

## **THE INFORMATION ON STATUS OF ANTIBIOTIC RESISTANCE CHANGED THE PERCEPTION AND ATTITUDES OF WISELY ANTIBIOTIC USE**

### **INFORMASI STATUS RESISTENSI ANTIBIOTIKA MERUBAH PERSEPSI DAN SIKAP MENGENAI PENGGUNAAN ANTIBIOTIKA SECARA BIJAK**

#### **ABSTRAK**

Penggunaan antibiotik secara bijak di masyarakat Banyumas cukup memprihatinkan. Sebagian besar dari mereka masih membeli antibiotik tanpa resep dokter, membeli setengah resep dan mengkonsumsi antibiotik tanpa dihabiskan. Pengetahuan yang cukup baik tentang bahaya penggunaan antibiotik secara bijak belum membentuk persepsi yang benar tentang penggunaan antibiotik. Penelitian ini bertujuan untuk mengevaluasi perubahan persepsi dan sikap masyarakat tentang penggunaan antibiotik setelah diberikan informasi terkait status resistensi pada diri mereka sendiri. Penelitian ini dilakukan secara kualitatif terhadap 10 orang informan. Pengambilan data melalui teknik *focus group discussion* dilakukan sebelum dan sesudah pemberian informasi status resistensi. Hasil penelitian menunjukkan bahwa sebelum pemberian informasi, persepsi dan sikap terhadap penggunaan antibiotika sebagian besar (80%) informan belum benar meskipun memiliki tingkat pengetahuan yang baik. Perubahan persepsi dan sikap yang benar mengenai pola penggunaan antibiotik secara bijak terjadi setelah diberikan informasi tentang status resistensi antibiotika yang dialaminya. Penelitian ini dapat disimpulkan bahwa pemberian informasi hasil pemeriksaan status resistensi berpengaruh positif untuk menimbulkan perubahan persepsi dan sikap yang benar mengenai penggunaan antibiotika secara bijak pada masyarakat Banyumas

**Keyword :** *antibiotik, persepsi, resistensi, sikap*

#### **ABSTRACT**

*The wise use of antibiotics in the Banyumas community is quite alarming. Most of them still buy antibiotics without a doctor's prescription, buy half a prescription and consume antibiotics without finishing it. Good enough knowledge about the dangers of using antibiotics unwisely has not formed a correct perception and attitude of antibiotic use. This study aimed to evaluate changes in people's perceptions and attitudes about antibiotic use after being given information related to their resistance status. This research was conducted qualitatively on 10 informants. Retrieval of data through focus group discussion techniques was done before and after providing resistance status information. The results showed that before giving information, perceptions and attitudes towards the use of antibiotics most (80%) of informants were not corrected despite having a good level of knowledge. Changes in perceptions and attitudes about the right pattern of antibiotic use wisely occurred after being given information about the status of antibiotic resistance they experience. This study can be concluded that the provision of information on the results of the*

*examination of resistance status has a positive effect causing the changing in perception and the right attitude regarding the use of antibiotics wisely in the Banyumas community*

**Keyword: antibiotics, attitude, perception , resistance.**

## INTRODUCTION

The problem of microbial resistance to antibiotic drugs due to unwise use of antibiotics has become a global health problem with an estimated cause of more than 700,000 deaths per year (O'Neills, 2016). In various parts of the world, data on the use of antibiotics that are not wise many encountered in several developing countries, one of which is Indonesia. Ka Khares *et al.*, (2007) reported that of 744 patients in India aged 18-50 years, 80% stated that they are accustomed to buy antibiotic drugs without a prescription by reason of ease of access to the drugs, and practicality without going through a doctor's examination. Widayati *et al.*, (2011) reported that the purchase of antibiotics without a doctor's prescription was done by 58.80% of the residents in the city of Yogyakarta, 11.95% of other residents still did not spent according to doctor's instructions, and the rest using antibiotics according to their respective perceptions.

A person's perception of something can change when the person receives new and important information related to what he knows so far. One can easily have perceptions about the treatment process that it considered as a simple thing. Perception formation was influenced by a person's level of knowledge about the object of perception, including the perception of using antibiotics wisely (Nuaraini *et al.*, 2018). The results of the study were in line with the research of Yarza (2015) which stated that there was a significant relationship between the level of knowledge and the changes of antibiotics use attitudes i.e the higher level of the knowledge will be wiser in the antibiotics use.

