STUDY OF ETNOPHARMACOLOGICAL UTILIZATION BY THE COMMUNITY OF TARUMAJAYA REGENCY, NORTH BEKASI

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STUDY OF ETNOPHARMACOLOGICAL UTILIZATION BY THE COMMUNITY OF TARUMAJAYA REGENCY, NORTH BEKASI

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Abstract

Background: Research on ethnopharmacology of medicinal plants in Tarumajaya Regency, North Bekasi aims to determine the types of plants that are efficacious as traditional medicines, plant parts that can be used as ingredients in traditional medicine processing, and how to use them in traditional medicine.

Method: The research design used was an exploratory survey and observational method, through interviews with 140 respondents using a questionnaire that included the name of the disease, the local name of the plant, the part of the plant used, and the method of manufacture. Samples were selected based on purposive sampling and purposive consecutive sampling.

Results: The results showed that the medicinal plants used by the people of Tarumajaya Regency, North Bekasi were 21 types of medicinal plants from 21 families, consisting of turmeric (*zingiberaceae*), sweet saga (*polysonaceae*), aloe vera (*liliaceae*), bitter (*acanthaceae*), star fruit wuluh (*oxalidaceae*), somjawa (*talinaceae*), cocor duck (*crassulaceae*), noni (*rubiaceae*), cat's whiskers (*lamiaceae*), green betel (*piperaceae*), gondola (*basellaceae*), castor leaf (*euphorbiaceae*), ciplukan (*solanaceae*), papaya (*caricaceae*), brotowali (*menispermaceae*), suji leaf (*asparagaceae*), ginger (*zingiberaceae*), guava (*myrtaceae*), lime (*rutaceae*), flower telang (*leguminosae*), fig (*moraceae*).

Conclusion: The most widely used plants were the *Zingiberaceae* family, with a very good level of public knowledge about the use of drugs. The most widely used medicinal plants come from gardens, namely the leaves, with a processing process by boiling with water and used for drinking.

Keywords: Ethnopharmacology, Medicinal Plants, Tarumajaya, North Bekasi

INTRODUCTION

The general public's trust in medicinal plants has decreased due to the increase in the pharmaceutical industry with chemicals (Conde *et al*., 2014). People are starting to lose knowledge about medicinal plants around them, especially those that are endemic. According to Sulfiyana *et al*. (2019), it is stated, along withthe times, people who are slowly living in urban areas are starting to abandon the habit of using plants as medicine to cure diseases.

The lack of awareness of Indonesian people towards the knowledge of medicinal plants in the environment where they live will have an impact on the loss of public knowledge in recognizing the names of medicinal plants and their uses in the treatment of diseases. In addition, the loss of information about medicinal plantscauses the next generation to abandon the habit of cultivating and utilizing medicinal plants so that the potential of the herbal medicine business becomes scarce (Hidayat, 2016).

According to the 2013 World Health Organization (WHO) report on *Enhancing the Role of Traditional Medicine in Health Systems: A Strategy for the African Region*, several countries that use plants as traditional medicine include Belgium (45%) and England (90%). Users of this traditional medicine on the African continent reach 90% in Burundi and Ethiopia and 70% in Benin (Muganga *et al*., 2013).

According to WHO (2010) regarding *Guidelines for Registration of Traditional Medicines in the WHO Africa Region* 2010, almost 20 years traditional medicines are widely used in various parts of the world andsome user countries include Nigeria, Ghana, Zambia and Mali, which reach 60%. In addition, those who use traditional medicine for health make up about 80% of the population in many countries.

Another research on ethnopharmacology was conducted by Mulyani *et al*. (2019) using observation methods and exploratory surveys showed that, out of 22 families of medicinal plants used by the community in Warukin and Tanta Hulu villages, South Kalimantan, there were 28 types of medicinal plants

that were useful for treating disease or maintaining health.

