



## Knowledge Ottoman Turkish Medicine : From Methods of Immunization Traditional to Pioneer World Vaccine

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### Abstract

This research explores the history of immunization "vaccination" which was known as the variation method during the Ottoman Turkish period. From this variation method, it was then developed until this moment which is more popular with the name vaccine. So that the variation method developed into the gate of "world vaccine development" and has a major influence on the world of health, especially in preventing smallpox and reducing mortality. The method used is the historical method, with the stages of source collection, source criticism, interpretation and writing. Data were collected from conventional and non-conventional libraries (internet), sources collected in the form of books, journal articles, website articles and others printed or from the internet that support this research. Furthermore, the facts obtained are narrated diachronically so that the facts described are chronological. The results of this study show that the development of vaccines that is happening now is a great contribution from Ottoman Turkey. The history of vaccination was started by the Ottoman Turkish government, Ottoman (Ottoman Turkish) physicians created and developed the variolation (inoculation) method, a traditional vaccine method by taming and using viruses (germs) applied to human skin that had previously been scratched. In this way, the virus injected into the human body (smallpox sufferers or non-smallpox sufferers) will experience illness and during the illness the immune process is formed so that the patient will get immunity (antibody). The success of vaccination from Ottoman Turkey has spread to Europe which saved many human lives and eradicated smallpox, especially England which was brought by Lady Mary Montagu, traders, sailors, ambassadors and others who learned the variolation method from Ottoman Turkey. The development of variation to vaccines continues as it does today.

**Keywords:** Vaccine, Turkey, Immune, Ottoman

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## Introduction

Vaccine taken from the word *Vacca* which means cows, their function is as sparring partners for system immune (power stand body). *Sparring partners* provided based on the system immune. *Sparring partners* provided to strengthen immunity that has antigen similarity. Prevention Power stand body normal done with method exploit viruses or germs tame.<sup>1</sup> In the 18th century AD in Europe happen epidemic smallpox resulted number very death high, this outbreak is disease fever serious and contagious become trigger death mass in Europe in the 18th century AD. Plague This smallpox leaves used sores and lumps on the skin also found in the facial area the sufferer. Plague This smallpox has killing 3 out of 10 sufferers which became a "scourge" in the world of health in the past.

More things serious, smallpox Already snatch life the sufferer a number of 300 million people and 500 people in 1 century final. Westerners (Europeans) call this terrible plague its sufferers with the name of the spotted monster. The terrifying plague was successful was opposed in 1979 AD. Meanwhile, in the regions east, especially in the Ottoman region, problems epidemic smallpox Already can diagnosed and treated with method treatment traditional that is method immune variolation. The Ottoman Turks (physicians) introduced method immune "variolation" or inoculation.<sup>2</sup>

Plague smallpox during a number of year has become infectious disease that attacks people man. Plague smallpox often impact on conditions social and political, especially when people don't own immunity body as in people in North America.<sup>3</sup>

Smallpox stated as disease infectious marked acute with flu-like symptoms and rashes wound redness that appears on the face area usually festering. Doctors in the 18th century stated disease smallpox the more turn off remember opportunity his death reaching 1 in 7 sufferers smallpox. And modern scholars estimate there are 60 million resident Western Europe died because of the smallpox pandemic in the 18th century. In 1700 smallpox cause death among nobleman English, Spanish and French so that smallpox called as the disease most feared by the nation Europe in the period the.<sup>4</sup>

Far before Europe know vaccine, transformation vaccination has started by Ottoman physicians (Ottoman Turkey) and practice treatment traditional now known with the name "vaccine" is common thing implemented in the Ottoman Turkish government at that time. Then, success This vaccine in Ottoman Turkey was brought by Lady Mary Montagu (wife of Edward Wortley Montagu, ambassador big England to Turkey in Istanbul 1716 AD-1717 AD).

Development method vaccine from Ottoman Turkey to the continent This Europe, especially England, of course No can denied from mix it was Lady Mary Montagu's hand that sent it letter to colleagues in England. Lady Mary Montagu provided information method Ottoman Turkish vaccine to his colleague was complete with description of the process or application method vaccine Ottoman Turkish variations the. Finally, Lady Mary Montagu's interest to method This Ottoman Turkish vaccine resulted in Lady Mary

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<sup>1</sup> Anton Jamal Edwar Ibrahim, "Fiqh Daruri: Kajian Terhadap Aspek Daruri Pada Pemberian Vaksin Rubella Terhadap Masyarakat Muslim Di Aceh," *Al-Qanun: Jurnal Pemikiran Dan Pembaharuan Hukum Islam* 24, no. 2 (2021), <https://doi.org/10.15642/alqanun.2021.24.2.526-556>, hlm, 535-536.

<sup>2</sup> Galih Pranata, "Tabib Kekaisaran Ottoman Temukan Vaksin Cacar Lebih Dulu Dari Eropa," *National Geographic Indonesia*, 2023, <https://nationalgeographic.grid.id/read/133727753/tabib-kekaisaran-ottoman-temukanvaksin-cacar-lebih-dulu-darieropa?page=all>.

<sup>3</sup> "THIS MONTH IN J Lab Clin Med," *The Journal of LABORATORY and CLINICAL MEDICINE* 142, no. 4 (2023), hlm., 207.

<sup>4</sup> Victoria N. Meyer, "Innovations From The Levant: Smallpox Inoculation and Perceptions of Scientific Medicine," *The British Journal for the History of Science* 55, no. 4 (2022), <https://doi.org/10.1017/S0007087422000322>, hlm. 425-426.

Montagu's request that method This Ottoman Turkish " variolation " vaccination was applied to its children .<sup>5</sup>

Lady Mary Montagu injects vaccine his children in front of the staff medical at the royal palace English . Lady Mary Montagu immediately practice method immunity ( injection smallpox Ottoman Turkey ) in his country Alone . Vaccine trials by Lady Mary Montagu to these children earn money success . Hence , success inject this vaccine then recommended to citizens in England . Due to the socialization carried out by Lady Mary Montagu, in fact has succeed expand scope success vaccine from Ottoman Turkey to England ( European world ).<sup>6</sup>

By simply put , method vaccine is practice utilise germs docile and also tame germs . With purpose to form *antibodies* ( immunity ) to avoid it from possible diseases attack man . Use of germs as was done by the successful scientist Louis Pasteur prevent rabies disease with modify material the rabies germ itself .<sup>7</sup>This is example unique from utilization germs used to fight germs evil that attacks body man .