The level of public knowledge about the correct use of antibiotics in several regions in Indonesia was described as follows: in Padang Selatan 64.5% (Yarza et al, 2015), in Kupang NTT only 55% (Yuliani et al, 2014), and in Teluk Sampit 50.33% only (Ardhani et al. 2016). Perceptions regarding the administration of this drug could be seen from data obtained by Anjarwati, *et al.*, (2017). The data showed that the community experienced changed in knowledge and perception after the extensive activities.

In the initial survey, people who have gained knowledge about the use of antibiotics wisely partly continue to use the same treatment patterns, i.e buying antibiotics in a stall, buying half a doctor's prescription or stopping the consumption of antibiotic drugs when they feel healed. Some people ignored information about possibility to get resistance of antibiotic on their-self. The Faculty of Medicine team, Jenderal Soedirman University in the middle of 2019 conducted microbiological examinations to determine the status of antibiotic resistance ( a condition show the resistance to antibiotic) in each individual. The result showed that there were 157 % had the strong resistance trend to antibiotic. The team also examined the public perception related to the use of antibiotics wisely and the results showed there were a wrong perception in the community, i.e the using of antibiotics without a doctor's prescription was not a problem, buying half a prescription was okay, and it was possible to stop antibiotic use whenever.

It is not known yet whether there has been a change in perception in the community after know the results of the examination of the resistance status they have experienced compared to

before. Therefore, research needs to be carried out to explore changes in perceptions and attitudes of people about the use of antibiotics after the concerned know the status of resistance in themselves so that it is expected to be one way to build a good perception in the use of antibiotics.

## **METHOD**

This research was a qualitative descriptive study that used the focus group discussion method to explore respondents' perceptions (informants) on using antibiotics wisely. In addition, as supporting data, be conducted exploration of the knowledge and antibiotic use pattern of the respondents.

### **Population and Sample**

The population of this research were all of PKK members in Berkoh Village, Banyumas Regency, Central Java. The research respondent of 10 people who were recruited as informants by using purposive sampling techniques.

### **Research Procedure**

The research was carried out in June to October 2019. Data collection was carried out by using the focused group discussion (FGD) method with the following steps: 1) Participants sat in a room accompanied by a psychologist who acted as a facilitator; 2) The facilitator gave a file containing an explanation of the process, objectives, benefits of the discussion to each informant and read out in front of all participants; 3) Each participant was asked for approval to follow the discussion to the end by signing an informed consent; 4) The FGD began with the reading of all procedures to be carried out by the facilitator, followed by a question and answer session, and confirmation whether or not the participants were willing to follow the FGD process and answered all questions as seriously as they know and feel; 5) conducting FGD for 2 hours. The researcher observed the FGD process and recorded all the responses and reactions of the informants during the discussion as research data.

### **Data Analysis**

The data obtained were written in detail and then reduced, summarized and selected key data so that it became a focus on the information/data that was important in this study. The result of data managing provided a sharper information of the observations needed to answer the research problems. Furthermore, the data were analyzed with a content analysis model, performing conclusions drawn and verification of the data used to improve the quality of the final conclusions.

### **Ethical Approval**

The research procedure has approved by the Health Research Ethics Committee (HREC) of the Faculty of Medicine, Jenderal Soedirman University

## **RESULT AND DISCUSSION**

There were 10 informants involved in the study. All of informants have married and work as housewives. The majority of informant education levels were at the level of Senior High Schools and Vocational High Schools (40%), Junior High Schools (30%), Elementary Schools (20%), and Bachelor Degrees (10%). The average age of the informant was 34.3 years. The characteristics of the informants are presented in table 1.

