Empowerment of mosque communities to increase body immune with aroma therapy robots

Iswanto Iswanto [a,1,*], Nia Maharani Raharja [b,2], Alfian Maarif [c,3], Gatot Supangkat [d,4], Anish Pandey [e,5], Cengiz Deniz [f,6], Adhianty Nurjanah [g,7], Dhiya Uddin Rijalusalam [h,8], Carlos Sánchez-López [i,9], Irfan Ahmad [j,10]

[a] Department of Engineer Professional Program, Universitas Muhammadiyah Yogyakarta, Yogjakarta, Indonesia
[b] Department of Information Engineering, UIN Sunan Kalijaga Yogyakarta, Yogjakarta, Indonesia
[c] Department of Eelctrical Enginering, Universitas Ahmad Dahlan, Yogjakarta, Indonesia
[d] Department of Agrotechnology, Faculty of Agriculture, Universitas Muhammadiyah Yogyakarta, Indonesia
[e] School of Mechanical Engineering, KIIT Deemed to be University, Patia, Bhubaneswar, PIN - 751024, India
[f] Kocaeli Health and Technology University, Kocaeli, Turkey
[g] Departement of Communication Science, Universitas Muhammadiyah Yogyakarta, Yogyakarta, Indonesia
[h] Department of Eelctrical Enginering, Universitas Muhammadiyah Yogyakarta, Yogjakarta, Indonesia
[i] Department of Autonomous, University of Tlaxcala, Mexico
[j] Computer Engineering Techniques Department, Baghdad College of Economic Sciences University, Baghdad-Iraq
[1] iswanto_te@umy.ac.id*; [2] nia.raharja@uin-suka.ac.id; [3] alfian.maarif@te.uad.ac.id; [4] supangkat@umy.ac.id; [5] anish06353@gmail.com; [6] cengiz.deniz@kocaelisaglik.edu.tr; [7] adhianty@umy.ac.id; [8] dhiya.uddin.ft18@mail.umy.ac.id; [9] carlsanmx@yahoo.com.mx; [10] irfan.ahmed.mcse@gmail.com
* Corresponding Author

ABSTRACT

Treatment of patients suffering from infection with the novel corona virus by means of therapy because there is no one drug to cure patients affected by Covid-19. Patients with COVID-19 are undergoing therapy to boost their immune system. One of the therapies to increase the body's immunity is by using aromatherapy. This community empowerment program applies aromatherapy robots to increase the immunity of the congregation who are carrying out worship activities at the mosque. The purpose of this community empowerment is to create and implement an aromatherapy robot that has an aromatherapy liquid level indicator and can refill aromatherapy with liquids from plants. The method of implementing the community empowerment program is as follows. The robot was made by UMY community service staff consisting of nine people who are experts in their respective fields, chaired by Dr., Ir., Iswanto., S.T., M.Eng., IPM who is an expert in robotics. There are members from the University of Muhammadiyah Yogyakarta, University of UIN Sunan Kalijaga Yogyakarta, Ahmad Dahlan University and the University of Tlaxcala, Mexico. There are five members from the University of Muhammadiyah Yogyakarta, namely Dr., Adhianty Nurjanah, S.Sos., M.Sc. expert in disaster communication, Dr. Ir. Gatot Supangkat who is an expert in the field of plants and Dhiya Uddin Rijalussalam., S.T who is an expert in the field of robot assembly. Members from outside UMY are Nia Maharani Raharja., S.T., M.Eng. from the University of UIN Sunan Kalijaga Yogyakarta, an expert in instrumentation, Alfian Maarif., S.T., M.Eng. from Ahmad Dahlan University, an expert in control and Professor Ph.D. Carlos Sánchez-López is an expert in the field of autonomous robots from the University of Tlaxcala, Mexico. With this aromatherapy robot, mosque congregations can increase their immunity by inhaling the aromatherapy in the robot.