Vaccine method is transformation from method still variations nature traditional , but fact prove that method this variolation is capable prevent number death in Ottoman Turkey , while in Europe at that time not yet know and apply method This variation has been swallow number death amount millions soul . For the Ottoman Turks , method this variation already applied during centuries long to fight smallpox in Ottoman Turkey . Method results this amazing variolation then observed by Lady Mary Montagu in 1721 AD or 1722 AD. Lady Mary Montagu's admiration for success method Ottoman Turkish variolation which was initiated by the Ottoman Turkish physicians , precisely in the city of Istanbul, so that prompting Lady Mary Montagu to send letter to his country ( England ). Then, later today , the letter sent by Lady Mary Montagu was recorded as letter oldest proof vaccines in the Ottoman Empire .<sup>8</sup>

### Previous Studies

A number of study previously reviewed about vaccines and developments knowledge medical in the Islamic world , among others namely Emine O. Evered and Kyle T. Evered who reviewed it about history Ottoman Turkish vaccination after Lady Mary Montagu's return to England in focus the study that is about Ottoman Turkish policy in develop vaccine like enforce Constitution vaccination and education health Ottoman Turkish society .<sup>9</sup> Then , in research by Robin A. Weiss and Jose Esparza explains about the Role Hans Sloane elaborates problem inoculation as container or means to prevent in protect health man from disease smallpox . Also called inoculation applied variation through skin patients who have not caught smallpox as effort formation immune .<sup>10</sup>Then, Nanda explained The Corona (Covid-19) outbreak is problem big world. WHO ( World Health Organization ) states the

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<sup>5</sup> Edwar Ibrahim, "Fiqih Daruri: Kajian Terhadap Aspek Daruri Pada Pemberian Vaksin Rubella Terhadap Masyarakat Muslim Di Aceh.", hlm, 535-536.

<sup>6</sup> Sadzali kecil, "Dāruṣṣifā: Rumah Sakit Berbasis Wakaf Penemu Vaksin Cacar Era Turki Utsmani," *Insists.id*, 2021, <https://insists.id/darussifa-rumah-sakit-berbasis-wakaf-penemu-vaksin-cacar-era-turki-utsmani/>.

<sup>7</sup> Edwar Ibrahim, "Fiqih Daruri: Kajian Terhadap Aspek Daruri Pada Pemberian Vaksin Rubella Terhadap Masyarakat Muslim Di Aceh.", hlm, 535-536.

<sup>8</sup> Pranata, "Tabib Kekaisaran Ottoman Temukan Vaksin Cacar Lebih Dulu Dari Eropa."

<sup>9</sup> Kyle T. Evered Emine Ö. Evered, "Mandating Immunity in The Ottoman Empire: A History of Public Health Education and Compulsory Vaccination," *Heliyon Journal* 6, no. 11 (2020), <https://doi.org/10.1016/j.heliyon.2020.e05488> ., hlm., 1.

<sup>10</sup> José Esparza Robin A. Weiss, "The Prevention and Eradication of Smallpox: A Commentary on Sloane (1755) 'An Account of Inoculation,'" *Philos Trans R Soc Lond B Biol Sci* 370, no. 1666 (2015), <https://doi.org/10.1098/rstb.2014.0378> ., hlm, 1.

Covid-19 outbreak is epidemic scale big international , one of the affected countries the Covid-19 outbreak is Türkiye. Turkey succeeded face Covid-19 outbreak at the start in 2022 who gets it praise from WHO.<sup>11</sup> Next , research conducted by Hannan explains vaccine is one of the internal instruments cope outbreak ( pandemic ) Covid-19. Based on medical research , vaccines contain various benefits , esp in form immune ( power stand body ). But , deep various practice whatever cases , many still do reject vaccine Because religious basis of reason about law ( permissible or not ) and content existing substances in the vaccine is considered dangerous .<sup>12</sup> Next , Maryam said development knowledge Islamic medicine in the past is donation from works Islamic doctor . Scientists from east and study theory and method treatment disease and also the cure . With Thus , giving birth Lots Islamic scientists include Al-Razi and Ibn Sina which is One from that's all many influential Islamic ( medical ) scientist in development knowledge medical latest Good from facet technique treatment nor medication used .<sup>13</sup>

Whereas in this research is more explore about history knowledge Ottoman Turkish health with emphasize studies on development method immune traditions of the Ottoman period and their impact . History in general definition at least has meaning , namely old literature , genealogy , origin proposals , events and actual events happened in the past ( past ). can also be meaningful knowledge knowledge , stories a real lesson happened in the past , a number of change or science that examines about change ( event , incident in reality life ).<sup>14</sup>

The aim of this research is to provide description worthy in matter development knowledge knowledge the health of the Ottoman Turks and their impact to this day . The following is the formula the problem that is ; 1) how history method immunization during the Ottoman period , 2) what impact for the world of health .

This research uses method history . Historical method is a process of testing and analyzing in a way critical recordings and relics of the past , which began from from data collection ( source ) has reached the stage writing . All written and verbal data obtained , then criticized and continued with stage interpretation ( interpretation ) and written in form systematic story .<sup>15</sup> Historical method can said worth scientific if has fulfil two condition . First , you have to capable determine possible facts proven . Second , the fact originates from results inspection critical to historical documents .<sup>16</sup>In research history , there is a number of necessary steps skipped that is election topic , collection sources ( heuristics ), criticism sources ( verification ), interpretation ( interpretation ) and writing ( historiography ).<sup>17</sup>

In stages collection source , researcher do search source with browse a number of libraries and places that store them source history , okay form library conventional or non-conventional (online) in the form of books , articles from journal scientific , website and other related matters with study . Search sources on the internet via journal existing national

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<sup>11</sup> Nanda Setia, "Resiliensi Kebijakan Politik Pemerintah Turki Terhadap Wabah Internasional Corona Virus Disease-19 Sebagai Ketahanan Sosial," *Jurnal Kajian Perdamaian Dan Keamanan Indonesia* 4, no. 1 (2022), <https://doi.org/10.29303/ijps.v4i1.93>, hlm, 1.

<sup>12</sup> Abd Hannan, "Kemaslahatan Sosial Vaksin Sebagai Instrumen Medis Penanggulangan Covid-19 Dalam Perspektif Islam," *Ay-Syariah: Jurnal Hukum Islam* 8, no. 1 (2022), <https://doi.org/10.55210/assyah.v8i1.667>, hlm, 1

<sup>13</sup> Maryam, "Perkembangan Kedokteran Dalam Islam," *Sulesana: Jurnal Wawasan Keislaman* 6, no. 2 (2011), <https://doi.org/10.24252/.v6i2.1404>, hlm, 79.

<sup>14</sup> Muhammad Sapii Harahap, "Sejarah Dinasti Bani Umaiyah Dan Pendidikan Islam," *Waraqat: Jurnal Ilmu-Ilmu Keislaman* 4, no. 2 (2019), <https://doi.org/10.51590/waraqat.v4i2.86>, hlm, 42.

<sup>15</sup> "Ekspresi Kebudayaan Dan Keadilan Dalam Memperjuangkan Hak Atas Lingkungan Bagi Masyarakat Volume 3" (Bandung: CV. Media Sains Indonesia, 2020), hlm, 690.

<sup>16</sup> Muhammad Bahrul Ulum, *Genealogi Hadis Politis: Al-Mu'awiyat Dalam Kajian Islam Ilmiah* (Bandung: Marja, 2018), hlm, 57..

