THE USE OF MEDICINAL PLANTS DURING THE COVID-19 PANDEMIC: PERSPECTIVE OF LITERACY AND CONSUMPTION INTERESTS FOR MILLENNIAL GENERATION

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ABSTRACT

Medicinal plants are returning viral during the Covid-19 pandemic. The absence of effective vaccines and drugs to ward off Covid-19 has increased interest in consuming medicinal plants. The trend of consuming medicinal plants during a pandemic cannot be separated from the role of the millennial generation. The millennial generation has more capabilities than the older generation in accessing and disseminating information. The problem is whether the millennial generation uses technology to support literacy about medicinal plants? How is the use of medicinal plants among the millennial generation? This research uses a descriptive qualitative approach. Data collection through surveys. The

instrument used was a questionnaire. The number of respondents involved was 90 people. The characteristics of the research respondents are population aged 20-43 years in 2020. Based on the results of the study, it can be seen that the level of literacy of the millennial generation towards medicinal plants is low. The level of literacy is inversely proportional to the quite high interest in consuming medicinal plants. Millennial generations tend to consume medicinal plants just because they follow the trend. The millennial generation is more affected by everything viral on social media. The willingness to find the truth of information is still low. There is a gap between the level of literacy and the consumption interest of the millennial generation in consuming medicinal plants during the Covid-19 Pandemic.

Keywords: Medicinal plants, literacy, consumption, Covid-19, millennial generation.

1. INTRODUCTION

World Health Organization (WHO) set Coronavirus Disease 2019 (Covid-19) as a pandemic on March 11, 2020 (Cucinotta & Vanelli, 2020). As of July 2020, at least 216 countries have contracted the virus. The Covid-19 pandemic caused panic in the world community and created a global health crisis (Vellingiri et al., 2020). One of the causes of tremendous panic is the influence of social media coverage (Depoux et al., 2020). Infection caused by Covid-19 is very deadly for parents over 50 years of age. Covid-19 exposure is also dangerous for people who have a previous medical history of asthma, diabetes, heart disease, and high blood pressure. Therefore, people with these criteria are more prone to get seriously ill. Some literature states that the common symptoms observed in people infected with Covid-19 are fever, cough, shortness of breath, and damage to the lungs (Huang et al., 2020). For people who have a good condition physical and immune system can be exposed to Covid-19 but without symptoms. Generally, the criteria for people without symptoms are those who are young. In the generation classification, they belong to the Millennial Generation. These findings provide awareness for the public, including the millennial generation, to adopt a clean lifestyle and increase immunity as an effort to prevent Covid-19 infection. Of course, not everyone has insights related to a clean lifestyle, especially regarding increased
immunity during the Covid-19 pandemic. This insight is certainly very useful for protecting yourself and your family during a pandemic situation. One way to gain insight is to read various literary sources, both physical and digital sources which are commonly referred to as literacy activities.

Literacy is the ability to access, understand, and use something intelligently through various activities, including reading, seeing, listening, writing, and speaking (Wiedarti et al., 2016). Literacy affects how to think and act in dealing with a problem. Through literacy, a person's knowledge can increase so that it affects the mindset (Widodo, Indraswasti, Erfan, Maulyda, & Rahmatih, 2020). Today literacy is one aspect that is needed, especially in facing the rapidly changing world. Included in this is the change in the world due to the Covid-19 attack. Everyone is challenged to survive the attack of this very deadly virus. Not only parents, but the younger generation also is not immune from the threat of Covid-19. Therefore, literacy related to Covid-19 must be increased, especially about immunity. Given the virus attack will be faster for people who have low immune systems.

Literacy about the need to increase immunity provides a new paradigm for society including the millennial generation regarding the importance of adopting a healthy lifestyle during the Covid-19 Pandemic. The application of a healthy lifestyle includes consuming medicinal plant agricultural products as an effort to maintain health and increase immunity. Public interest in consuming medicinal plants after the Covid-19 Pandemic has increased. The efficacy of native Indonesian medicinal plants has been believed to be very effective in treating all kinds of diseases (Wibowo, Madusari, & Ardaningsih, 2020). The substances contained in medicinal plants are very useful to increase immunity. There is no valid research on the success of any substances that can fight the COVID-19 virus. Experts in the field of epidemiology are still studying the characteristics of the virus to make the right vaccine as an antidote.
The use of medicinal plants is needed. At a minimum, by consuming medicinal plants it can increase endurance, so that it is protected from the attack of a very deadly virus. There is no single official institution that can accurately ascertain how long the Covid-19 Pandemic will end. Therefore, people are urged to always maintain body fitness, one of which is by regularly consuming medicinal plants.