It can be seen from several studies that have been carried out, there are differences in the location of the research, the number of plants obtained, and the families of plants that are often used by the surrounding community, so researchers are interested in conducting this research in Pahlawansetia Village and Samudrajaya Village.

METHODS
Research Design
The research design used in this research was the method of observation and exploratory survey.
Research Time and Place
The implementation of this research was carried out in Tarumajaya Regency, North Bekasi. In addition, thisresearch was carried out in several houses of residents who grew traditional plants for further observation purposes. The collection of research data begun in February 2022-April 2022.
Population and Sample
The population in this study were people who had been registered in Tarumajaya Regency, North Bekasi. Samples were selected based on purposive sampling and purposive consecutive sampling techniques. Determination of the number of samples using the formula below:

$$n : \sqrt{N} + 1$$

Information:
n = Number of respondents
determinedN = Number of FC
(Family Card)

The specified number of samples was.
a. Pahlawansetia
Village.$n =$
$\sqrt{4866} + 1$
$n = \sqrt{4867}$
$n = 69 \sim 80$
b. Samudrajaya
Village.
$n = \sqrt{2510} + 1$
$n = \sqrt{2511}$
$n = 50 \sim 60$

The total respondents who were involved in this research were 119 people, which were divided into 69 people representing Pahlawansetia Village and 50 people representing Samudayajaya Village. According toNursalam and Medika (2011), this study used inclusion criteria. The inclusion criteria that met the requirements and become the research sample are:
1. Age above 30 years.
2. Married men and women.
3. Married men and women who were willing to be research respondents.
4. Married men and women who could read and write.

According to Nursalam and Medika (2011), the exclusion criteria in this study were respondents where the research subject could not represent the sample because it did not meet the requirements as a research sample, for example the condition of married women and men who were sick and experiencing disturbances of consciousness such as epilepsy.

Research Variables
The variables used in this study were public knowledge, the value of knowledge of medicinal plants, sources of acquisition of medicinal plants, plant organs that are often used, and the percentage of how to use medicinal plants.

Research Materials and Tools
Tools preparation
  The tools that needed to be prepared to continue the research were writing instruments, 12 megapixel cellphone camera, scissors, plant identification application (PlantNet), *Kitab Tanaman Obat Nusantara* book written by Alternative *et al.* (2019), *Praktikum Farmakologi* book written by Silalahi *et al.* (2019), *Karakteristik Morfologi Tumbuhan* book written by Liunokas *et al.* (2021), and *Penuntun Farmakologi* book written by Eliyanoor and Benbasyar (2016).

Ingredient
  The material used was the respondent sheet

(questionnaire).Lampiran 7 Dokumentasi lembar kuesioner.

NO	QUESTIONS	ASSESSMENT		
	Knowledge Assessment	**Yes**	**No**	**No Idea**
1	Did you know that there are types of medicinal plants that can be used for this village?			
2	Was your first knowledge of medicinal plants hereditary?			
3	Did you know about medicinal plants first from media information?			
4	Do you know what medicinal plants are used for traditional events?			
5	Do you think there are still many medicinal plants in this village?			
6	Do you think herbs can cure Covid-19?			
7	Do you think herbs can boost immunity?			

NO	QUESTIONS	ASSESSMENT		
	Utilization of Medicinal Plants	**Yes**	**No**	**No Idea**
1	Have you ever used medicinal plants for the treatment and maintenance of health?			
2	Do you use family medicinal plants to treat disease and maintain health?			
3	Do you make your own traditional concoctions?			
4	In your opinion, is traditional medicine effective and efficacious?			
5	Do you cultivate plants that can be used to treat disease?			