<sup>17</sup> Kuntowijoyo, *Pengantar Ilmu Sejarah*, (Yogyakarta: Tiara Wacana, 2018), hlm, 69.

and international ones relationship and support the data of this study . Second , stage critics source , at this stage there is two step Work that is critics external and internal criticism . In stages critics external , researcher do examination of historical data ( sources ). with compare condition physique source covers shape , age , time and everything related matters with study . Meanwhile , at stage internal criticism carried out that is check and compare fill source history with what other sources ? sources obtained relevant with study . Third , stages interpretation ( interpretation ), at stages this interpretation of the researcher do interpretation after critics source done . In stages interpretation Already obtained fact history from research conducted so in stages interpretation the facts are put together become A complete interpretation in a way analytical . Fourth , stages writing ( historiography ), at this stage is stages end from method history . In this stage it is carried out writing with presenting facts obtained from stages previously . In this context , writing history Ottoman Turkish vaccination done in a way chronological .

## Results and Discussion

### History of Immunization ( Vaccination ) During the Ottoman Turks

In notes history knowledge health ( medicine ) , often writers consistent hook the name of the Ottoman Empire If review problem knowledge health . More so when review about the believed “ vaccine .” put into practice and become A tradition for Ottoman Turkey in the past . Ottoman Turkey has been developing for a long time method variolation to fight epidemic smallpox . A number of source assume that practice This variolation originates from mainland East and Southwest Asia. However , in all of that, period introduction to the world of Europe to vaccine started from observation method variolation by Lady Mary Montagu who was in Ottoman Turkey at that time .<sup>18</sup>

Even deep other sources are mentioned knowledge Ottoman Turkish variations obtained before its founding Republic of Turkey (1923), at that time Ottoman Turkey (1229-1923) was hit epidemic smallpox ( epidemic ) so as to prevent and fight smallpox “ pandemic ” outbreak in Ottoman Turkey depend on method the variolations obtained are “ possible ” through inheritance Seljuk dynasty ( Seluq ) which brought method variolation of it to Anatolia from the Eastern region and has been practice it in a way official every the year .<sup>19</sup>

Lady Mary Montagu is an educated person tall and wife a ambassador English for Ottoman Turkey . You Lady Mary Montagu's man die Because caught epidemic smallpox and Lady Mary Montagu also contracted it smallpox in 1715. Had feel disappointed Because feel her beauty is lost caused epidemic smallpox , deep such conditions , Lady Mary Montagu developed used pox on his face and studied smallpox while in Ottoman Turkey . While in Ottoman Turkey , Lady Mary Montagu concentrated in prevention smallpox and observe method variolation which in 1717 he described in A the notes .<sup>20</sup>While in Erdirne , (Turkish) Lady Mary Montagu wrote his observations were about practice inoculation in Ottoman Turkey to her friend Sarah Chiswell in England . On returning to England in 1721, England

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<sup>18</sup> Emine Ö. Evered, “Mandating Immunity in The Ottoman Empire: A History of Public Health Education and Compulsory Vaccination.”, hlm, 1.

<sup>19</sup> Dinc G. Ulman Y.I., “Introduction of The V Ariolation ‘Ala Turca’ To The West By Lady Mary Montagu,” n.d., <http://nek.istanbul.edu.tr:4444/ekos/MAKALE/M4499.pdf>, hlm, 233.

<sup>20</sup> Robin A. Weiss, “The Prevention and Eradication of Smallpox: A Commentary on Sloane (1755) ‘An Account of Inoculation.’”, hlm, 4.

currently widespread hit epidemic severe smallpox , therefore Lady Mary Montagu continued do the campaign ( promotion ) as it has been observed in Ottoman Turkey .<sup>21</sup> most phenomenal action was when Lady Mary Montagu gave an injection his son witnessed by doctors England at the (Royal) Embassy , Charles Maitland. Lady Mary Montagu delivered that himself Already hard to carry knowledge variation of it to England . Test variolation No can fail . The doctors were also provided instruction about all of this variation is only for the good all people man . In the beginning , on the return of Lady Mary Montagu to her country “ England ” campaign the variations it brings had time get rejection from resident . But No with Sloane and Maitland owning thinking in line with whom he is committed oppose epidemic smallpox . 1721, plague smallpox spread widely in England , Lady Mary Montagu asked Charles Maitland to inject his daughter 3 years old , Charles Maitland had doubtful because it's the first time carried out in England of course this is very different with the Ottoman Turks already used to do variolation , finally the injection is permanent took place by Charles Maitland and requested presented two sick people from the Royal College of Physicians before do inject variolation , one from the witness was James Keith ( Charles Maitland's friend , James Keith lost two his son Because smallpox in 1717) and others .<sup>22</sup> Success injection inoculation carried out to his son and daughter by Lady Mary Montagu with doctors of the Royal College of Physicians encouraged Lady Mary Montagu to write and explain practice inoculation is to refute the “ rejection ” argument from the counter to method the variations it brings from Ottoman Turkey in the beginning get rejection . In other sources Hans Sloane ( president of the Royal College of Physicians and founder of the British Museum) also participates watched the first variolation ( inclusion ) in England and later support practice inoculation . This practice began continues aimed at prisoners ,<sup>23</sup> followed children nobility , and society common in England . Although in most note history in general more highlight the contribution of Lady Mary Montagu and her family , however all of that of course No remove record footprints and contributions from Ottoman Turkey .<sup>24</sup>

Lady Mary Montagu became an influential person bring knowledge knowledge the “ variolation ” inoculation of Ottoman Turkey into Europe , esp English . In a Ottoman Turkish records entitled “ *menafi'ul-efsal* ” which contains about history vaccination smallpox covers example beginning journey vaccination like China, the slaves Circassians in the Caucasus perhaps learn method variolation from the Arabs. Likewise Lady Mary Montagu's name is not escape from that note . In the note it is stated the role of Lady Mary Montagu which carries method variolation to England through Rumelia and Anatolia which is gradually its spread reach all over Europe , discoveries of scholars in the world of medicine , discoveries vaccine by Edward Jenner and the acceptance process vaccine in a way widespread in Europe .<sup>25</sup> Ottoman Turkey own good history about method variolation antidote disease smallpox , but in some circles public Still There is concerns about practice No Once comprehensive .<sup>26</sup>

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<sup>21</sup> Ateş Kara Rüya Kılıç, Yağız Fatih Nazlıer , Pervin Özelçi, “History of Vaccination in Ottoman Empire: Vaccination Officers and Vaccination Centers,” *Journal of Pediatric Infection* 17, no. 4 (2023), <https://doi.org/10.5578/ced.20239608>, hlm, 2.

<sup>22</sup> Robin A. Weiss, “The Prevention and Eradication of Smallpox: A Commentary on Sloane (1755) ‘An Account of Inoculation.’”, hlm, 4.

<sup>23</sup> Dalam beberapa sumber para narapidana diberikan tawaran kebebasan apabila bersedia divariolasi dan praktik ini berhasil sehingga para narapidana yang divaksin dibebaskan.

<sup>24</sup> Emine Ö. Evered, “Mandating Immunity in The Ottoman Empire: A History of Public Health Education and Compulsory Vaccination.”, hlm, 1.

<sup>25</sup> Emine O. Evered. , hlm. 2.

<sup>26</sup> Emine O. Evered. , hlm. 2.