The millennial generation is known as the technology literate generation. The ability of the millennial generation to access information is faster when compared to the older generation. Information relating to Covid-19 spreads more quickly on social media, especially about the benefits of medicinal plants to prevent Covid-19. The problem is whether the millennial generation uses technology to support literacy about medicinal plants? The level of literacy is closely related to the use of medicinal plants among the millennial generation. Therefore it is necessary to research how the literacy of the millennial generation and the use of medicinal plants to increase immunity. This study aims to explain the literacy and consumption interests of the millennial generation in consuming medicinal plants during the Covid-19 Pandemic.

2. MATERIALS AND METHODS

The research method used is a survey method with a qualitative-descriptive approach. This type of research was chosen because researchers wanted to describe the literacy and interest in the consumption of medicinal plants during the Covid-19 pandemic. Qualitative-Descriptive Research is a research procedure that produces descriptive data in the form of written or spoken words from observed behavior (Creswell, 2012). The descriptive research procedure was chosen in the hope that the results of the analysis carried out can be clearly and easily understood. The research period lasted for three months, from July to September 2020.

The criteria for respondents in this study were people born between
1977-2000. According to (Martin & Tulgan, 2002), the millennial generation is a population born from the years 1977-2000. This means that the millennial generation is a population aged 20-43 years in 2020. These respondents are expected to represent the condition of literacy and consumption interests of the millennial generation in Indonesia. The number of research subjects was 90. All subjects were then given a survey which was converted into a Google form so that it could be distributed online. The indicators of the questions used in the survey are as follows:

Table 1. Research Instruments

<table>
<thead>
<tr>
<th>No</th>
<th>Concept</th>
<th>No</th>
<th>Indicators</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Accessing</td>
<td>I use the internet as a medium to access information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I get information related to medicinal plants on the internet</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I read books - books related to herbal medicinal plants.</td>
</tr>
<tr>
<td>1</td>
<td>Literacy</td>
<td></td>
<td>Understand</td>
<td>I know medicinal plants such as ginger, cinnamon and turmeric have immune-boosting properties during Covid-19 Pandemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I understand medicinal plants are safe for daily consumption</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I know how to process ginger into herbal medicine to increase body immunity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I know how to process cinnamon into herbal medicine to increase immunity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I know how to process turmeric into herbal medicine to increase immunity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Use</td>
<td>I use medicinal plants to increase my immunity</td>
</tr>
<tr>
<td>2</td>
<td>Consumption interests</td>
<td></td>
<td>Have an interest</td>
<td>I am interested in consuming medicinal plants to boost immunity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I'm interested in taking herbs on my own free will without any coercion from others</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I always pay attention if there are ads on medicinal plants on the medium of television and the internet</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Caring</td>
<td>I pay attention to detail how the processing of medicinal plants for</td>
</tr>
</tbody>
</table>
The Use of Medicinal Plants during the Covid-19 Pandemic: Perspective of Literacy and Consumption Interests for Millennial Generation (Septiadi et al)

<table>
<thead>
<tr>
<th>No</th>
<th>Concept</th>
<th>No Indicators</th>
<th>No Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Involvement</td>
<td>I consume medicinal plant preparations such as ginger as an effort to increase immunity</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Involvement</td>
<td>I consume processed medicinal plants such as cinnamon to increase immunity</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Involvement</td>
<td>I consume processed medicinal plants such as turmeric to boost immunity</td>
<td></td>
</tr>
</tbody>
</table>

After the respondent answered the survey given, the researcher tabulated the data. After that, the researcher summarizes the survey results into the topic of discussion to achieve the research objectives. The analysis carried out by researchers is descriptive and will use the support of relevant literature to strengthen the researcher's argument.

