



## Improved Information Literacy of Elementary School Students About Living Pharmacies Through Information and Communication Media (ICT)

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### ABSTRACTS

The availability of family medicinal plants as living pharmacies has been widely used by the community. The increasing use of herbal medicines causes scientific information related to these medicines to have an important position for the public. Ideally, all scientific information in the form of electronic files can be obtained from the internet. However, this condition cannot be fulfilled because of the high cost of internet subscription. Therefore, the knowledge that develops in the community about medicines needs to be documented as well as possible so that it can be maintained and studied by the next generation. This study aims to improve students' literacy skills about living pharmacies through information and communication media for elementary school students in the 2021/2022 academic year. We was conducted using a qualitative descriptive method accompanied by library research activities. This was proven through a pre-test questionnaire at the beginning and the average result of 17 students was 70.65%. After students were given material in the form of reading material about living pharmacies, students' understanding increased by 13.42%. Based on these data, it was revealed that most of the respondents had good knowledge after being given a literature study about living pharmacies.

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## 1. INTRODUCTION

Schools have a very important role in instilling a culture of literacy in students. Therefore, every school without exception must provide full support for literacy development. Reading programs such as reading silently and reading aloud are only part of a larger framework for building a school literacy culture. So that schools are able to be at the forefront of developing a literacy culture. Schools with a high literacy culture can support student success. In its development, literacy in various fields of science uses various media as communication tools and the formation of meaning to understand critically is not only done by using media in the form of language in print. Language is better understood through various communication media such as pictures, videos, films, performances and various other media that support literacy (Abidin, 2017).

In Indonesia, currently there is an epidemiological transition that causes a shift in disease patterns, namely an increase in degenerative diseases. Degenerative diseases are chronic non-communicable diseases due to the decline in body organ function due to the aging process, such as heart disease, hypertension, diabetes, obesity and others (Handajani et al., 2010). The environment is something that cannot be separated from humans. The environment provides many benefits for humans. The use of the yard is part of the utilization of natural and environmental resources that provide benefits for humans (Nurmayulis & Hermita, 2015). In the use of the yard, humans can maintain wild plants or plants that are intentionally planted (cultivated). This is because plants or plants have a role in the ecosystem, including in the nutrient cycle, reducing erosion, increasing infiltration, as a source of germplasm, as a source of medicine, as a source of animal feed and forest animals, as well as other benefits (Abdiyani, 2008). Community knowledge in utilizing plant resources can be seen through live pharmacies. A live pharmacy is a term for land use planted with plants that are efficacious for traditional medicine (Syarif et al., 2015). The yard is an open area around the residential area. The yard of the house is a very appropriate place to carry out a live pharmacy for medicinal plants (Nurmayulis & Hermita, 2015).

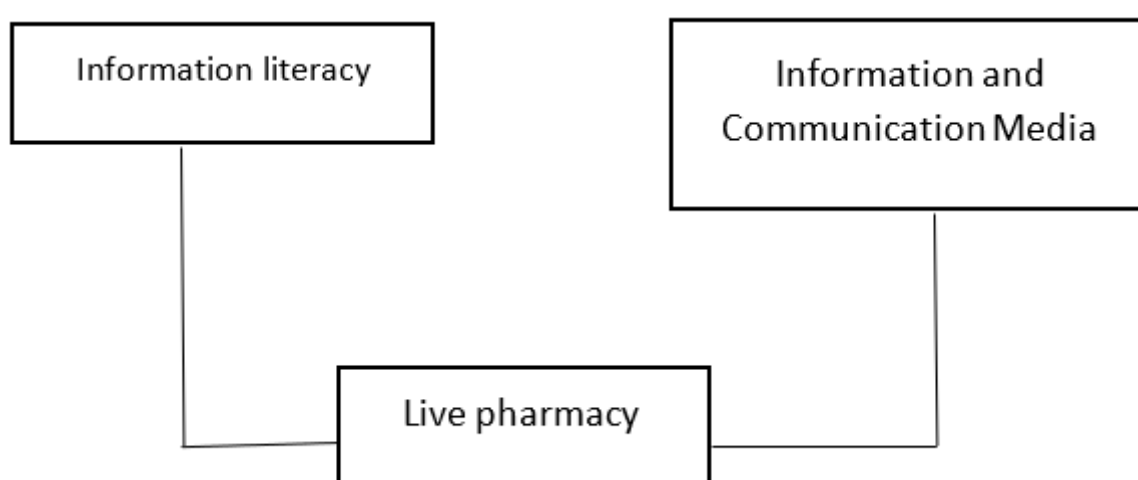
Traditional medicinal plants or plants are plants that can be used as medicine, either intentionally planted (cultivated) or plants that grow wild. Plants are used by the community to be mixed and served as medicine to cure disease. Traditional medicine is a medicinal herb derived from plants that have medicinal properties (Harjawinata et al., 2015). The use of medicinal plants or herbs as traditional medicine is expected to be used as an alternative complementary medicine that can be juxtaposed with conventional (modern) medicine that has developed and has long been used in health care facilities (Ahmad, 2012).