More Far development variolation to vaccines can felt the benefits Until the 21st century , modern era researchers have returned review variolation in the past , Kyrkoudis ( Greek researcher ) and some other Greek researchers in 2021 published articles reviewing it about “ Vaccination Greek ethnicity against Smallpox in the Ottoman Empire .” In the findings a number of the researcher explained proof and certificate family already vaccinated ( immunized ) in Ottoman Turkey in 1903 AD and in 1913 AD . hit the world at that time and method “ immune ” treatment to overcome attack smallpox Already found in Darussifa ( house sick ) below power of Sultan Beyazid II ( Ottoman Turkey ) in the 15th century AD. In practice , the method healing smallpox belonging to the Ottoman Turks was inherited from Seljuk kingdom .<sup>27</sup> According to Rafat Usman, Ottoman Turkey at that time had method deliberate variolation ( injection ). with using the smallpox virus to people who haven't caught smallpox , in the area Edirna , practice This variation is normal done in a room bath usually called Hamman. During the day implementation This variolation , wall room decorated flower roses , food and drink served as well as accompanying music practice variolation . Next , the doctors including doctor woman do variolation with material graft ( similar network transplanted life through disease ) which is already placed inside A leaf fig . Then, cover incision with leaf later roses soaked in rose water .<sup>28</sup> Injection process moreover formerly done with incision , skin scratched with needle ivory and materials internal immunity needle will spread to the body patient . Success method immunity ( variolation ) to eradicate This smallpox is also called " *Turk Usulu Civek Assisi* " or injection Turkish smallpox . This variolation method is already practiced in some affected areas of Ottoman Turkey epidemic smallpox such as Salonika ( now Greece), Plovdiv ( now Bulgaria), Edirne and Istanbul.<sup>29</sup>

In 1717, Lady Mary Montagu after observe method variolation ( injection ) of smallpox in Edirne, then Lady Mary Montagu sent letter to his friend in England named Sarah Chiswell and explained method that variation . Plague very smallpox scary it is, including in the UK , but Because exists invention method variations from Ottoman Turkey this plague smallpox is no longer there scary in England as previously . Variation method that works with method grafting ( *engrafting* , tissue life from sufferer transplanted smallpox through disease ). In season fall , bunch family usually request a expert in method variolation to do this treatment . Put material in the form of the smallpox virus which is placed on existing skin scratched with needle and cover it with piece skin . Patients ( children ) will experience fever during eight day then , the patients will own a number of small pustule/ pustules ( spots small sort of acne ) in part face leave used . Uniquely , not yet There is The same very proof number deaths caused by the method this variation .<sup>30</sup>

When Lady Mary Montagu returned to her country ( England ), Lady Mary Montagu immediately inject Edward ( his son 5 year old ) and her daughter 4 year old who was injected in front of the staff medical at the palace kingdom English . Lady Mary Montagu practiced method immunity ( injection Turkish smallpox ) in his country . When Lady Mary Montagu returned to England , London was ravaged at that time epidemic big pox . As form of gratitude love on method this variolation , a named Henriette Inge gave assistance at Lichfield Cathedral and expressed gratitude his love “Lady Montagu who has introduce method anti -smallpox variolation from Turkey to the country of England ”. Tested confidence and success first time by Lady Mary Montagu to his children . So , then recommend practice the to its citizens . On the recommendation and socialization of Lady

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<sup>27</sup> Sadzalıkecil, “Dāruşşifā: Rumah Sakit Berbasis Wakaf Penemu Vaksin Cacar Era Turki Utsmani.”

<sup>28</sup> Sadzalıkecil.

<sup>29</sup> Sadzalıkecil.

<sup>30</sup> Sadzalıkecil.

Mary Montagu in England there were many saved humanity from danger disease this smallpox .<sup>31</sup>

To get results security more continued , then in 1721 AD, 6 people were convicted dead from prison Newgate undergo method variolation immune from Turkey. In fact , 6 people were convicted The die was varied and this practice worked . See that condition , family kingdoms , nobles and politicians many came along as well as inject immune from Turkey here to his children . Then, in 1722 AD, two princes in the Royal Palace have also injected smallpox . Success method inject smallpox This Turkish variolation was later spread throughout Europe . This Turkish method of variolation became the only one hope in eradicate epidemic disease smallpox to one named Edward Jenner (1749 AD-1823 AD) discovered immunization from cattle ( vaccine from cow ) in 1796 AD.<sup>32</sup>

During the 18th and early 19th centuries AD, the western world experienced significant progress be marked with doctor origin English named Edward Jenner who reviewed ( other sources found ) immunization from smallpox cow . <sup>33</sup>Edward Jenner in 1796 AD implemented vaccine smallpox The cow he found was someone and Edward Jenner confirmed it somebody the will immune to disease smallpox . So that this method is method new and first time vaccine from animals that are injected into humans , are different with previously vaccine from man injected into humans . Surprisingly , this finding is very hard to get acceptance , proof In 1797 AD, Edward Jenner submitted his findings to the Royal Society and his offer was rejected . Then, Edward Jenner wrote the discovery was deep A work his writing “ *An Inquiry into The Causes* ” is known with smallpox cattle in some areas of England like Gloucestershire. In the 19th century AD, Edward Jenner's work had enough influence grew up in inner Turkey vaccine smallpox .<sup>34</sup>

Clear that knowledge English will vaccination introduced by Lady Mary Montagu became step revolutionary in the world of all health glory is a fact rooted from Ottoman Turkish knowledge as pioneer world vaccine . This was also made clear by Emine O. Evered and Kyle T. Evered in his article " *Mandating Immunity in The Ottoman Empire: A history of Public Health Education and Compulsory Vaccination* " has been since a long time ago for the Ottoman Turks look after tradition of “ treatment traditional variolation ” use oppose disease Smallpox existed at that time , far away before English touch with knowledge that is now popular with the term “ vaccine ”. Although , there are those who argue method This variolation has " possible " origins from East and West Asia, but Really No can denied that from Ottoman Empire It was Lady Mary Montagu (1689-1762) who first recognized and observed it application method variolation .<sup>35</sup> Maybe not yet achieved something absolute consensus about origins method This variolation , however , has obvious or not can denied that in fact Ottoman Turkey of course has apply method This variation is far before land Europe recognize it .

Attention to the world of health in the Ottoman era get exclusive attention , precisely during the time of Sultan Mahmud II with do improvements education that is establishment school general named *Mekteb -I Ulum -U Edebiye* ( school of literature) curriculum knowledge of religion, Arabic language and activities translation . School *Mekteb -I Ma'arif* ( school knowledge general ) based religious curriculum , language French , science measure , science

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<sup>31</sup> Sadzalikecil.

<sup>32</sup> Sadzalikecil.

<sup>33</sup> Emine O. Evered, “Mandating Immunity in The Ottoman Empire: A History of Public Health Education and Compulsory Vaccination.” , hlm., 2.

<sup>34</sup> Rüya Kılıç, Yağz Fatih Nazlier , Pervin Özelçi, “History of Vaccination in the Ottoman Empire: Vaccination Officers and Vaccination Centers.” , hlm, 2.