Data Analysis
  Data analysis was also carried out on informant data such as age, gender, education and occupation.Furthermore, the collected medicinal plant data was calculated using the formula (Mulyani *et al.*, 2020).

$$\frac{\sum certain\ plant\ organs}{\sum total\ plant} \times 100\%$$

Percentage of sources of acquisition of medicinal plants using the formula:

$$\frac{\sum \text{source of acquisition of the type obtained by the respondent}}{\sum \text{The total source of all processing mentioned by respondent}} \times 100\%$$

Percentage of how to use medicinal plants using the formula:

$$\frac{\sum \text{certain ways of use}}{\sum \text{total plant}} \times 100\%$$
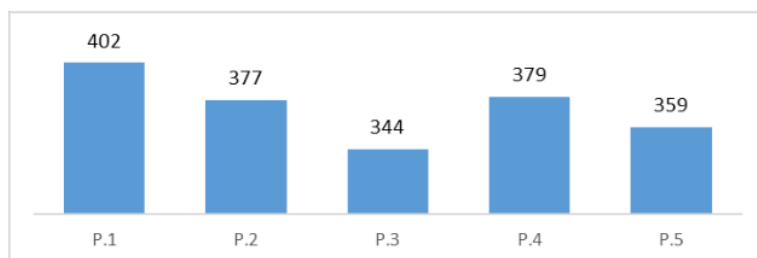
RESULTS

The level of knowledge and benefits of medicinal plants by the community
Diagram 5.1 Score scores on public knowledge.
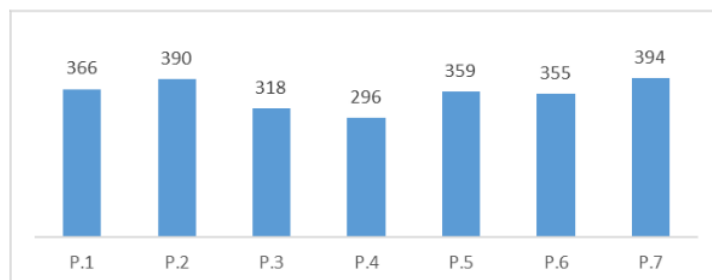
Based on diagram 5.1, the results shown were very good public knowledge of questions 1, 2, 3, 5, 6, 7. For question number 4, people's knowledge was in a good range. It can be interpreted that people know about medicinal plants in their environment.

Diagram 5.1 The scores of the questionnaire for the Use of Medicinal Plants.

Based on diagram 5.2, the results showed that people's knowledge of questions 1-5 was very good. Public knowledge was within good limits. In other words, people still know how medicinal plants are used for treatment.

Diagram 5.2 Average value of knowledge and utilization of medicinal plants.
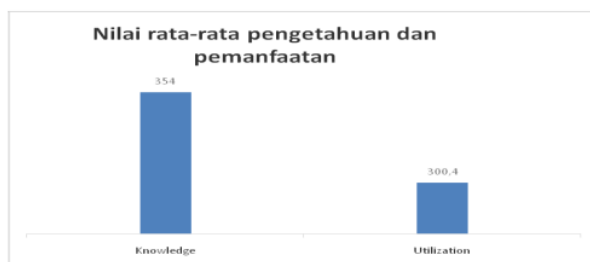
Based on diagram 5.3, the results of the study indicate that the level of public knowledge about the use of medicinal plants is in the very good range. It can be interpreted that people know very well how a plant can be processed into materials that are beneficial to health, for example for traditional medicine. It is a note that empirically the use of plants in the community still exists and has not become extinct. It can still be developed and documented.

DISCUSSION

Based on the results of the study, the level of public knowledge about knowledge and utilization of medicinal plants is very good. It can be seen in diagram 5.1 that the score level of community knowledge about medicinal plants is very good, especially on questions 1,2,3,5,6,7 which show very good results. For question 4, the range is good. Based on diagram 5.2, the score level for the use of medicinal plants in questions 1-5 is very good so that the knowledge of community utilization is in a good range. It can be seen in diagram 5.3 that the average value of knowledge and utilization of medicinal plants is in the very good range, with a knowledge value of 354 and utilization of 300.4. It can be seen that the community is very aware of how a plant can be processed into ingredients that are beneficial for health and for traditional medicine. It is a note that empirically the use of plants in the community still exists and has not become extinct. It is still being developed and documented.

