

Research Article

Community Learning Understanding The Distribution of Pandemy Virus C-19 Through Etes Anti Virus Products

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Abstract.

The Covid-19 pandemic that hit the world paralyzed human immunity and disrupted the learning process at the school unit level and the community's economy was also disrupted. Various government agencies, the private sector, universities, companies and other non-governmental organizations are making efforts in handling this pandemic. STKIP Nias Selatan as a university located in the western region of Indonesia and farthest from the mainland of North Sumatra conducted a trial for making anti-virus disinfectants. Understanding the chemical elements that exist in the form of Ca, Cl₂, O₂, H₂, and C is expected to be able to solve the problems faced by the world and especially on the island of Nias together. With all the existing limitations, an anti-virus material that is able to prevent Covid-19 is produced by using ethanol, disinfectant and stabilizer. Through this compound produces ETES. This product is believed and proven to be able to eradicate germs and even viruses. ETES as a product containing liquid air components is able to ward off foreign objects or creatures that stick to the surface of the skin and the surface of objects used by humans. By warding off foreign creatures on the surface of human skin, it can prevent the virus from entering the body after using ETES. To minimize and prevent the spread of the corona virus, this product helps educate the public to maintain health with health protocols as the world participates jointly in non-natural disaster management.

Keywords: Community learning; ETES; anti virus

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1. Introduction

Social distancing due to the corona pandemic that hit Indonesia and even the world made all mankind anticipate in various ways and efforts. The government has made various efforts to deal with it by imposing studying, working and worshipping at home. The pandemic, known as covid-19, occurs through encounters and objects used or held by people who have this outbreak.

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The plague that hit Indonesia as stated in the BNPB decree No. 9.A concerning the status of a certain emergency situation for the corona virus outbreak, so it requires everyone to be careful in interacting with other communities. [1] The impact of this virus, which causes the spread of the virus to be higher, was issued a Decree of the Head of BNPB No. 13.A concerning the extension of the status of a certain state of emergency for a disease outbreak due to the corona virus in Indonesia. [2] The extension of time for handling this outbreak requires every institution and institution as well as the community to participate in deciding or eradicating the spread of the corona virus.

Various products exist in the midst of society in minimizing the spread of covid-19, both hand sanitizers and herbs, as an effort and community effort to survive during a pandemic. The results of the workshop Fau, et al. [3] regarding "trials and workshops conducted in the Biology laboratory to make anti-viral disinfectants that through the chemical compounds present in ETES, especially Cl₂, can inhibit the development and spread of viruses around humans".

The corona virus pandemic -19 also disrupts the community's economy, so resources are needed in supporting the quality of life of the community, through community empowerment by maximizing local potential so that it does not always depend on outside assistance. The presence of tertiary institutions in the 3T area as well as the outer islands of western Indonesia as a window for the nation, namely STKIP Nias Selatan on Nias island, Sarumaha [4] argues that by "empowering the capacity of village communities" through the presence of facilitators in the village in cooperation with community elements "through communication which is built up between village officials, village leaders, youth and facilitators as well as the community. This means that facing and overcoming the problem of the spread of this pandemic, humans continue to improve their quality so that humans can survive, just as we maintain our food needs.

Viruses are diseases that cause harm to humans and other living things. Viruses are not insects, so overcoming the spread of this virus requires the right disinfectant so that its spread and development can be inhibited. The disinfectant compound in ETES is in the form of ethanol as a medium, disinfectant as an antidote and a stabilizer which acts as a stabilizer that is able to maintain balance in the user's body. Higher education through "the three pillars of higher education" (Tri Dharma PerguruanTinggi) that is community services cares activity. The community services care activity is the activity for contributing the pandemic problem by invented hand sanitizer.

2. Research Problems and Objectives

2.1. Research Problems

As the background of the problem above, the focus of this research is how to handle the spread of the C-19 virus pandemic through anti-virus products (ETES), and the subfocuses are: 1) understanding the chemical elements of disinfectants in preventing the spread of covid-19. 2) handling the spread of the C-19 pandemic in carrying out community activities. 3). The role of Higher Education in problems experienced by the community.