Table 1. Characteristics of research informants by age, educational level, occupation and marital status

Characteristics	Value
Age	
a. Average	34,4 year
b. Minimum-Maximum	19-41 year
Educational Levels	
a. Elementary School	20%
b. Junior High Schools	30%
c. Senior High Schools / Vocational High Schools	40%
d. Bachelor Degrees	10%
Job	
a. Housewife	100%
Marital Status	
a. Married	100%
b. Not Married	0%

The results of this study indicated that the level of informant's knowledge of antibiotics and resistance was sufficient. Most of informants (80%) could explain well knowledge related to antibiotics such as definition, type, method of work and procedures for the correct use as well as understanding of resistance and its adverse effects on the treatment of infections. This is understandable because for two years the Community Service team of Medical Faculty, Jenderal Soedirman University has transferred of knowledge related to antibiotic resistance and they also still have brochure containing practical information about antibiotic resistance. However, in a fact, the behaviour of informants in the use of antibiotics was still not in accordance with the rules of correctly (wisely) using antibiotics.

Based on the information provided by the informants, the knowledge of antibiotics they have came from various sources that have been easily obtained around them, such as television, internet and several counseling sessions that were often held by PKK management. All of this knowledge has not been able to encourage the formation of the right attitude and perception about the use of antibiotics so that it has not been realized in the daily behavior of antibiotic use during illness. This situation may occur because the formation of attitudes, perceptions and behaviors is influenced by many factors. In addition to adequate knowledge, the formation of attitudes, perceptions and behavior is influenced by interests, experiences, social, economic and cultural conditions that accompany an individual's life journey.

In this study, information about antibiotic resistance status after undergoing checks it apparently has generated very varied responses such as informants being shocked, worried, angry, panic, also asking how it is dangerous. This information provides strong evidence to informants about there the risk of resistance that is truly real. The FGD showed that the results of the examination had raised full awareness of the informants about the importance of paying attention and implementing the correct or wise principles in using antibiotics. This is evident in their statement on the discussion which confirms that they are determined to change the pattern of antibiotic consumption behavior, they will always listen to the doctor's explanation in advance whether the current condition requires treatment with antibiotics or not, if it must use antibiotics,

then all drugs are consumed according to doctor's instructions. In addition, he wants to invite families and ordinary people to know more about the status of resistance caused by the consumption of antibiotics unwise and play an active role in meeting the target of Banyumas zero antibiotic resistance in 2030.

The result of this study indicate a lack of public awareness of the wise consumption of antibiotics simply because they have not encountered any real cases of people experiencing resistance. During this time they have violated the rules of antibiotic consumption wisely, especially buying without a doctor's prescription but do not feel there is anything wrong with it, even asking whether it will really make to the resistance condition? However, their perceptions eventually changed after undergoing self-examination of the resistance status and there was a proven to tendency for getting resistance. This is in accordance with Ghana (2017) research which states that there is a significant relationship between the level of knowledge and attitude changes in the use of antibiotics i.e the higher the level of knowledge the better the attitude in the use of antibiotics. In this case the perceptions and attitudes of the informants changed after gaining new knowledge, namely their antibiotic resistance status.

Based on the data analysis, several things were known to influence the process of changing perception and attitude formation which are further grouped into 3 main factors. These factors include: a) The informants need. In this case all informants felt that they needed precise and concrete information about the certainty of the status of antibiotic resistance. During the time, by gaining new knowledge through the counseling process was still unable to shape their perceptions and attitudes towards the wise use of antibiotics. b) Interest of the informant. In this study all informants had the same interest related to their health concerns. When getting clear information about their resistance status, in the end they can change their perceptions significantly to change their attitudes and even encourage them to ask families and the wider community to have the same awareness as them. c) Life experience. Their experience in unwisely consume of antibiotics proved to have brought them to the status of resistant tendencies so that now they have had the awareness to immediately change in consuming antibiotic drugs. d) Attention of the informant. Another factor that influences perception is attention. Every person needs energy expended to pay attention or focus on a physical form and mental facilities that exist on an object. Everyone's energy is different so that the focus of attention on the object is also different and finally, this will affect the perception of an object. In this case, PKK members who become informants can pay more attention to matters related to the wise use of antibiotics because they have obtained new information in the form of diagnostic status of resistance on themselves. e) Mood. Mood is also a factor that can influence the formation of perception. Emotional states such as anger or sadness, or excessive anxiety can affect the formation of perception. Mood can show how someone feels at a time that can affect a person's attitude in receiving, reacting and also remembering an event. In this case, the fact that the informants have a status of resistance tendency compared to the other of PKK members opens the chance for occurring of anxiety, worry, or anger, so that changing in perception.

