



New Trends and Issues Proceedings on Humanities and Social Sciences



Volume 4, Issue 11, (2017) 23-34

ISSN:2547-8818

www.prosoc.eu

Selected Paper of 6th World Conference on Design and Arts (WCDA 2017), 29 June – 01 July 2017, University of Zagreb, Zagreb – Croatia

The Change of the Hospital Architecture from the Early Part of 20th Century to Nowadays: An Example of Konya

Dicle Aydin^{a*}, Department of Architecture, Necmettin Erbakan University, 42090 Konya, Turkey.

Esra Yaldiz^b, Department of Architecture, Necmettin Erbakan University, 42090 Konya, Turkey.

Suheyla Buyuksahin^c, Department of Architecture, Selcuk University, 42075 Konya, Turkey.

Suggested Citation:

Aydin, D., Yaldiz, E. & Buyuksahin, S. (2017). The change of the hospital architecture from the early part of 20th century to nowadays: an example of Konya. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 4(11), 23-34. Available from: www.prosoc.eu

Selection and peer review under responsibility of Prof. Dr. Ayse Cakir Ilhan, Ankara University, Turkey.

©2017 SciencePark Research, Organization & Counseling. All rights reserved.

Abstract

The hospitals that served in the name of 'darussifa' in Seljuk Empire period in Anatolia continued their service during Ottoman Empire period. The health institutions in different areas in Ottoman period were replaced by 'Gureba hospitals' in 19th century. The change in Anatolia was realised, after the declaration of the Republic and with the development of its economy, and lived in every area; hospital buildings were constructed first as 'Gureba hospitals' then as 'country hospitals' in Anatolia cities like Konya after the big cities like İstanbul, Ankara and İzmir. In this study, the change and development of the hospital architecture in Konya are discussed and the change from 'Gureba hospital' of early 20th century to the today's state-affiliated comprehensive research hospitals is illustrated. The change of hospitals is evaluated via bed capacity, building size and formal differentiations.

Keywords: Hospital architecture, change of hospitals, Konya, Anatolia.

* ADDRESS FOR CORRESPONDENCE: **Dicle, Aydin**, Department of Architecture, Necmettin Erbakan University, 42090 Konya, Turkey.

E-mail address: dicleaydin@konya.edu.tr / Tel.: +90-542-3681755

1. Introduction

The buildings/spaces built for the service of curing diseases are old as much as the human history. In 5th century BC, the buildings named 'Akslepeons' (Figure 1) that is formed of the courtyards with arcade and surrounded by patient rooms were the first small-scaled examples of health institution buildings (Terzioglu, 1964). After that, the buildings used for curing the diseases grew in horizontal direction. After the ongoing developments till 1980s, the continental wars in Europe and America and the increase in diseases brought the pavilion system to the hospitals. Pavilion system is a one-storey system built in a way to ventilate in both sides to send the dirty air in the wards away (Aydin, 2001). The first pavilion hospital was built, between 1839 and 1854 in Paris by M. P. Gauthier, following this concept is 'Hopital Lariboisiere', (Figure 2) (<http://healtharchitecture.wikifoundry.com/page/Pavilion+Concept%3A>). In pavilion system, patient stations (ward) were located separately according to the diseases and various design strategies such as standard, corridor, dual and radial type were adopted ([http://www.asylumprojects.org/index.php?title=Pavilion Plan Institutions](http://www.asylumprojects.org/index.php?title=Pavilion+Plan+Institutions)). In all of them, service units were placed in the centre or near the centre; wards were connected to circulation network independently from each other.

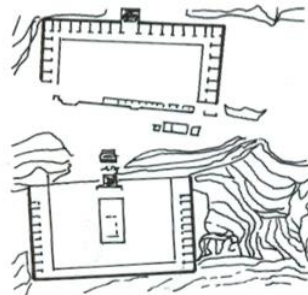


Figure 1. Akslepeons built in 5th century BC (Terzioglu, 1964)

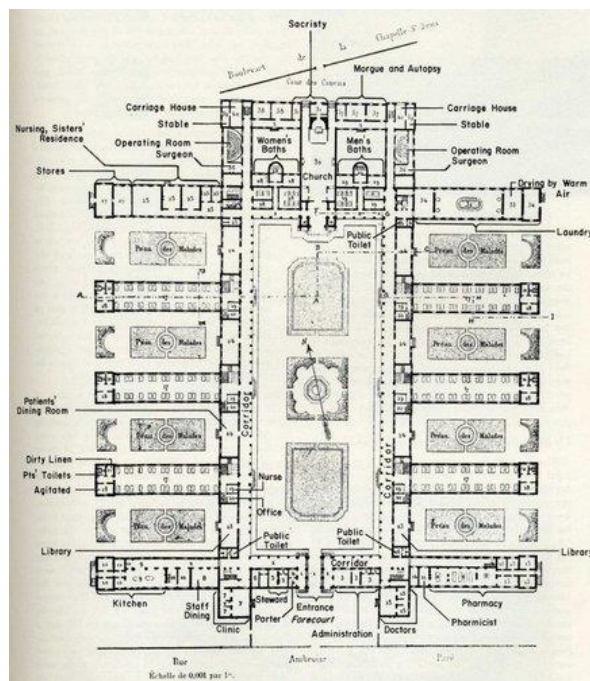


Figure 2. Pavilion hospital – plan of Hopital Lariboisiere (1839–1854) (<http://healtharchitecture.wikifoundry.com/page/Pavilion+Concept%3A>)