2.2. Research Objectives

Based on the focus of the problems above, the aim of this research is 1) to understand the chemical elements of disinfectants in preventing the spread of covid-19. 2) to handle the spread of the C-19 pandemic in carrying out community activities. 3). to understand the role of college in overcoming problems experienced by the community.

3. Methods

Solving this problem, the team in this study tested it in an institutional laboratory with several ETES compounds using qualitative research analysis with a naturalistic research approach which according to Riduwan [5] is "the research method used to examine the condition of natural objects". This is to emphasize the meaning rather than generalization, meaning that when this product has been successful and the public uses it without effects and avoids allergies. The use of ETES products is directly distributed to the public as a form of assistance and to promote healthy living and follow health protocols.

4. Results and Discussion

4.1. Findings

4.1.1. Chemical elements in overcoming the spread of covid-19

The chemical elements in ETES products requires several materials, including C_2H_5OH which functions as a medium, $Ca(ClO)_2$ as a disinfectant, and H_2O as a solvent which is a solvent in producing good ETES. In producing ETES, the tools used are simple tools,

including a 25 ml, 150 ml, 250 ml, 500 ml beaker glass; spatula; Erlen Meyer 250 ml, 500 ml, 1000 ml, analytical balance, Colony counter, Biocular microscope.

Through the process of mixing existing materials using this simple tool, an ETES product is produced which is able to withstand the growth rate of bacteria and viruses that interfere with human life. This ETES is strengthened due to the presence of chloride (Cl⁻) in the compound Ca (ClO)₂ which can bind the development of dangerous cells, including the corona virus.

4.1.2. Incubation period in carrying out community activities

During the incubation period of the Covid-19 pandemic, it certainly disrupts the social process of the community. This effort could lead the academic community to make one product from several chemical compounds that were able to minimize the spread of the virus which was endemic, especially in South Nias. Efforts are made in collaboration with several study programs under the South Nias Education Foundation to continue their activities so that the quality of the community during the social distancing period can run well.

The period of the Covid-19 pandemic has forced the world community to stay at home and limit activities that cause crowds. People study, work and worship at home. The incubation period is not just staying at home without doing other activities and jobs. The academic community continues to innovate and work to eradicate germs and viruses. So, through the South Nias STKIP laboratory assisting the community in overcoming the corona virus that is sweeping the world.

4.1.3. The role of universities in overcoming problems experienced by the community

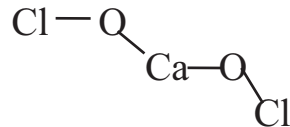
The role of higher education institutions to contribute in producing new products is a manifestation of its role in devoting knowledge to society. During this pandemic, ETES products were created which were the answer to the concern of higher education institutions to the problems experienced by the community today, namely the spread of the Covid-19 virus in Indonesia.

4.2. Discussion

4.2.1. Chemical elements in overcoming the spread of covid-19

ETES is a product that is built up through several chemical compounds, including ethanol (C₂H₅OH) with 96% alcohol content, disinfectant and stabilizer. Mixing these compounds produces ETES.

Structure C_a(ClO)₂.



While the structure of C₂H₅OH is as follows.

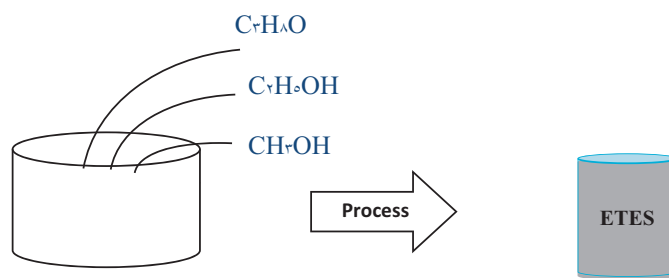
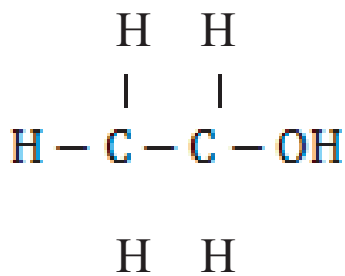


Figure 1: Chemical Compounds. Source: research resultsdesaign, 2020.