<sup>35</sup> Emine O. Evered, “Mandating Immunity in The Ottoman Empire: A History of Public Health Education and Compulsory Vaccination.” , hlm, 1.

earth , history and also science politics . School other like school military , engineering , medicine and surgery . Furthermore school medicine and surgery combined become One that is school *Dar-Ul Ulum -U Hikemiye Ve Mekteb -I Tibbiy -E Sabane* .<sup>36</sup>

Oppose epidemic smallpox , Ottoman Turkey prepare public with open institution education and teaching special knowledge health health and medicine . School *Mekteb -I Tybbiye -I Adliye -I Shane* is school medicine which was founded in 1827 AD by the government which marked development big in the world of education modern medicine and health public . This school is below control of Sultan Mahmud II (1785 AD-1839 AD). In the year of next after the death of Mahmud II because tuberculosis in 1839 AD, school this medicine continues increase the quality with put attention to disease smallpox . Even in years next has experience progress until 1861 AD was excluded laws by the Ottoman Turks all provision vaccination without cost or free.<sup>37</sup>

Flash come back immunization ( now vaccine ) has started and initiated by the Ottoman Turkish physicians can is known more carry on with read books knowledge medical classic and modern are related with vaccine . Disaster epidemic malignant (smallpox) that struck Europe in the 18th century AD caused 400,000 people to die every the year . Until finally , the epidemic smallpox can overcome by the method immune from Ottoman Turkey later developed by Edward Jenner who was nicknamed by the father world vaccine . Ottoman Turkey has give donation big for the world of health , especially the world of medicine . The variolation method was coined by the Ottoman Turks introduced to England by the later Lady Mary Montagu developed by Edward Jenner with vaccine cow . In the beginning , in England when Lady Mary Montagu and Edward Jenner introduced it method This variolation also gets antithesis “ campaign movement protest vaccine ” . The reason is , it's a problem security and resources treatment vaccine Still doubtful . In fact , there is a stigma that This Ottoman Turkish vaccine is A Ottoman Turkish conspiracy to weaken English . The issue is widespread because at that time it was Ottoman Turkey is rival England , which at that time were two countries world superpower .<sup>38</sup>

### **Implementation of the " Variolation " Immune Method**

Ways of working immune is with build system antibacterial or defense experience body , response immune in body form immunity body from diseases very contagious dangerous like disease diphtheria ( incl smallpox ). Immunity is not as well as immediately There is in body but after exists immunization or it could also be because capable pass those diseases . When microbes enter into body , cells lymphocytes respond to it with form Lots *antibodies* . *Antibodies* this is what plays a role oppose microbes it and protect it body from widespread infection caused by an attack microbes . In general , conditions healthy and strong body can produce billions *antibodies* in a day , with thereby capable oppose agents illness and care condition body still in circumstances Healthy . However , for types microbes that have not can recognized , then required time a number of day for system immune so can form *antibodies* to get it protect body and fight disease .<sup>39</sup>

Variolation is A method used with method ( technique ) of smearing previous material taken from used wound someone who is affected smallpox ( incl smallpox light ) and put in skin

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<sup>36</sup> Siti Aminatul Jannah Muhammad Fauzi, “Peradaban Islam: Kejayaan Dan Kemundurannya,” *Al-Ibrah: Jurnal Pendidikan Dan Keilmuan Islam* 6, no. 2 (2021), <https://doi.org/10.61815/alibrah.v6i2.132>, hlm, 21-22.

<sup>37</sup> Emine O. Evered, “Mandating Immunity in The Ottoman Empire: A History of Public Health Education and Compulsory Vaccination.” , hlm, 2.

<sup>38</sup> Muliani, “Gerakan Anti Vaksin Dan Turki Utsmani,” *The Aceh Trend*, 2018, *The Aceh Trend*.

<sup>39</sup> Muliani.

previous patient skin the patient was scratched so can entered by the material taken from sufferer smallpox before that. In general , the nation Europe know technique This variation is from Ottoman Empire .<sup>40</sup> This is as the author says explain above before this paragraph . So, share anyone ( especially children ) who want you must be vaccinated at that time moreover formerly brought to sufferers smallpox (to take the smallpox virus ), skin patient slashed usually in parts back hands , between Mother finger and index finger Then entered medicine (the virus whose pustules Already mature ) into used incision the . Next , second hand the incision will covered so that it doesn't caught air ( usually the patient will caught fever as reaction variolation up to 4 days ).<sup>41</sup>Implementation method This variolation was also confirmed and confirmed by Emanuel Timoni ( doctor ambassador big English to Turkish ) as quoted in Sprencer's article " *Variolation to Vaccine: Smallpox Inoculation Travels East to West and Back Again* " Emanuel Timoni explain application inclusion that has been success in Constantinople , Ottoman Turkey . Practice inoculation with use needle below skin , how? method prepare patient , enter needle and direction after application inoculation to patient . Crucial thing in inacuclusion that is inoculation be marked with fever and bring up scabies during a number of day , if patient No feel reaction so , then inoculation must be repeated come back to make sure system immunity body succeed and endure against smallpox viruses in the future .<sup>42</sup>

Ottoman Turkish physicians apply method variolation with method giving search smallpox powder ( scab ) is taken from pustules sufferer smallpox , next applied to the part an arm or leg of a person who has not caught smallpox , before part skin Already scratched . In the process , people are then varied will developing “ pustules ” caused in a way experienced by sufferers smallpox , which was later effect the disease will reduce in a way significant . Calculated two to four week , usually the symptoms will lost and sufferers will recover , this is because obtain immune during this variolation process . In some sources , methods This variolation was introduced to Ottoman Turkey by traders Circassians in 1670 AD. When method This variation is widespread developed by Ottoman Turkish physicians , at that time that's what Lady Mary Montagu observed so that later day can popularized in the land Europe , especially in England , is famous with vaccine smallpox .<sup>43</sup>In science health , in classical Islamic times two scientists like Al-Razi and Ibn Sina is accomplished scientist in the world of medicine . Al-Razi is known as the first person who could differentiate between disease smallpox .<sup>44</sup>Al-Razi ( Arrazi ) was able explain about disease smallpox , allergies asthma , and fever as Power mechanism body .<sup>45</sup>In Europe , Al-Razi is known with the name Rhazes wrote book calm disease smallpox and measles . And his essay has been translated into various Language like Latin , English and others . This work is considered as phenomenal work because it is translated into Language English until printed 40 times in 1498 AD-1866

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<sup>40</sup> Rüya Kılıç, Yağız Fatih Nazlıer , Pervin Özelçi, “History of Vaccination in the Ottoman Empire: Vaccination Officers and Vaccination Centers.”, hlm, 2.

<sup>41</sup> Arthur Boylston, “The Origins of Inoculation,” *Journal of The Royal Society of Medicine* 105, no. 7 (2012), <https://doi.org/10.1258/jrsm.2012.12k044> ., hlm., 309.