KEYWORDS
COVID-19;
Therapy;
Mosque;
Aromatherapy;
Immunity

1. Introduction

Since it was first discovered in Wuhan on December 30, 2020, COVID-19 has become a source of health problems throughout the world until it has become the current pandemic. COVID-19 is an infectious disease caused by a virus called SARS-CoV-2. Corona virus or severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a virus that attacks the respiratory system. Several previous researchers have conducted research on the disease covid. Impact of various sources of information related to COVID-19 on public concerns: An online survey through social media was researched by Ho [1]. A public health

approach to policy decisions on infant feeding and mother-infant contact in the context of COVID-19 was investigated by Rollins [2]. Time-related changes in the sex distribution of the proportion of cases of COVID-19 in Italy were studied by Bianconi [3]. The ENE-COVID national serosurvey serves to characterize asymptomatic infections and develop a symptom-based risk score for predicting COVID-19 studied by Pérez-Gómez [4]. The determinants of acceptance of the COVID-19 vaccine in the US were studied by Malik [5]. Epidemiology, clinical characteristics and virological features of COVID-19 patients in Kazakhstan: A retrospective national cohort study investigated by Yegorov [6]. Offsite Construction for Emergencies: A focus on Isolation Room Creation (ISC) measures for the COVID-19 pandemic was researched by Gbadamosi [7]. ROCCA observational study: Preliminary safety results of the Sputnik V (Gam-COVID-Vac) vaccine in the Republic of San Marino using active surveillance were investigated by Montalti [8]. The impact of COVID-19 restrictions on the research environment and the motivation of researchers in Japan was investigated by Miki [9]. The role of organizational characteristics on the outcomes of COVID-19 patients admitted to the ICU in Belgium was investigated by Taccone [10].

To date, there is no specific drug recommended to prevent or treat the disease caused by the new coronavirus (COVID-19). Most patients recover due to treatment for their symptoms. There is no special treatment for the corona virus infection. Generally, people with it will recover by itself. Patients with COVID-19 are undergoing therapy to boost their immune system. Several studies on COVID therapy that have been studied by previous researchers include: Radiation Therapy in King County, Washington During the COVID-19 Pandemic was studied by Dinh [11]. A promising gas therapy for severe COVID-19 was investigated by Wang [12]. COVID-19 therapy and its impact on QT prolongation were studied by Bianco [13]. NK cell-based therapy to eliminate pulmonary inflammation in COVID-19 was investigated by Jeyaraman [14]. Achieving popliteal vein access for renal replacement therapy in a critically ill COVID-19 patient in the prone position was studied by Adams [15]. Association of clinical factors and recent anticancer therapy with severity of COVID-19 among patients with cancer: a report from the COVID-19 and Cancer Consortium studied by Grivas [16]. Clinical deterioration during recovery of neutropenia after G-CSF therapy in patients with COVID-19 was studied by Taha [17]. The bioethical perspective of convalescent plasma therapy for COVID-19 was studied by Munir [18]. A brief review of diagnosis, therapy, and vaccines to combat COVID-19 was studied by Shih [19]. Influenza Management During the COVID-19 Pandemic: A Review of Recent Innovations in Antiviral Therapies and Their Relevance to Primary Care Practices researched by Jones [20].