3. RESULTS AND DISCUSSION

Medicinal Plant Literacy

Literacy activities are activities to add new insights and information for certain interests. The purpose of literacy activities is to acquire information skills, namely collecting, processing, and communicating information. Information finding skills are demonstrated by the ability to identify needs based on information, the ability to access and find information, the ability to evaluate information, and use information effectively and ethically. Literacy activities can be carried out in the classroom or outside the classroom. In the digital era, literacy activities are now becoming easier and more borderless. Literacy activities can be done online through gadgets or conventional through reading books and printed media. For the millennial generation, the progress of information technology that is so rapidly developing does not guarantee that they will be able to increase their literacy in certain concepts. This is because the use of information technology, such as two sides of a coin, can be used for positive activities or complacent with activities that have a lot of negative impacts.
Literacy of medicinal plants is one of the reading priorities for the public during the Covid-19 Pandemic. In Indonesia, there are various types of medicinal plants that have various properties. One of the properties that people expect during a pandemic is the property to increase immunity. Ideally, people are increasingly diligent in carrying out literacy activities on various types of medicinal plants that provide immune properties, this is because until now the right vaccine has not been found to deal with Covid-19.

In the case of millennial generation literacy in medicinal plants during the Covid-19 pandemic, there are interesting findings. The results of the study show the opposite findings, many of the millennial generations have low literacy levels in the use of medicinal plants. In more detail, the literacy level of medicinal plants from the millennial generation can be explained as follows.

![Figure 1.](#)

**Figure 1.**
Literacy rate for millennial generation medicinal plants
Source: Primary data (2020)

Based on Figure 1, it can be seen that 30 percent of respondents have low literacy levels. A fairly large number in the middle penetration massive of digital technology and information reaches all levels of society. This happens because the reading interest of the Indonesian people is still low. This finding is supported by the results of research (Widodo, Indraswasti, et al., 2020) on the characteristics of Indonesian people who have low literacy levels. Low reading habits are thought to be the main factor in low public literacy, including literacy in the use of medicinal plants as an effort to increase immunity during the Covid-19 Pandemic. The reality of the people in Indonesia that reading activities are a futile activity to spend time (to kill
time), not an activity to fill time (to full time) on purpose. This means that reading activities have not been used as a daily habit (Widodo, Jailani, Novitasari, Sutisna, & Erfan, 2020). These findings indicate that millennials have low levels of health literacy. Even though Covid-19 is a global epidemic that needs important attention from all levels of society.

Researchers want to find out more about what platforms the respondents use in literacy regarding the use of medicinal plants to maintain health. The term literacy is often understood and used differently depending on the context and disciplines. In education, we must focus on literacy rather than media, because technology will change (Combes, 2016). So that the researcher provides a research statement to explore this matter. There are two statements used, including: 1) I read books related to medicinal plants; 2) I get information related to medicinal plants on the internet / Social Media. The explanation of the survey results regarding the platform used for literacy related to the use of medicinal plants is described as follows.

Based on Figure 2, if the two statements above are compared there are interesting findings. First, the results of the survey on respondents who answered frequently, respondents who read books about medicinal plants were only 6 percent, far less than 37 percent of respondents who knew information about medicinal plants via the internet / social media. These findings indicate that digital reading sources provide easier literacy compared to information with sources from reading books. This finding is also a recommendation for interested parties in campaigning for a healthy lifestyle.
by consuming medicinal plants through digital information technology as an effective medium in influencing society. Several kinds of literature explain that effective literacy improvement is through independent online learning by utilizing technological developments (Lear, Li, & Prentice, 2016).

Second, the results of the survey on respondents who answered never, there was 16 percent of respondents who claimed to have never read books about medicinal plants, while only 3 percent of respondents who never got information on medicinal plants on the internet / social media. These findings indicate that internet / social media penetration is very good at reaching the community. This is supported by previous research on technology penetration in increasing literacy. The results of his research show that the integration of libraries with digital technology can increase the level of digital literacy and technology skills of the academic community (Rafi, JianMing, & Ahmad, 2019).

In this study, several types of medicinal plants were determined to see more deeply the respondents' understanding of processing medicinal plants into herbal food/drinks to increase immunity during the Covid-19 Pandemic. The research results are as follows.