## CONCLUSION

Based on the results of the study, it can be concluded that the provision of information related to the status of antibiotic resistance experienced can change perceptions and attitudes regarding the wise use of antibiotics in the community in Banyumas Regency. The results of this study indicate that changes in a person's perceptions and attitudes in the wise use of antibiotics will be more

easily formed correctly through proving that there is a real condition of resistance that can occur in everyone than only through increasing knowledge alone.

### ACKNOWLEDGMENT

This research can be carried out with the cooperation and participation of many parties. Therefore, the author would like to thank to the Rector of Jenderal Soedirman University and the Institute of Research and Community Services of Jenderal Soedirman University, the Psychologist Team of the HIMPSI Banyumas, the management and members of the PKK of Berkoh Village, Banyumas Regency for all support and the participation that are very important in this research.

### REFERENCES

- Anjarwati, D., Wulansari, R., & Lestari, D.W. 2017. Peningkatan penggunaan antibiotik secara bijak melalui intervensi alih pengetahuan untuk merubah persepsi masyarakat di kabupaten Banyumas, *Jurnal Pengabdian Masyarakat Banten* 2(2): 93-100. |
- Ardhany, S.D., Anugrah, R.O., & Harum, Y. 2016. Tingkat pengetahuan masyarakat desa basawang kecamatan Teluk Sampit tentang penggunaan antibiotik sebagai pengobatan infeksi. *Prosiding Rakernas dan Pertemuan Ilmiah Tahunan Ikatan Apoteker Indonesia* : 162-167.
- Djwaria, D.P.D., Setiadi, A.P., & Setiawan, E. 2018. Analisis Perilaku dan faktor penyebab penggunaan antibiotik tanpa resep di Surabaya. *Jurnal Media Kesehatan Masyarakat Indonesia* 14(4): 406-417.
- Insani, A., Destiani, D., Sani, A., & Lilik, S. 2017. Hubungan persepsi dengan perilaku swamedika antibiotik. Study Observasional melalui pendekatan Teory Health Believe Model. *Jurnal Farmasi Klinik Indonesia* 4 (2): 77-86.
- Nuraini, A., Yulia, R., Herawati, F., & Setiasih. 2018. Hubungan pengetahuan dan keyakinan dengan kepatuhan menggunakan antibiotik pasien dewasa. *Jurnal Manajemen dan Pelayanan Farmasi* 8(4): 165-174.
- O'Neill J. 2016. Tackling drug-resistant infections globally: final report and recommendations. The review on antimicrobial resistance. London:HM Government. [https://amr-review.org/sites/default/files/160525\\_Final%20paper\\_with%20cover.pdf](https://amr-review.org/sites/default/files/160525_Final%20paper_with%20cover.pdf)
- Prasetyo, R.A.B. 2018. Persesi iklim sekolah dan kesejahteraan subyektif siswa di sekolah. *Jurnal Psikologi Teori Terapan* 8(2): 133-144.
- Tamayanti, W.D., Sari, D.M., & Dewi, D.N. 2016. Penggunaan antibiotik di dua apotik di Surabaya: Identifikasi faktor-faktor yang mempengaruhi kepatuhan pasien. *Journal Pharmacia* 6(2): 155-162.
- Widayati, A., Suryawati, S., De Cresspigny, C., & Hilleer, J.E. 2011. Self medication with antibiotik in Yogyakarta city Indonesia: a Cross sectional population based survey. *BMC Research Notes* 4: 491.
- Yarza, H.L., Yanwirasti, Irawati, L. 2015. Hubungan tingkat pengetahuan dan sikap dengan penggunaan antibiotik tanpa resep dokter. *Jurnal Kesehatan Andalas* 4(1): 151-156.
- Yuliani, N.N., Wijaya, C., & Moeda, G. 2014. Tingkat pengetahuan masyarakat rw iv kelurahan fontein kota kupang terhadap penggunaan antibiotika. *Jurnal Info Kesehatan* 12(1): 699-711.