The Impact of the COVID-19 Pandemic on Immunomodulatory and Immunosuppressive Therapy in Dermatology was investigated by Zimman [21]. The 2021 update of the AGIHO guidelines on evidence-based management of COVID-19 in patients with cancer regarding diagnostics, viral shedding, vaccination and therapy was studied by Giesen [22]. (Vi)-The Haste to Become a Daily Care-Based Online Group Scheme for the Elderly by the COVID-19 Outbreak in the Netherlands researched by van Dijk [23]. Convalescent plasma therapy - a silver lining for the management of COVID-19 was studied by Saha [24]. The pharmacological management of patients with liver and pancreas disease involving immunosuppressive therapy within the framework of the SARS-CoV-2 (COVID-19) pandemic was studied by Miranda-Zazueta [25]. Ventricular fibrillation storm in COVID 19 responding to steroid therapy was studied by [26]. Cytomegalovirus Enterocolitis secondary to experimental COVID-19 therapy was studied by Geisen [27]. Triple therapy with hydroxychloroquine, azithromycin, and ciclesonide for COVID-19 pneumonia was studied by Mori [28]. COVID-19-associated encephalitis was successfully treated with combination therapy studied by Freire-Álvarez [29]. The effectiveness of a multidrug therapy consisting of Ivermectin, Azithromycin, Montelukast, and acetylsalicylic acid for preventing hospitalization and death among outpatient COVID-19 cases in Tlaxcala, Mexico was studied by Lima-Morales [30].

COVID-19, asthma and biologic therapies: What we need to know is researched by Morais-Almeida [31]. The potential mechanism of nafamostat therapy for severe COVID-19 pneumonia with disseminated intravascular coagulation was investigated by Takahashi [32]. Continuing renal replacement therapy (CRRT) with disposable hemoperfusion cartridges: A promising option for severe COVID-19 was studied by Dastan [33]. Efficacy of ribavirin and interferon-therapy for hospitalized patients with COVID-19: A multicenter retrospective cohort study studied by Li [34]. Three cases of treatment with nafamostat in an elderly patient with COVID-19 pneumonia requiring oxygen therapy were studied by Jang [35]. Nebulized glutathione and N-Acetylcysteine as adjunctive therapy for the onset of COVID-19 was studied by Lana [36]. Clinical and Radiographic Presentation of COVID-19 Among Patients Receiving Radiation Therapy for Thoracic Malignancies studied by Samson [37]. The humoral response to the sars-cov-2 and covid-19 vaccines in patients with multiple sclerosis treated with immune reconstitution therapy was studied by Drulovic [38]. The role of Interleukin 6 inhibitors in the treatment of severe COVID-19 was investigated by Nasonov [39]. How lockdown measures, during the COVID-19 pandemic, affect psoriasis patient perceptions: A study of 600 patients on biologic therapy was studied by Bernardini [40].

One of the therapies to increase the body's immunity is by using aromatherapy. Several previous researchers have conducted research on aromatherapy. The effect of aromatherapy with peppermint essential oil on nausea and vomiting after cardiac surgery was investigated by Maghami [41]. The effect of lemon inhalation aromatherapy on blood pressure, electrocardiogram changes, and anxiety in acute myocardial infarction patients was studied by Rambod [42]. The effect of aromatherapy of bitter orange (Citrus aurantium) extract on anxiety and fatigue in type 2 diabetes patients was studied by Abdollahi [43]. South Africa as the 'birthplace of incense' in African aromatherapy is more widely studied by Sadgrove [44]. Comparing acupressure with aromatherapy using Citrus aurantium in terms of its effectiveness on sleep quality in patients undergoing percutaneous coronary intervention: A randomized clinical trial studied by Asgari [45]. A randomized controlled trial of the effect of Aromatherapy Massage on Sleep Quality in a Palliative Care Ward was investigated by Kawabata [46]. The volatile aroma, phenol profile and hypoglycemic activity of Ajuga iva L were investigated by Khatteli [47]. Comparing the effects of geranium aromatherapy and music therapy on the anxiety level of patients undergoing inguinal hernia surgery was studied by Goli [48]. The essential oil inhaler (AromaStick®) improves heat tolerance in the Heat Immersion Test (HIT). The results of two randomized controlled trials were studied by Schneider [49]. The effect of Citrus aurantium scent on anxiety and fatigue in patients with acute myocardial infarction was studied by Shirzadegan [50]. The Effect of Massage With and Without Aromatic Oils on Delirium After Open Heart Surgery was investigated by Askarkafi [51]. The effect of inhaled aromatherapy with damask rose essence on the intensity of pain and anxiety in burn patients was studied by Sadeghi [52]. The effect of lavender aromatherapy on stress and pain perception in children during dental treatment was investigated by Ghaderi [53]. Deep frying of cooking oil increases the risk of high breast metastases- A critical review was investigated by Ganesan [54]. Documenting heritage along the Silk Road: An ethnobotanical study of medicinal teas used in Southern Xinjiang, China investigated by Abdusalam [55].