![Figure 3.](image)

Survey results on respondents' understanding in processing types of medicinal plants into herbal foods and drinks Source: Primary data (2020).
Based on Figure 3, it can be seen that respondents who answered very well understood and understood in processing types of medicinal plants into herbal food/drinks showed that the ginger commodity had the highest value, namely as much as 22 percent (very understanding) and 54 percent (understood), next is the turmeric plant as much as 20 percent (very understanding) and 49 percent (understanding), and cinnamon as much as 13 percent (very understanding) and 40 percent (understanding). This means that ginger is the most familiar commodity for respondents to be processed into herbal food or drinks compared to turmeric and cinnamon.

Ginger is a medicinal plant that is widely used traditionally by Indonesians to be processed into immune-boosting herbal foods and drinks. Ginger also has properties in treating inflammation, colds, and indigestion (Bhamra, Slater, Howard, Johnson, & Heinrich, 2017). On the other hand, respondents answered that the most choices were doubtful and did not know cinnamon, as much as 33 percent (doubtful) and 13 percent (did not understand). This yield is the highest compared to ginger and turmeric plants. This means that the cinnamon plant is one type of medicinal plant that is less familiar to the millennial generation to be processed into herbal food/drink when compared to ginger and turmeric plants.

Apart from the results of the different levels of literacy between the three types of medicinal plants, the truth of the efficacy of medicinal plant ingredients is a fact that has been recognized academically. In addition, Indonesia’s wealth of various types of spices and support from public awareness of the importance of maintaining health amid a pandemic should be used as a trigger for natural resource management, especially medicinal plants. This awareness should serve as a spirit to preserve the environment. It is necessary to do socialization to the community in the use of medicinal plants for personal health, so that it is hoped that later they will have the initiative and desire to
preserve and cultivate medicinal plants (Supriani, 2019).

**Interest in the use of medicinal plants**

Interest is the basis and impetus for someone to do what they want if they want to achieve the expected goals (Simbolon, 2014). Interest is special attention to something that is considered attractive. Therefore, the individual has the urge to do what he wants as the goal he expects. The concept of interest was then adjusted to the use of processed medicinal plants as an effort to increase immunity during the Covid-19 Pandemic.

The concept is further translated into three indicators as follows:

1. **Paying attention**
   This concept of interest explains that respondents tend to consume medicinal plants as an effort to increase their immunity during the Covid-19 Pandemic.

2. **Have an interest**
   This concept explains that respondents have an interest in consuming medicinal plants as an effort to increase immunity during the Covid-19 Pandemic.

3. **Involvement**
   This concept explains that respondents were involved in consuming medicinal plants as an effort to increase immunity during the Covid-19 Pandemic.

Based on these indicators, it is then lowered back into several survey statements to measure the level of interest of the millennial generation in the use of medicinal plants as an effort to increase immunity during the Covid-19 Pandemic. The results are as follows.

![Figure 4. Millennial generation consumption interest in medicinal plants during the Covid-19 Pandemic](image)

Source: Primary data (2020)

Based on Figure 4, it can be seen that 36 percent of respondents had a high level of interest in the...
The consumption of medicinal plant commodities during the Covid-19 Pandemic. This figure is greater than the number of respondents who have a low level of interest, which is 8 percent. These results indicate that the public has a strong desire to use medicinal plants as an alternative to increasing the immune system during the Covid-19 Pandemic. Based on previous research, it has even been found that many people consume parts of medicinal plants such as leaves, roots, and stems directly without going through any processing (Halberstein, 2005). This means that since a long time ago, the consumption of medicinal plants has been of interest to the public to maintain health and has become a tradition. It's just that over time, medicinal plants are processed into various herbal drinks and foods or in the form of multivitamins. Apart from traditional factors, interest in the consumption of a commodity is also influenced by socio-economic factors (Septiadi, Sari, & Zainuddin, 2020).

Researchers further traced the types of medicinal plants used by millennial generations during the Covid-19 Pandemic, three types of plants used as statement instruments in the survey were ginger, turmeric, and cinnamon.

