (2.193)	0.233 (0.568)	0.02 1- 0.04 46	0,032
Post test online	30	26.70 (2.380)			

Remark: \*Paired Sample Test

This table shows the results that the average value of the actions of pregnant women in the group that used online media before counseling about preventing COVID 19 was 26.47. The average value of the actions of pregnant women in the group that used

online media was 26.70. The results of statistical tests show that there is an influence of counseling about preventing COVID19 on actions for pregnant women using online media with a significance value of  $p = 0.032$ .

**Table 5. Knowledge in the Offline Media Group Before and After COVID-19 Health Counseling**

Group	n	Mean	Standard Deviation	Median	p value
Pre test offline	30	8.00	2.133	7	0,010
Post test offline	30	8.43	2.112	7	

Remark: \*Wicoxon Test

The table shows the results that the average value of knowledge of pregnant women in the group that used offline media before counseling on preventing COVID 19 was 8. The average value of knowledge of pregnant women in the group that used offline media was 8.43. The results of statistical tests show that there is an influence of counseling about preventing COVID19 on knowledge among pregnant women using offline media with a significance value of  $p = 0.010$ .

**Table 6. Attitude in the Offline Media Group Before and After COVID-19 Health Counseling**

Group	n	Mean	Standard Deviation	Median	p value
Pre test offline	30	52.33 3	5.215	54	0,063
Post test offline	30	52.53 3	5.244	54	

Remark: \*Wicoxon Test

This table shows the results that the average attitude value of pregnant women in the group that used offline media before counseling on preventing COVID 19 was 53.33. The average attitude value of pregnant women in the group that used offline media was 52.53. The results of statistical tests show that there is no effect of counseling about preventing COVID19 on the

attitudes of pregnant women using offline media with a significance value of  $p = 0.063$ .

**Table 7. Action in the Offline Media Group Before and After Health COVID-19 Counseling**

Group	n	Mean	SD	CI 95%	p value
Pre test offline	30	27.83 (2.995)	0.567 (1.30)	0.78- 1.054	0,024
Post test offline	30	28.40 (2.966)			

Remark: \*Paired Sample Test

The table shows the results that the average value of the actions of pregnant women in the group that used offline media before counseling on preventing COVID 19 was 27.83. The average value of the actions of pregnant women in the group that used offline media was 28.40. The results of statistical tests show that there is an influence of counseling about preventing COVID19 on actions for pregnant women using online media with a significance value of  $p = 0.024$ .

**Table 8. Differences in the Influence of Health Counseling on Covid-19 Prevention in Pregnant Women between Using Online Media and Offline Media**

Variables	Group		Mean Difference	p value
	Online (Mean)	Offline (Mean)		
Knowledge	26,70	28,40	1,7	0,017
Attitude	24,15	36,85	12,7	0,005
Action	26,70	28,40	1,7	0,017

The table shows the results that the mean difference after counseling was carried out between pregnant women who use online media and pregnant women who use offline media for the knowledge variable is 1.7, the attitude variable is 12.7, and the action variable is 1.7. The results of statistical tests showed that there were differences in the influence of

health counseling on COVID-19 prevention between pregnant women who used online media and pregnant women who used offline media where the significance value of the knowledge variable = 0.017, the attitude variable = 0.005, and the action variable = 0.017.

The results of this study found that there were differences in the influence of health counseling on preventing COVID-19 between pregnant women who used online media and offline media in the Andalas Padang Health Center in 2022 ( $p$  value  $<0.05$ ).

In this study the researchers compared the differences in the influence of online media and offline media and media where the extension materials used by the researchers were presented in the same booklet, power point and leaflet forms between groups using online media and groups using offline media. There was a fairly wide range, in terms of the influence of COVID-19 prevention counseling on the knowledge variable, namely from 36.6% -90% in the online media group and 50-100% in the offline media group, meanwhile for the attitude variable it was found that the average value of attitudes among pregnant women who received counseling using online media (24.15) was lower than the average value of the knowledge rating of pregnant women who received counseling using offline media (36.85).

Meanwhile, for the action variable, it shows that the average value of actions of pregnant women who receive counseling about COVID-19 with online media is 26.70, while the average action of pregnant women who receive counseling about COVID-19 with offline media is 28.40. The difference in the mean action between pregnant women who received counseling with online media and pregnant women who received counseling with offline media was 1.7 if the measurement was carried out in the population, the difference in the mean action between pregnant women who received counseling with online media and

pregnant women who received counseling with offline media is between 0.310 to 3.090.

The results of this study are in line with research conducted by Yuliani and Amalia (2020) in Baturraden District, Banyumas Regency. It was found that the mean knowledge of the group who received health counseling about COVID-19 prevention online using WhatsApp experienced an increase from pretest to posttest scores, where the addition the mean of the intervention group is 12 times the addition of the mean of the control group did not receive health counseling about preventing COVID-19. This means that there is an influence of health counseling about preventing maternal and neonatal COVID-19 on pregnant women's knowledge. The results of this research becomes the basis of the present research making to conduct since this supports the research arrangement and this is in line with the present researcher's objectives. Thus, this can facilitate the present research to obtain the results.

Furthermore, the researchers found that the use of offline media showed more influence than online media. According to the researchers' assumptions, offline media provided directly through Powerpoint makes it more likely that respondents understand the information provided compared to online media where respondents do not directly read the information provided. Online counseling where instructors and targets are in space/virtual world has limitations in forming emotional/psychological relationships between extension agents and targets, it is suspected that targets participating in virtual face-to-face counseling need to have higher motivation to take part in counseling because they specifically have to prepare devices and concentrate higher to be able to capture the message conveyed. This shows that the use of offline media can be chosen as the first extension media and then supported by using online media.

## CONCLUSION

In conclusion, it can be stated that there is an influence of health counseling on prevention of COVID-19 on the knowledge, attitudes and actions of pregnant women who use online media in the Andalas Padang Health Center in 2022 before and after counseling. Besides, in terms of offline media, it can be concluded that there is an influence of health counseling on prevention of COVID-19 on the knowledge and action of pregnant women and there is no influence on the attitude of pregnant women who use offline media in the 2022 Andalas Padang Health Center before and after counseling.

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