<sup>42</sup> Susan Spencer, “Variolation to Vaccine: Smallpox Inoculation Travels East to West and Back Again,” *Education About Asia: Online Archives* 27, no. 1 (2022), <https://www.asianstudies.org/publications/ea/archives/variolation-to-vaccine-smallpox-inoculation-travels-east-to-west-and-back-again/> ., hlm., 43.

<sup>43</sup> Pranata, “Tabib Kekaisaran Ottoman Temukan Vaksin Cacar Lebih Dulu Dari Eropa.”?

<sup>44</sup> Khoirul Bariyah Haidar Putra Daulay, Zaini Dahlan, Julkasi Ady Sahala Matondang, “Masa Keemasan Dinasti Umayyah Dan Dinasti Abbasiyah,” *Jurnal Kajian Islam Kontemporer (JURKAM)* 1, no. 2 (2020), <https://ejurnal.seminar-id.com/index.php/jurkam/article/view/612>., hlm, 76.

<sup>45</sup> Tri Septiyani Ika, Lelita, Paidatun Nisa, “Karya Monumental Umat Islam Dalam Ipteks,” *Al-Tarbiyah* 1, no. 3 (2023), <https://doi.org/10.59059/al-tarbiyah.v1i3.298>., hlm, 53.

AD. <sup>46</sup>Al-Razi was assessed be the first person to do it explain in a way wide about disease smallpox and measles at a time be the first person in make book about medical child .<sup>47</sup>

Ibn Sina known as inventor system circulation blood in humans is also known as a philosopher .<sup>48</sup>In the western world, Ibn Sina more known with Avicenna's name .<sup>49</sup>Ibn's work Sina is *Al-Qanun Fi Ath- Thib* .<sup>50</sup> Ibn Sina is in control knowledge philosopher find system circulation blood used in the world of medicine , the book *Al-Qanun Fi Ath- Thib* gave it influence big in the world of medicine and history .<sup>51</sup>

Work as a doctor is A a respected profession , moreover for patient . Therefore , it is necessary to take care honor and harmony between doctors and their patients . So the doctors have attitude ethical ( ethics medicine ) that must carry it doctor . In the heyday of Islam, there were regulations ( code ethics ) that must held accountable by doctors . This doctor's ethics continues ongoing and even the more strict until the Ottoman era . The doctors led to oblige hold firm ethics medical in treat the patient . At least , there is four ethics medicine is a must upheld high by Ottoman Turkish doctors at that time , namely politeness ( simplicity ), satisfaction , hope and loyalty . This medical ethics regulates connection between doctor and patient . The value of politeness refers to a person doctor wise during the Ottoman era in the 16th century AD, the doctor was named Nidai . Nidai always advise the patient , when the patient healed and said that the one who heals is only Allah SWT.

The value of loyalty referred to someone Ottoman Turkish doctor named Vesim Abbas, Vesim Abbas confirmed that doctor must loyal with the patient , more so in handle the treatment . In value satisfaction , Vesim Abbas also said that a doctor must feel satisfied with what has done during treatment and healing patient without desire earn money. Value or sense of optimism ( hope ), doctor No can cause the patient feel and experience a sense of disconnection hope . Doctors must build a sense of optimism patients , even doctor No can tell related his death . Likewise , value recommended fidelity Ottoman Turkish doctor named Vesim Abbas, Vesim Abbas confirmed doctor must loyal with the patient during the treatment process , though patient Act No Good .<sup>52</sup>

Because the appearance of the doctors in the Islamic world was initiated on Spirit verses of the Koran about health and the process of creation man as creatures “ *Human Being* ”. The curiosity of Islamic scientists towards dimensions man with all form physique and structure very need studied more in , because man no Can changed with various dimensions the material . This kind of thinking is behind it appearance various Islamic figures who controlled and were involved in the world of health ( medicine ) later give influential .

Hunayn bin Ishaq (809-874) expert in field disease eyes , current his life known very enterprising researching and writing . And in the western world, Hunayn bin Ishaq is known with Name Joannitius . Then, Abu Bakr Muhammad bin Zakaria Ar -Rani was known in the west with the name Ranes is a bachelor medical and expert in field knowledge chemistry and is also known as the person who first diagnosed disease smallpox and pressure blood high , the book title *Al-Asrar* which means secrets , in the 12th century AD were translated into

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<sup>46</sup> Abdul Mu'in, “Universalisme Islam: Sebuah Kajian Historis,” *Al-Fath* 3, no. 2 (2009), <https://doi.org/10.32678/alfath.v3i2.3346>., hlm, 176.

<sup>47</sup> Dedi Wahyudi dan Rahayu Fitri AS, “Islam Dan Dialog Antar Kebudayaan (Studi Dinamika Islam Di Dunia Barat),” *Fikri* 1, no. 2 (2016)., hlm, 278-279.

<sup>48</sup> Haidar Putra Daulay, Zaini Dahlan, Julkasi Ady Sahala Matondang, “Masa Keemasan Dinasti Umayyah Dan Dinasti Abbasiyah.”, hlm, 76.

<sup>49</sup> Ika, Lelita, Paidatun Nisa, “Karya Monumental Umat Islam Dalam Ipteks.”, hlm, 53.

<sup>50</sup> Haidar Putra Daulay, Zaini Dahlan, Julkasi Ady Sahala Matondang, “Masa Keemasan Dinasti Umayyah Dan Dinasti Abbasiyah.”, hlm, 76.

<sup>51</sup> AS, “Islam Dan Dialog Antar Kebudayaan (Studi Dinamika Islam Di Dunia Barat).”, hlm, 278-279..

<sup>52</sup> Maryam, “Perkembangan Kedokteran Dalam Islam.”, hlm, 85.

Latin by Gerard De Cremona. The book became book reference for practice medicine until the 19th century AD. Gustave Lebon explains Ranes' famous work is *Al-Fihrist*. Next, the successors appeared from Ar-Rani (Ranes) is like Ibn Sina (Avicenna) who died in 926 AD was an expert in medicine, pharmacy and music. Ibn Sina own work title *Al-Qanun Fi Ath-Thib* (guidelines medicine) is a book used in a way widely by Muslims and to the extent that it extends to other parts of the world Europe. Book *Al-Qanun Fi Ath-Thib* which has been translated into Latin printed in Rome, Italy in 1593 AD. Book Ibn Sina *Al-Qanun Fi Ath-Thib* is book references in European (western) universities until the 19th century AD. Then, Ibnu Rushd (1126-1198) in Europe known with the name Averroes is a pioneer knowledge medical general diagnosis network body human "histology". Ibn Rushd own service big in study vessels blood and disease smallpox. Ibn's work Rushd title *Al-kulliyat fi Al-Tabib* containing about rules general knowledge medical has translated into Bonacosa Latin become a college. The book is the most complete medical compendium book for its time.<sup>53</sup> Sayyed Husen Nasr in the writings of Wahyudi and Fitri explain Islamic science is science studied by Islamic scientists at the time century second Hijriyah, includes medicine, astronomy, philosophy and mathematics. Therefore, Islamic science participated dabbling in development knowledge knowledge contemporary, however still bound by applicable Islamic rules in Islam. Development knowledge knowledge in centuries medieval and modern caused awareness and strength exercised by Islamic scientists. Base from all of that is Islamic education. Because of this, figures and inventors emerged and were born in various field science. There are many Islamic scientists give birth to work big that became Qibla western scientists to develop. Development knowledge in Islam that period includes knowledge astronomy (determination day kingdom Eid Fitr, Eid adha, time prayer) the character Al-Farazi, mathematics (Al-Khwarizmi), chemistry (Jabir Ibn Hayyan), medicine (Al-Razi) philosophy (Al-Farabi, Ibn Sina and Ibn Rushd).<sup>54</sup> Classical Islamic scientist Lots give contribution big to development knowledge knowledge in general and subsequent Islamic scientists. Next, contribution This Islamic scientist was created as reference by western (European) scientists who made it Western scientists experience development. The progress of Islam also includes the world of education.<sup>55</sup>

