Safe Operation of Mosques During Corona Pandemic and Its Impact On Mosques Design

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Abstract

Rituals inside mosques were affected by the Corona pandemic and they were closed to the masses of worshipers in the peak periods of the pandemic to limit the spread of infection. The permission to pray in mosques was according to Health status, hence, it became necessary to think about creating a healthy environment for Mosques to reduce the increased infections, so the research goal is to study Coronavirus & the reports and recommendations of WHO in selected Arab countries, also scientific researches that dealt with this matter and take advantage of them and take it into account when designing new Mosques or rehabilitating existing mosques to become ready to work in emergency conditions and not to close doors again, the research is interested in clarifying what health requirements are. The goal is to achieve them in Mosques according to WHO & therefore apply them by design to achieve the safe operation of mosques. The research arrives at a set of design strategies that help in the safe operation of mosque design during the future, leading to recommendations that help in the improvement and development of buildings that interacts daily with large numbers of individuals to ensure their continuity of operation and the provision of a healthy and safe environment.

KEYWORDS:
Mosques Design - Corona Pandemic - Safe Operation - Smart Operation

Introduction

The World Health Organization (WHO) on Wednesday (March 11, 2020) officially announced a new global pandemic, the COVID-19 virus, which has caused humane and economic losses and brought about changes in the built environment and the lives and behavior of individuals, resulting in the authorities taking precautionary measures to reduce the rapid spread of the Virus and control the health situation, including preventing gatherings, keeping homes and closing facilities, including Mosques which had a negative impact on the souls of Muslims for the importance of community prayer in Mosques and the spiritual connection between the Muslim individual and the Mosque. The easing or tightening of the procedures depended on the improvement or deterioration of the health situation and the extent to which individuals are committed to precautionary measures and vaccination, but with the desire of the Egyptian state to live with Corona and return to normal life and allow prayer in mosques in accordance with the regulations set, it became necessary to think about creating a healthy environment for buildings that witness gatherings, including Mosques, so as not to cause increased injuries and help to combat them as much as possible.

Research problem: Buildings that witness large numbers of gatherings throughout the day, especially mosques, can help spread the epidemic and worsen the health situation if you miss the health building segments that help to operate safely during the atmosphere, which is evident

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in the rapid spread of the epidemic and the increase in injuries and the consequent closure of facilities to control the situation. This requires the design of Mosques with a healthy environment that helps promote the public health of worshippers and their ability to resist the epidemic.

Research Importance: Is that the design of Mosques has a major role in promoting public health in the fight against diseases & Epidemics if its design is better and vice versa, the role of the architect in cooperating with specialists to face these dangers through Architectural Strategies.

Research Main Goal: Achieving a guiding matrix for Mosque design that helps safe operation during pandemics such as Corona in line with WHO trends.

Research hypothesis: Mosque design which helps to operate security achieves a healthy environment under the Corona pandemic and reduces injuries.

Research Field: How to design future Mosques? While existing Mosques can be rehabilitated as buildings by choosing the appropriate strategies contained in the guiding matrix reached by the research according to the circumstances of each Mosque.

Research methodology: Depends on a theoretical study to understand how the COV spread in buildings with clusters and to know the directions of the Health Organization and how to apply them in some Arab countries as selected models for the purpose of determining the mechanisms of safe operation of mosques, and then follow the method of devising by studying how to translate it architecturally in the design of Mosques in order to reach a guidance matrix for the design of mosques with a healthy environment compatible with WHO and reach the basic pillars of safe operation, and ends the research with results and recommendations to help a safe operation.

First: What is Covid19 Virus?

It is one of the coronary viruses that cause diseases ranging from common colds to more severe diseases such as MERS-COV and SARS-COV, the size of one molecule is (80-160 nanometer), Coronavirus is spread by liquid particles produced by the patient from his nose or mouth (cough/sneeze/flying vibrator/breathing strongly) and falls on surfaces for a distance of no more than 2 meters from the infected person, the healthy human becomes infected with this virus by touching inactive surfaces contaminated with respiratory secretions and then touching the eye, mouth or face, or direct interaction with a sick person without leaving a distance of more than 1m.

Second: WHO guidelines and regulations and their application in some Arab countries to re-open Mosques:

WHO Preference for open spaces are: Quality ventilation of closed spaces, Fragmentation of large clusters, Reduce the duration of the event, Cancellation of unnecessary activities,

Detection and isolation of the injured, Organizing the entry and exit processes, Monitoring precautionary measures, Regular cleaning and sterilization.

Egypt: Open mosque at the time of the ritual- Banning gatherings in their forms- Holding funerals in large mosques- Opening women's chapel in large mosques, Monitoring precautionary measures, Continuous hygiene and sterilization.
KSA: Good ventilation of mosques- Organizing the entry and exit processes, Follow-up and monitoring of precautionary measures- The presence of awareness posters- Continuous hygiene and sterilization.
UAE: Opening the doors of mosques for ventilation - Prevent touching of knobs and doors, Placing awareness posters in prominent places for worshippers - Continuous hygiene and sterilization.
By analyzing WHO guidelines and selected countries precautions for the safe operation of mosques in Table 1, key pillars for the safe operation of the mosque can be drawn up at the following points.