This community service program has 4 solutions to solve these problems which are found in the regional mosque of Sleman Regency. The first solution is to make an aromatherapy device that has a liquid indicator running out with IoT technology. The second solution is to make a robot for aromatherapy. The third solution is to create an aromatherapy robot that can move towards the congregation of the mosque. The fourth solution is to make aromatherapy liquid using plants. Some plants are used for aromatherapy such as eucalyptus.

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2. Method

The method of implementing this activity is planned to be carried out a year as shown in Fig. 1. From the Fig. 1 can be seen that there are four implementation methods carried out. The implementation method carried out resulted in a disseminated technological tool. The method of activity includes surveys in mosques, designing robots, coordinating residents, repairing robots. The first activity is a location survey activity at the mosque with residents around the mosque which aims to find out the problems faced by partners, namely the mosque does not yet have aromatherapy tools to relax and increase body immunity. In the process of increasing the body's immune system, the congregation of the mosque who is in the mosque must be carried out thoroughly by using a robot walking towards the congregation who is sitting in the mosque. With this problem, the second activity is to design an aromatherapy robot. This activity aims to design an aromatherapy robot that can walk closer to the congregation of the mosque. The third activity is a robot test activity to perform therapy for mosque congregations with aromatherapy. The last activity is maintenance.

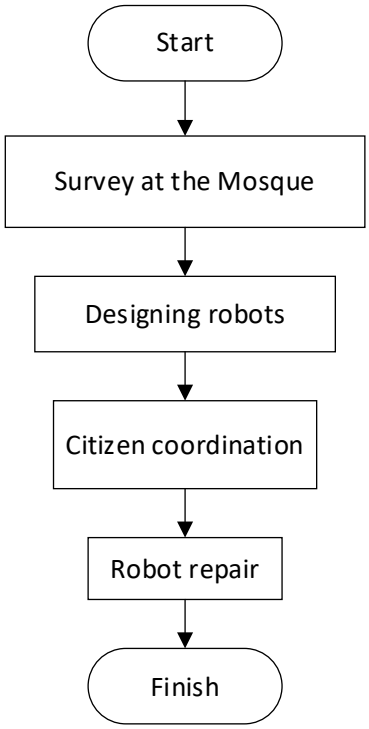

Fig. 1. Activity sequence method

3. Results and Discussion

The program of community empowerment activities to increase immunity when worshiping at the mosque is implemented at a mosque in Sleman Regency, precisely in the Condongcatur sub-district, Depok sub-district, Sleman Regency, Yogyakarta Special Region. There are 4 steps for the implementation of the community empowerment program to increase the immunity of the mosque congregation who are worshiping in the Sleman district. The first step in this program is a survey with residents around the mosque which was carried out on January 29, 2021, which is shown in Fig. 2. The survey aims to find out the problems faced by residents around the mosque. To increase the body's immunity, aromatherapy is needed to make the body relax. Residents around the mosque do not know about this. So that a tool is made in the form of a robot to carry aromatherapy which functions to increase the body's immune system.

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Fig. 2. Coordination for a survey of the condition of the community at the mosque

With the problems found during a survey with residents around the mosque, the team then the team took the second step, namely the aromatherapy device was brought in using a robot designed using a computer program which was carried out at Dhiya Uddin Rijalussalam's place assisted by Iswanto, Nia Maharani Raharja and Alfian Maarif on From February 1, 2021 to May 20, 2021, Fig. 3. The image shows the design of an aromatherapy robot using four places for aromatherapy.