**Figure 5.**
Interest in the consumption of various types of medicinal plants (ginger, turmeric, and cinnamon)
Source: Primary data (2020)
Based on Figure 5, it is known that of the 3 types of medicinal plants, the respondent who frequently consumed medicinal plants was ginger. Ginger is the plant most often chosen for consumption by the millennial generation, which is 31 percent of respondents, while turmeric and cinnamon are only 23 percent and 7 percent of respondents, respectively. Ginger is a plant that is useful in boosting immunity. These results are in line with a study which states that the ginger plant has antimicrobial properties and supports the immune system (Kurniasari, Hartati, Ratnani, & Sumantri, 2008).

Ginger rhizome has been reported to have a wide spectrum of prophylactic and therapeutic activity (Ernst & Pittler, 2000). Ginger is effective in controlling various bacterial, viral, fungal, and parasitic diseases (Tillu, Chaturvedi, Chopra, & Patwardhan, 2020).

Regardless of the potential therapist, the use of processed ginger is not without risks, especially because it usually contains several biologically active molecules. For example, Ginger contains as many as 60 active molecules. The detrimental effects of plants can be caused by their natural content (secondary metabolites), contaminants, degradation products or compounds formed during the preparation and preservation process of recipes (Zhang, Onakpoya, Posadzki, & Eddouks, 2015).

Based on Figure 5, respondents who stated that they had never consumed the medicinal plant at all, it can be seen that the turmeric plant has the highest value. There is 30 percent of respondents who said they never consumed cinnamon, followed by 13 percent of turmeric and 8 percent of ginger. These findings indicate that the consumption of cinnamon plants to increase immunity is low. Most of the respondents chose ginger as the main choice to be processed into herbal food/drinks as an immune system booster.

Contradictions in Literacy and Interests

Ideally, the level of literacy and interest in consumption has the same line direction, but interestingly, the results of this study found a
contradiction between the level of literacy and interest in consuming medicinal plants. Based on Figure 6 shows that respondents who have a high level of interest are 36 percent of respondents, this value is greater when compared to respondents who have a high level of literacy only as much as 24 percent. On the other hand, respondents who have a low level of interest in the consumption of medicinal plants are 8 percent, this value is still much smaller than respondents who have a low level of literacy in medicinal plants, which is 30 percent. This data shows that the interest in consuming medicinal plants during the Covid-19 pandemic has a high value (36 percent of respondents), but there are still many respondents who have a low level of literacy (30 percent of respondents).

Awareness of the importance of maintaining immunity during the Covid-19 pandemic encourages people to increase their interest in consuming medicinal plants to increase immunity. The level of sales of processed medicinal plant products has increased dramatically in the pandemic era (Raharjo, 2020). There is a significant sales turnover gap between before and after the Covid-19 Pandemic. These findings indicate an increase in demand for medicinal plant agricultural products during the...
Covid-19 Pandemic. However, this is not accompanied by good literacy among consumers, especially the millennial generation. This is reflected in the relatively low level of respondents' literacy, which is 30 percent. This means that respondents are interested in using medicinal plants during the Covid-19 Pandemic, but do not want to literate to use them. High interest without being accompanied by a high level of literacy will set a bad precedent for the millennial generation. If people have a high interest in certain products or commodities without a level of knowledge and understanding of these products or commodities, it will be dangerous for the consumers themselves. This finding is interesting and important for providing campaigns’ to millennials who are known to be very familiar with information technology. Campaigns’ importance of increasing activities regarding literacy can be done both online and offline. This is because the level of literacy is closely related to a person's mindset and behavior. Especially in the era of the Covid-19 pandemic, literacy on health is very important, one of which is literacy in the consumption of medicinal plants.

4. CONCLUSION

The literacy rate of the millennial generation towards medicinal plants is low. The level of literacy is inversely proportional to the quite high interest in consuming medicinal plants. The millennial generation is more affected by everything viral on social media. The willingness to find the truth of information is still low. This shows a gap between the level of literacy and the consumption interest of the millennial generation in consuming medicinal plants during the Covid-19 Pandemic.

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The Use of Medicinal Plants during the Covid-19 Pandemic: Perspective of Literacy and Consumption Interests for Millenial Generation (Septiadi et al.)