The people's low interest in reading, especially children, is one of the concerns. Where these children prefer to play gadgets and games. Even though before getting to know the gadgets, these children diligently study the Koran at the mosque every afternoon and continue to study together (Lubis et al., 2020). Library facilities and rooms that are not representative are also one of the causes of the low interest in reading children in this area. Therefore, this research is not only meaningful for human health, but also for natural health. It is important to do this as a form of ecological wisdom. Ecological wisdom is all the actions of local residents in carrying out their lives in harmony with the environment.

From the background of the problem above, we interested in researching about "Improving Students' Information Literacy Ability About Life Pharmacy Through Information and Communication Media (ICT) (Study of SRIMUKTI Elementary School Students in Subang City)".

## 2. THEORITICAL FRAMEWORK

In **Figure 1**, Interrelated if information literacy about living pharmacies is presented or archived through information and communication media. Information literacy is a person's understanding and ability to recognize when information is needed, and have the ability to find, evaluate, and use that information effectively. (Council of Australian University Librarians, 2001). Long before, the American Library Association has said that Information Literacy is "a set of abilities that enable individuals to find, evaluate, and use the information they need effectively. (American Library Association, 1989). Media, one of the communication tools in delivering messages, is certainly very useful if it is implemented in the learning process, the media used in the learning process is referred to as learning media. So television, films, photos, audio recordings, projected images, printed materials, and the like are communication media if the media carries messages or information with instructional purposes or contains learning purposes then the media is called learning media.



**Figure 1.** Theoretical framework.

## 3. METHODS

This study uses a qualitative descriptive method accompanied by literature review activities. The data collection technique used a test technique in the form of pre-test and post-test activities. The subjects involved in this study were 6 students in group 1 and 11 students in group 2 in class VB primary school Srimukti Subang, West Java, Indonesia. In this study, first using a pre-test questionnaire to get a population of students who understand about live pharmacies who will later be re-elected to be used as samples then questionnaires will be distributed to get results whether there is an effect of exposure to literacy readings about the live pharmacy.

## 4. RESULTS AND DISCUSSION

### 4.1. Demography

This research was conducted in elementary schools. The first step in this research is to ask permission to carry out scientific activities in schools through WhatsApp telephone media. Because the school has limited face-to-face contact, students are divided into two groups in one class. After being permitted, we conducted a survey to students in class VB about their

understanding of living pharmacies and obtained as many as 17 students with details of group 1 as many as 35.3% (6 students) and group 2 64.7% (11 students).

#### 4.2. Phenomena in the learning process

The first stage in the learning carried out is to see how active students are in learning. Some students look very active and interested in the learning process. After that, pre-test questions were given to find out how students' knowledge about living pharmacies was. Then it can be seen how the level of students' understanding of instant noodle knowledge. After that, the material is given through reading materials that are shared via Whatsapp. Some students seemed enthusiastic about reading the material. Then given an evaluation using post-test questions to see the ability of students' knowledge after being given material through reading materials about living pharmacies.

#### 4.3. Pre-test and post-test results

Learning activities in elementary schools are carried out offline, each group takes turns going to school face-to-face on different days. Then we took data during online learning activities. Tools and media used in learning through google forms and whatsapp groups. This method is an interactive solution, a learning media used in online learning during a pandemic. In addition to introducing the two applications, we also distributed an online questionnaire through a google form which was distributed to students through the whatsapp group application to find out the extent of their understanding of the living pharmacy.

**Table 1.** explain the questions asked by we in the form of pre-test and post-test. The first questionnaire that was made was a pre-test questionnaire. This questionnaire was distributed to VB grade students elementary school, which aims to find out how far their knowledge of the pharmacy is living by filling out 10 questions. After that, we will provide reading literacy material in the form of reading material about living pharmacies. After explaining the material, we redistributed the questionnaire with the same questions, namely in the form of a post-test to students with the aim of understanding the material about living pharmacies.

**Table 1.** Students pretest and posttest results.

Number	Question	Pre-Test	Post-test	Gain
1	Do you know about live pharmacy?	81.3 %	88.2 %	6.5 %
2	Are medicinal plants important for our life?	100 %	100 %	-
3	Are medicinal plants efficacious for the human body?	87.5 %	94.1 %	6.6 %
4	Is durian a medicinal plant?	75.0 %	88.2 %	13.2 %
5	Medicinal plants are the first alternative before a follow-up to the doctor?	81.3 %	94.1 %	12.8 %
6	Is Ginger a medicinal plant?	100 %	100 %	-
7	Can aloe vera cure headaches?	50.0 %	70.6 %	20.6 %
8	Can cat whiskers treat colds?	43.8 %	76.5 %	32.7 %
9	Can bitter plants relieve coughs?	43.8 %	64.7 %	20.9 %
10	Can cumin plants treat menstrual pain?	43.8 %	64.7 %	20.9 %

The results show several discussion points:

- (i) For question number one the result increased by 6.5% when the material for the live pharmacy was given.
- (ii) For question number two, the results did not increase because from the beginning they already understood the importance of a living pharmacy for human survival.