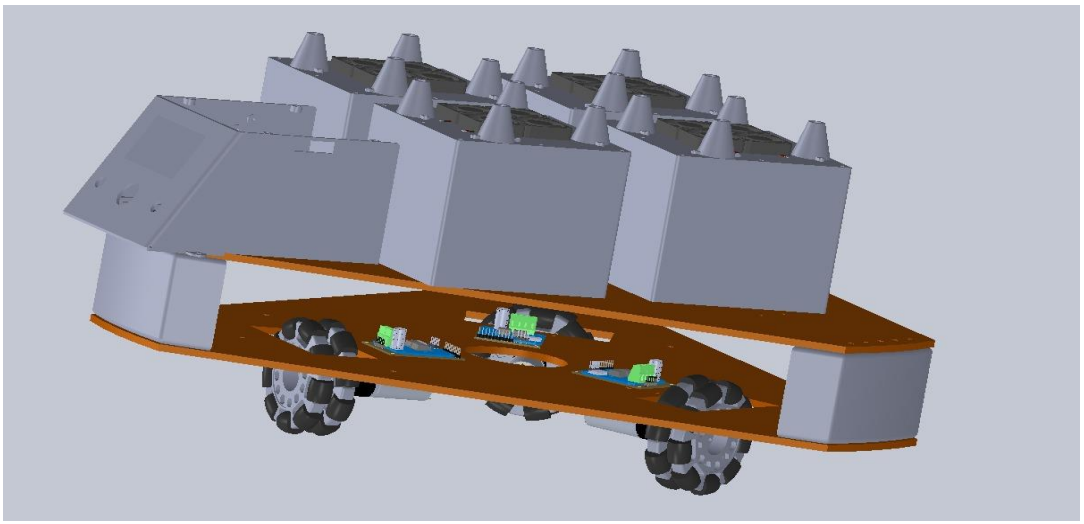

Fig. 3. Aromatherapy robot design

The third step, namely the preparation of increasing immunity for mosque worshipers during activities at the mosque, for example recitation by holding a coordination meeting with residents around the mosque on June 25, 2021, is shown in Fig. 4. The picture shows that residents who attended the coordination meeting sat near the wall in the mosque. with a sitting position is not tenuous because many people who come.

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Fig. 4. Coordination of citizen implementation

The last step is the fourth step, the aromatherapy robot is treated as shown in Fig. 5. From the picture, it can be seen that the robot is being repaired because the aromatherapy spraying driver caught fire. This happens because a short circuit occurs when the robot is run on the mat. By using the robot, residents are happy and excited to worship at the mosque because the immunity of the residents around the mosque has been enhanced by aromatherapy robots when attending activities at the mosque.

Fig. 5. Aromatherapy robot repair

4. Conclusion

The conclusion that can be drawn from this activity is a survey to find out the needs of residents around the mosque which was carried out on January 29, 2021. The aromatherapy robot was designed by the empowerment team from UMY using a computer program which was carried out at Dhiya Uddin Rijalussalam's place on February 1, 2021 until July 20, 2021. Immunity for mosque worshipers during

activities at the mosque is enhanced by aromatherapy robots, for example recitation by conducting coordination meetings with residents around the mosque on June 25, 2021. With aromatherapy brought by aromatherapy robots, the immunity of mosque worshipers who are carrying out activities in the mosque. The last activity is robot repair.

Acknowledgment

This activity was funded by the Universitas Muhammadiyah Yogyakarta and also supported by a mosque in Sleman Regency of Yogyakarta as activity partners in the implementation of this community service activity.

Author Contribution

The contributor of this community empowerment is to create and implement an aromatherapy robot that has an aromatherapy liquid level indicator and can refill aromatherapy with liquids from plants.

Funding

This activity was funded by the Universitas Muhammadiyah Yogyakarta and also supported by a mosque in Sleman Regency of Yogyakarta as activity partners in the implementation of this community service activity.

Conflict of Interest

The authors declare no conflict of interest.

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