### **Impact of Variolation Methods in Prevention Disease and Mortality Reduction**

With exists immunization against disease infectious like smallpox has Lots give benefit in prevention disease smallpox Good in protect children as well as adults. Plague smallpox is first disease resisted with immunization or formation Power stand body. Immunization is very treatment powerful oppose smallpox compared to treatment other. This too all at once impact on reduction number death caused by disease smallpox.<sup>56</sup>

Achievement big in prevention disease smallpox No regardless from the role of Edward Jenner who campaigned vaccination cow to fight disease smallpox. In 1796 Edward Jenner continued practice vaccine and show success experimental to smallpox although in struggle Edward Jenner's experiment too get rejection from the Royal Society, but success the experiment can proven after vaccinate a child man named James Phipps aged 8 years. Then, on to development Next, vaccination with fast observed and adopted throughout the world and in some countries it is mandatory vaccination. This continues taking place up to the

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<sup>53</sup> Muh. Huzain, "Pengaruh Peradaban Islam Terhadap Dunia Barat," *Tasamuh: Jurnal Studi Islam* 10, no. 2 (2018), <https://doi.org/10.47945/tasamuh.v10i2.77>, hlm, 368-369.

<sup>54</sup> AS, "Islam Dan Dialog Antar Kebudayaan (Studi Dinamika Islam Di Dunia Barat)," hlm, 277-279.

<sup>55</sup> US., hllm., 277.

<sup>56</sup> Robin A. Weiss, "The Prevention and Eradication of Smallpox: A Commentary on Sloane (1755) 'An Account of Inoculation.'" , hlm., 1.

beak 20th century marked with widespread scope vaccines and their decline epidemic smallpox throughout the world except in resource -poor countries Power such as Africa and the India-Bangladesh <sup>57</sup>border . Success vaccination in Turkey is also visible through a document in 1860 AD, when Mehmet Tefik and Osman served during One year in a secondary division Rumelia was appointed as expert surgery from *Mekteb -I Tybbiye -I Yabane* to vaccinate 11,092 people and declared No There is none of them were affected smallpox after vaccine the . <sup>58</sup>Even development vaccination extends to Europe where it has succeed save children with maintenance vaccination appropriate that time real succeed prevent , even almost eradicate disease smallpox . <sup>59</sup>In several developed countries , epidemics smallpox can exterminated Because every individual has given vaccine as protection from this disease . <sup>60</sup> Lady Mary Montagu did the outreach inoculation in England has bring trust for resident England to join as well as in inoculation , proven in One year inoculation become a "Trend" in the middle class nobleman English . <sup>61</sup>Beside the struggle of Lady Mary Montagu that brought variolation to England , traders , ambassadors great , missionary , sailor and others also joined in role in introduce variolation to English . Lady Mary Montagu's courage was deep experiment variolation No only applied to his surviving children small , but also Lady Mary Montagu succeeded influence children ambassador big secretary French to divariolate . <sup>62</sup> By general , practice variolation in a way comprehensive practiced in Europe , America and colonial countries Europe the western part occurs around mid 18th century AD. This happened after a number of doctor from various cleavage Europe visited London, England to study method variolation and conduct travel all over Europe . Variolation Then extends to Amsterdam, Netherlands the first time in 1748 AD by Theodore Tronchin , to Geneva (1749 AD), Saad Tissot to Lausanne, Switzerland (1754 AD), Sweden and Denmark (1754 AD-1756 AD). Meanwhile , in the United States variolation in a way general practiced before war revolution . <sup>63</sup> High death rate consequence epidemic smallpox is one the factor due to the lack of availability vaccine personnel ( officers ) . So that this thing becomes complaint together for doctors and officials . Ottoman Turkish government focuses on giving vaccine in each province of Ottoman Turkey done in accordance with need . In 1894 AD, the government organize giving vaccine To use oppose epidemic smallpox that has many fatalities . The result , numbers deaths also decreased in a way significant after giving vaccine . <sup>64</sup> Vaccine is A invention very medical beneficial in history life humans , vaccines become an urgent tool in fight and eradicate disease smallpox . Invention vaccine has save Lots life and on become tool key in business rescue and health society , especially in poor countries. <sup>65</sup> Presumably too Lots inequality in the world of knowledge from corner look claim on knowledge knowledge itself , because it is dominant introduced it is the person who develops

<sup>57</sup> Robin A. Weiss. , hlm., 6.

<sup>58</sup> Rüya Kılıç, Yağız Fatih Nazlier , Pervin Özelçi, "History of Vaccination in the Ottoman Empire: Vaccination Officers and Vaccination Centers." , hlm., 292.

<sup>59</sup> Rüya Kılıç, Yağız Fatih Nazlier , Pervin Özelçi. , hlm., 284.

<sup>60</sup> Erol Karıcı, "A Name Contributing to Turkish Vaccine History: Dr. Kemal Muhtar Özden (1874-1958)," *Journal of Pediatric Infection* 17, no. 4 (2023), <https://doi.org/10.5578/ced.20239613>. , hlm., 320.

<sup>61</sup> Spencer, "Variolation to Vaccine: Smallpox Inoculation Travels East to West and Back Again." , hlm., 44.

<sup>62</sup> AM Behbehani, "The Smallpox Story: Life and Death of an Old Disease," *Microbiology Reviews* 47, no. 4 (1983), <https://doi.org/10.1128/mr.47.4.455-509.1983>. , hlm., 460-461.

<sup>63</sup> Behbehani. , hlm., 466.

<sup>64</sup> Rüya Kılıç, Yağız Fatih Nazlier , Pervin Özelçi, "History of Vaccination in the Ottoman Empire: Vaccination Officers and Vaccination Centers." , hlm., 284.

<sup>65</sup> Steven L. Zeichner Yufeng Song, Frances Mehl, "Vaccine Strategies to Elicit Mucosal Immunity," *Vaccines (Basel)* 12, no. 2 (2024), <https://doi.org/10.3390/vaccines12020191>. , hlm., 2.

knowledge knowledge not the person who came up with the initial idea . Disease claim knowledge knowledge like that often happens among nation Europe . For example , in the 18th-19th century AD, Warren De La Rue was the first person in history that created one of the light bulbs electricity First . Warren De La Rue created inner platinum coil A tube vacuum and drain electricity later produce light . Then, almost half century then , Thomas Alfa Edison worked on it same concept . However , it is the name Thomas Alfa Edison that is familiar to people . Likewise this Ottoman Turkish vaccine that has been centuries previously Already implemented by the eastern world , far away before Western nations know vaccines in Europe . In fact , deep something source , in article *How Ottomans Inspired Smallpox Vaccine Centuries Before Europe* confirm western nations ( Europe ) when has find return the cure , the victory was claimed as owned by them ( western nations ) .