- (iii) For question number three the result slightly increased by 6.6% after being given some or the benefits of a live pharmacy for human health.
- (iv) For question number four, the result is quite increased by 13.2% after being given several examples of medicinal plants.
- (v) For question number five the results increased by 12.8% after it was explained that medicinal plants could be first aid before following up to the doctor.
- (vi) For question number six there was no improvement because from the beginning they already knew that ginger is a medicinal plant.
- (vii) For question number seven the results increased by 20.6% after explaining the efficacy of the aloe vera plant.
- (viii) For question number eight, the results were the most dominant, increasing by 32.7% after being given the material for grouping medicinal plants based on their properties.
- (ix) For question number nine the results increased by 20.9% after explaining the efficacy of the bitter plant.
- (x) For question number ten the results increased the same by 20.9% after explaining the efficacy of cumin.

Students' ability regarding information on medicinal plant species, from 10 pre-test questions related to knowledge about medicinal plants, it was revealed that the questions in the questionnaire answered were 70.65%. After students were given material in the form of reading material about living pharmacies, students' understanding increased by 13.42%. Based on these data, it was revealed that most of the respondents had good knowledge after being given reading material regarding the introduction of information literacy about medicinal plants. The results of this study are expected to provide new knowledge about the use of learning media so that using innovative learning media can improve learning outcomes. Then another study with the finding that the use of ICT-based learning media increases students' motivation and learning outcomes (Halidi *et al.*, 2015).

## 5. CONCLUSION

The conclusion of this study is that there are still many elementary school students who do not know about live pharmacies or medicinal plants. The results showed that the average pre-test score of students was 70.65%, so the difference was 13.42%. Therefore, the core competence of this research is to increase students' interest in reading literacy and science. Students' understanding of living pharmacy materials can be improved by increasing core competencies by conveying reading material about living pharmacies through the Whatsapp group application with educators. The limitations of Information and Communication Media in the area are still an obstacle in online learning. Therefore, the use of Whatsapp groups is considered quite easy to apply in distance learning in the area.

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## 7. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

## 8. REFERENCES

- Abdiyani, S. (2008). Keanekaragaman jenis tumbuhan bawah berkhasiat obat di dataran tinggi Dieng. *Jurnal Penelitian Hutan dan Konservasi Alam*, 5(1), 79-92.
- Abidin, Y. (2017). Developing literacy learning model based on multi literacy, integrated, and differentiated concept at primary school. *Jurnal Cakrawala Pendidikan*, 36(2), 156-166.
- Ahmad, F. A. (2012). Analisis penggunaan jamu untuk pengobatan pada pasien di klinik saintifikasi jamu hortus medicus Tawangmangu tahun 2012. *Agrologia*, 6(1), 13-15.
- American Library Association. (1989). Letters. *College and Research Libraries*, 50(1), 99-108.
- Council of Australian University Librarians (CAUL). (2001). Information literacy standards. *Australian Academic and Research Libraries*, 32(1), 16-25.
- Halidi, H. M., Husain, S. N., and Saehana, S. (2015). Pengaruh media pembelajaran berbasis TIK terhadap motivasi dan hasil belajar IPA siswa kelas V SDN model terpadu Madani Palu. *Mitra Sains*, 3(1), 53-60.
- Handajani, A., Roosihermatie, B., and Maryani, H. (2010). Faktor-faktor yang berhubungan dengan pola kematian pada penyakit degeneratif di Indonesia. *Buletin Penelitian Sistem Kesehatan*, 13(1), 21301.
- Harjawinata, M. B., Hardhienata, S., and Qur'ania, A. (2015). Aplikasi pencocokan jenis tanaman obat berdasarkan penyakit berbasis web. *Jurnal Online Mahasiswa (JOM) Bidang Ilmu Komputer/Informatika*, 3(3), 12-21.
- Lubis, M. A., Azizan, N., and Ikawati, E. (2020). Persepsi orang tua dalam memanfaatkan durasi penggunaan gadget untuk anak usia dini saat situasi pandemi Covid-19. *Jurnal Kajian Gender Dan Anak*, 4(1), 63-82.
- Nurmayulis, U., and Hermita, N. (2015). Potensi tumbuhan obat dalam upaya pemanfaatan lahan pekarangan oleh masyarakat desa Cimenteng kawasan Taman Nasional Ujung Kulon. *Agrologia*, 4(1), 15-18.
- Syarif, P., Suryotomo, B., and Soeprpto, H. (2015). Diskripsi dan manfaat tanaman obat di pedesaan sebagai upaya pemberdayaan apotik hidup (studi kasus di Kecamatan Wonokerto). *Pena Jurnal Ilmu Pengetahuan dan Teknologi*, 21(1), 23-45.