CONCLUSION

From the results of data analysis, the value of knowledge and use of medicinal plants by respondents in the two villages of Pahlawansetia and Samudrajaya is very good. The score for knowledge of medicinal plants is 354 and the utilization of medicinal plants is 300.4.

REFERENCES

Alternatif,Herlina Widyaningrum dan Tim Solusi 2019 ."Kitab Tanaman Obat Nusantara"

Conde, Bruno Esteves, Izabela Taiana Salazar Rogerio, Aline Moreira de Siqueira, Marina Quintão Ferreira, Luciana Moreira Chedier, and Daniel Sales Pimenta. 2014. "Ethnopharmacology in the Vicinity of the Botanical Garden of the Federal University of Juiz De Fora, Brazil." *Ethnobotany Research and Applications* 12(1):91–112. doi: 10.17348/era.12.0.091-111.

Eliyanoor,Benbasyar 2016.''Penuntun Praktikum Farmakognosi''Jakarta : EGC

Hidayat, J. Sofyan. 2016. "Jamu, Kedaulatan Bangsa Dan Solusi Pengangguran." di unduh pada tanggal 16 september 2016 dari https://nusantara.rmol.id/read/2016/09/16/260856/jamu-kedaulatan-bangsa-dan-solusi-pengangguran.

Liunokas, Angreni Beaktris dan Agsen Hosanty.2021.''Buku Karakteristik Morfologi Tumbuhan'' Mulyani, Yani, dan Patonah. 2020. "Kajian Etnofarmakologi Pemanfaatan Tanaman Obat Oleh Masyarakat Di Kecamatan Dawuan Kabupaten Subang Provinsi Jawa Barat." *Kajian Etnofarmakologi Pemanfaatan Tanaman Obat Oleh Masyarakat Di Kecamatan Dawuan Kabupaten Subang Provinsi Jawa Barat* 6(1):16. doi: 10.22487/j24428744.2020.v6.i1.14106.

Mulyani, Yani, Ninda Ryana, dan Nita Selifiana. 2019. "Kajian Etnofarmakologi Tumbuhan Obat Oleh Masyarakat Di Kecamatan Tanta Kabupaten Tabalong Provinsi Kalimantan Selatan." Jurnal Insan Farmasi Indonesia 2(2):194–204. doi: 10.36387/jifi.v2i2.371.

Muganga, Ossy, Julius Kasilo, Jean Baptiste Nikiema, Martin Matthew, Okechukwu Ota, Abayneh Tamir Desta, and Bokar Touré. 2013. "Enhancing the Role of Traditional Medicine in Health Systems: A Strategy for the African Region." African Health Monitor (18):40-43.

Nursalam, dan Salemba Medika. 2011. Konsep Dan Penerapan Metodologi Penelitian Ilmu Keperawatan : Pedoman Skripsi, Tesis, Dan Instrumen Penelitian Keperawatan. Jakarta : Salemba Medika, 2011.

Silalahi, Marina, dan Fajar Adinugraha. 2019."Penuntun Praktikum Morfologi Tumbuhan".UKI Press, Jakarta. ISBN 978-623-7256-36-6.

Sulfiyana H,Ambo Lau, Herman, Rahmat M.2014.'' Studi Perbandingan Tingkat Pengetahuan Masyarakat Tentang Obat Herbal Dan Obat Sintetik Di Campagayya Kelurahan Panaikang Kota Makassar''

World Health Organization (WHO). 2010. ''Guidelines on clinical study of traditional medicines in the WHO African Region. Office for Africa''.

World Health Organization (WHO). 2013. '' Enhancing The Role Of Traditional Medicine In Health Systems: A Strategy For The African Region''.

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