Plague smallpox that became A terrible pandemic in history humans , in the 18th century AD this epidemic was disease fever serious and contagious cause death mass in the 18th century AD. Disease smallpox leave used wound on face , covered lump containing pus that kills 3 out of 10 sufferers who become problem health at that time. In the 20th century AD, smallpox Already claimed 300 million people and 500 million people in 100 years final . This was caused by that terrible virus , finally can eradicated in 1979 AD. Westerners, say sufferer smallpox as a spotted monster . However Thus , in the eastern part of the world , far away before land Europe know vaccine to overcome disease smallpox , actually epidemic this smallpox already can eradicated by treatment method variolation in Ottoman Turkey .<sup>66</sup>Vaccine method is transformation from method still variations nature traditional , but fact prove that method this variolation is capable prevent number death in Ottoman Turkey , while in Europe at that time not yet know and apply method This variolation swallows number number of deaths millions . For the Ottoman Turks , method this variation already applied during centuries long to fight smallpox in Ottoman Turkey . This amazing variolation results then observed by Lady Mary Montagu in 1721 AD or 1722 AD. Lady Mary Montagu's admiration for success method Ottoman Turkish variolation initiated by Ottoman Turkish physicians , precisely in the city of Istanbul, so that Lady Mary Montagu sent letter to his country ( England ). Therefore , later Today , the letter sent by Lady Mary Montagu was recorded and mentioned as letter oldest proof vaccines in Ottoman Turkey .<sup>67</sup>

With exists immunization oppose disease contagious , then can protect and save more Lots people humans ( children and adults ). Immunization has prevent death , this way has been effective compared treatment other . Disease smallpox is disease the first time it worked counteracted by treatment immunization . Hans Sloane did give the explanation about method inoculation in 1736 that method inoculation is known Already running and developing with Good .<sup>68</sup>Sloane admitted success application inoculation No regardless from two orange the woman he thought he was meritorious and extraordinary normal . First , Lady Mary Montagu (1689-1762) was the first to observe method inoculation of “ variolation ” in Ottoman Turkey . His son in 1717 was inoculated in Turkey and his daughter inoculated in 1721 in England , when epidemic hit English . Second , Princess Caroline (1683-1737) asked advice to Sloane against his children is must was injected with " inoculation " which was finally also injected . Application inoculation was declared succeed .<sup>69</sup>Lady Mary Montagu practiced method immunity ( injection Turkish smallpox ) in his country . As form of gratitude love on method this variolation , a named Henriette Inge explained aid at

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<sup>66</sup> Pranata, “Tabib Kekaisaran Ottoman Temukan Vaksin Cacar Lebih Dulu Dari Eropa.”

<sup>67</sup> Pranata.

<sup>68</sup> Robin A. Weiss, “The Prevention and Eradication of Smallpox: A Commentary on Sloane (1755) 'An Account of Inoculation.'” , hlm, 1.

<sup>69</sup> Robin A. Weiss. , hlm., 2.

Lichfield cathedral and expressed its thanks his love “Lady Mary Montagu who has introduce method anti -smallpox variolation from Turkey to the country of England ”. Tested confidence and success first time by Lady Mary Montagu to his children . Therefore , recommend practice the to its citizens . On the recommendation and socialization of Lady Mary Montagu in England there were many humans can saved from danger epidemic this smallpox .<sup>70</sup>

Flash come back immunization ( now vaccine ) really has started and initiated by the Ottoman Turkish physicians , can is known more carry on with read books knowledge related ancient and modern medicine with vaccine . Disaster epidemic malignant (smallpox) that struck land Europe in the 18th century AD caused 400,000 people to stretch life every the year . In the end , an outbreak smallpox can resisted with method immune from Ottoman Turkey later developed by Edward Jenner who was nicknamed by the father world vaccine . Ottoman Turkey has give donation big for the world of health (the world of medicine ). The variolation method which was coined by the Ottoman Turks was then introduced to England by Lady Mary Montagu who later developed by Edward Jenner. At first , in England when Lady Mary Montagu and Edward Jenner introduced method This variolation also gets antithesis “ campaign movement protest vaccine ”. The reason security and resources treatment vaccine Still doubtful . In fact , there is a stigma that This Ottoman Turkish vaccination was A Ottoman Turkish conspiracy to weaken English . The issue is widespread because at that time, Ottoman Turkey is rival England , which at that time were two countries world superpower .<sup>71</sup>

In literature modern health , in history vaccine , the first vaccine created is vaccine smallpox . Vaccine smallpox using deep vaccinia virus conjecture from hybrid from variola ( smallpox virus ) and smallpox virus cow . Nation (western) Europe did research and campaigns vaccine throughout 19th century AD to 20 AD, smallpox stated has ended by scientists . Campaign mass stated it worked , so smallpox become declared disease totally successful exterminated in history ummah man . Meanwhile, the performance of scientists can assessed has succeed in eradicate the smallpox virus from its roots . Hence , success vaccine give contribution big in the world of health , especially in heal and eradicate disease smallpox even disease other . However , the fact is precisely it is the western nations who have claim on In other words , western nations played a role big in eradication smallpox epidemic reaches its roots .<sup>72</sup>

## Conclusion

Vaccination history actually has started and initiated by the Ottoman Turks . An empire called Ottoman Turkey has become contributor big transformation in vaccination . It all started from method variolation ( inoculation ). An injection process vaccine traditional with method tear sufferers ' skin and non- sufferers even smallpox formerly taken by a virus or germs sufferer later smallpox put in skin sufferer smallpox sufferer or non sufferer smallpox . With Thus , it is formed Power stand the human body ( immune ) is capable oppose disease smallpox . It means with exploit viruses or germs sufferer tamed and made smallpox as a virus or germ that fights evil viruses ( germs ) that attack health body man . Donations knowledge deep Islamic knowledge field health from Ottoman Turkey has spread wide inland Europe and the world. Proven with method variolation pioneered by the Ottoman Turks has succeed eradicate epidemic smallpox and reduce number ever death become a " scourge " struck Europe and the world. Until even now become very contribution big in the

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<sup>70</sup> Sadzalıkecil, “Dāruşşifā: Rumah Sakit Berbasis Wakaf Penemu Vaksin Cacar Era Turki Utsmani.”

<sup>71</sup> Muliani, “Gerakan Anti Vaksin Dan Turki Utsmani.”

<sup>72</sup> Pranata, “Tabib Kekaisaran Ottoman Temukan Vaksin Cacar Lebih Dulu Dari Eropa.”

world of health ( especially medicine ) and useful wide for continuity life human and of course not escape useful for research history .

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