The clinical trial of the ETES compound which is a combination of ethanol compounds, disinfectants and stabilizers according to WHO standards that has no side effects, Wahyono [6]. Based on the results of clinical trials in the Biology laboratory of STKIP Nias Selatan using colony counters, and biocular microscopes, 400 germs found in liquid media were able to eradicate 250 germs within three minutes and 150 living germs. This proves that ETES is a product that can be used to kill germs, including viruses and can prevent it from spreading to other people.

4.2.2. Incubation period in carrying out community activities

Social distancing is a government program as stated in the ministry of education through Circular No. 4 of 2020 concerning the Implementation of Education Policies in an Emergency Period of the Spread of Corona Virus Disease (Covid-19), [7] namely in education units despite the implementation of online learning, South Nias STKIP is still in the process by maintaining and supporting government programs in social distancing. Government Regulation of the Republic of Indonesia Number 21 of 2020 concerning Large-Scale Social Restrictions in the Context of Accelerating Handling of Corona Virus Disease 2019. [8] Based on this government regulation, universities, namely STKIP Nias Selatan together with the central government continue to work hand in hand in handling the Covid-19 pandemic. STKIP Nias Selatan is one of the tertiary institutions at the vanguard of the nation in the western region of Indonesia and the only university in South Nias continues to strive to innovate so that it can contribute to society. As a cultured society and scientific community, Sarumaha [9] argues that community technology as “knowledge of local communities produced from generation to generation can be used as a wealth of economic resources in the form of cultural security, natural resource security. . . ” Therefore, through ETES works and products it becomes a form of local knowledge that needs to be empowered for the benefit of the community which has been tested through the STKIP Nias Selatan laboratory.

This incubation period is similar to the results of research conducted by Rus, Sandu and Tasente [10] which stated that “respondents emphasized that they will respect all actions imposed by the government: they will stay at home, they will go only to buy the necessary products, they will wear masks, gloves, they will wash clothes and hands often”. This means that it is important to implement social distancing so that the spread of the virus can be minimized and with the help of ETES products as an ingredient in eradicating germs even though people are still doing activities around them.

4.2.3. The role of higher education in problems experienced by the community

Community service is one of the three principles of higher education that must be carried out and carried out by lecturers and students. Through this research and service, it will provide useful contributions to society. According to Arlyana [11], higher education institutions are involved in solving community problems does not mean denying their identity as a research and educational institution. In fact, this involvement must be placed

in the context of research and education. Belkaoui [12] which states that the combination of tangible and intangible assets is a potential strategy for improving organizational performance.

Higher education as an organization in addition to producing intangible products, namely learning and the process is also expected to produce tangible products such as goods through research and community service activities. According to the Minister of Education and Culture Nadiem Kariem [13], this will further strengthen the positioning of higher education institutions in the midst of society through Three Pillars of Higher Education mission (Tridharma Perguruan Tinggi) they are education, research and community service to overcome national problems and also as agents of innovation. So, the findings and results of this study as a product of knowledge by empowering the existence of higher education institutions will be beneficial and benefit the community.

5. Conclusions

As the research findings, it can be concluded that 1) the public understands that the Covid-19 pandemic is a disruptor to activity as proven by activities carried out through B3R, and also understands that the compounds contained in ETES consisting of Ca (ClO) 2, H₂O and C₂H₅OH are able to ward off and even kill germs and foreign objects that are around the human body. The objects used as well as contaminated objects that are used by humans can be sprayed with ETES as a medium that prevents viruses. 2) handling the spread of the Covid-19 pandemic in carrying out community activities so that the chemical compounds contained in ETES are able to overcome and eradicate the spread of viruses that are around us, because the chemical elements of disinfectants prevent the spread of covid-19 in ETES. ETES is a STKIP Nias Selatan product that has gone through laboratory tests as is the case with the compounds contained in the ETES. 3). The College of STKIP Nias Selatan contributed to handling the spread of the Covid-19 Virus through research to produce ETES handsanitizer products. Products produced by the world of education are a concern for community problems and strengthen the positioning of Higher Education through its Three Pillars of Higher Education mission (Tridharma Perguruan Tinggi) they are education, research and community service.

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