- The commitment of the worshippers to precautionary measures.
- The health environment of the mosque, which includes the quality of the internal air and the attention to the sterilization and cleanliness of the mosque continuously and regularly (the subject of research).
- Effective management of the mosque in organizing events, monitoring and continuous awareness.

Third: How to design effective mosques in the fight against Corona?

The design of Mosques with a healthy environment to achieve a suitable climate for worshiping is directly of the utmost importance in promoting the public health of worshippers and strengthening the immune system for rapid recovery in the case of injury or avoiding injury or reducing its spread and vice versa in the case of sick buildings that help to create a fertile environment for viruses, bacteria, pathogenic fungi and epidemics as a result of the lack of purity of the internal air.
The characteristics of the healthy environment are summarized in the quality of the internal air and the choice of Healthy materials and natural lighting of spaces and audio-visual comfort for worshippers, coordination of the appropriate location, cleanliness of the place, prevention of forms of contact and achieving spacing between worshippers.

Fourth: What are the design mechanisms to achieve safe operation?

The research reached a matrix that included the how, and application elements, and application methods, along with important observations to help the designer effectively design the mosque to combat Corona.

Fifth: The future of the design of mosques under the atmosphere of Corona or others:

The design of the new mosques requires the selection of appropriate strategies mentioned in Table 2 and in accordance with who's directions to provide a healthy environment for worshippers and new methods of application which are mentioned in this research that were

developed by the designer to use them, to achieve the safe operation of mosques very effectively during the present time as the research presents ideas such as:

• The building's ability to clean and self-disinfect to be programmed to maintain the healthy environment of the mosque.

• Develop crowd control and make magnetic cards for worshippers to enter the mosque linked to the health condition of the chapel allowing only healthy people to enter.

• Work to reduce the cost of smart robots for widespread use in cleaning, control and operation of the mosque.

Sixth: Search results

• The safe operation of the mosque requires achieving the following equation: awareness of the worshippers and their commitment to precautionary measures + a healthy environment for the mosque + effective management of the mosque, and the occurrence of deficiencies from the parties to the equation may help to spread the epidemic and increase injuries.

• Environmental design and modern techniques for air purification for the creation of a healthy environment which have been proved to be important in the required indoor air quality stressed by the World Health Organization to reduce the impact of the epidemic, also self-operation techniques and the reduction of the human element in the operation of the building have become necessary not only in the provision of energy and water but also in reducing injuries as a result of contact and friction with surfaces contaminated with pathogenic particles.

- Historical mosques have sustainable ideas that the designer can emulate to help provide a healthy environment for worshippers and their sense of spirituality such as the inner courtyards of ventilation and natural lighting, the use of healthy local materials such as local stones, the separation of toilets from ablution places and the work of the so-called ablution dish to keep the mosque clean, the dimensions and proportions of the mosque that achieve a good sound environment.
- The importance of taking advantage of the applications of modern technology and balancing them with environmental design applications in the design of mosques with a healthy environment.
- There are service spaces in the mosque such as the library and science classrooms that the designer can design and equip for remote operation during crises, and there are other spaces that can be disabled or performed in the open space such as the house of events attached to the establishment of social activities to reduce gatherings as much as possible, which may be the cause of the spread of the epidemic, and the importance of external squares and their use as a natural extension of the chapel to hold religious rituals during emergency and compensate for the shortage of the original mosque capacity.

Seventh: Recommendations

• Recommendations for the designer

✓ Follow-up and continuous knowledge of the research on Corona and technological development to combat it and to explore the worst future conditions that may hinder the operation of the building and its consideration in the design process.

✓ Community parties participate in solving problems and meeting emergency challenges through their field of work.

Recommendations for Mosque Admin

✓ Educating worshippers to abide by precautionary measures and not to neglect them during the pandemic or end them during the presence in gathering places, the importance of vaccination, the commitment of the house in case of injury or feeling any fatigue to preserve the safety of the other two, and to maintain the cleanliness of the mosque through (various media /placing leaflets and posters in the mosque in clear prominent places).

✓ Emphasis on control over the application of precautionary measures.

✓ Continuous detection of the staff of the mosque and the isolation of the infected so that they are not the cause of injuries.

✓ Attention to the maintenance, cleanliness and sterilization of the mosque on a regular basis.

✓ The importance of organizing the movement and preventing all forms of crowding and gatherings.

✓ The importance of providing health points at the entrances to the mosque to prevent the entry of the infected.

✓ Providing personal hygiene and sterilization tools in the mosque spaces.

Eights: Conclusion

The operation of mosques during the Corona pandemic requires the commitment of worshippers to precautionary measures and effective management of the mosque in addition to the availability of the requirements of the healthy environment.

The importance of designing a mosque with a healthy environment to enhance the health of worshippers and their ability to resist the epidemic, and also to achieve safe operation of the mosque in exceptional circumstances.

The field of architecture currently contains many applications that help design a mosque that helps to operate safely in accordance with WHO directions.

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