In 1900s, the monoblock system was used as the pavilion system needed very large areas, and the insulation precautions can be taken in the same building technology developed (Aran, 1971). This system was applied first in America, then in Germany and the whole Europe. The monoblock system was developed in time and applied with 'T' type, 'H' type, and 'Y' type plans (Figure 3; Aydin, 2001). In time, various planning strategies were formed. The planning strategies such as horizontal and vertical planning formed differences according to the size of the construction area (Figure 4).

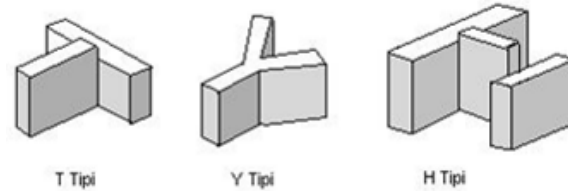


Figure 3. Monoblock system (Aydin, 2001)

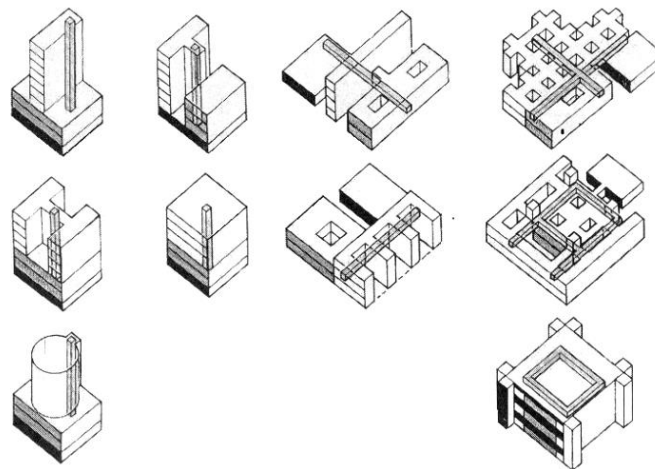


Figure 4. Vertical and horizontal planning (Aydin, 2001; Onal & Onal, 2000)

From past to present, the hospital architecture showed major changes that are different from other building typologies. Aydin (2001) determined that these changes depended on many reasons such as the population increase, the changes in building construction systems, innovations in medical technology and the change of healthcare understandings and the health standards.

In this study, the development and change of hospital architecture in Konya are handled and the change from the Gureba hospitals built in early 20th century till the current comprehensive research hospitals is tried to be exemplified. In the scope of the study, the state hospitals are handled and the change of hospital architecture is evaluated based on of the number of beds, building size and formal differentiation.

2. Hospital Architecture in Anatolia

In Anatolia, the spatial correspondence of the mediums, where the healthcare and cure services were maintained, was the 'darussifa' that appeared with the madrasahs where the medical education was given. 'Darussifas' are the buildings with a special architectural concept, which are designed for meeting the health needs of the community, for the implementation of the medical profession (Benek, Sakar, Bayram & Gumustekin, 2015). Especially, the 'darussifas' built by Seljuks in Anatolia were very important from the point of Turkish medicine history; and they continued their duties about their

establishment aims for a long time (Aciduman, 2010). Madrasah plan schemes were used in 'darussifas', it was applied sometimes as a single madrasah and sometimes as two adjacent madrasahs, meaning twin madrasah (Cantay, 1992).

In Ottoman period, 'darussifas' were built in the places where 'darussifa' did not exist. 'Darussifas' are commonly served in a social complex, and the madrasah plan scheme was applied with various interpretations from them. In Ottoman period, the health associations providing healthcare and cure services in different areas, such as armoury, bazaar, aşhane, sakahane, maristan, bimaristan, darulmerza, 'darussifa', were replaced by 'Gureba hospitals' in 19th century. Gureba is the plural form of the word 'garip' in Turkish, meaning 'needy' which means 'helpless'. Waqf Gureba Hospitals established in 19th century, gave free service and formed the basis of the state hospitals (Aydin, 2013; Ozbek, 2002). According to Ulman Isil (2007), the 'Tanzimat Fermanı' declared in 1839 happened to be the beginning of the modernisation, also in medicine area. Medical education was reconsidered; the effort of institutionalisation in modern medicine had started. With the view that the situation in 'darussifas' was dominated by traditional master-apprentice education that could not fulfill the needs of the era, the first step for modern medical education was taken by the establishment of Tiphane-i Amire ve Cerrahane-i Mamure in Istanbul in 14 March 1827. In 1839, Mekteb-i Tibbiye-i Adliye-i Sahane started to serve as another school contributing the modern education. The foundation of today's health organisation was laid in the first years of the Republic in Turkey. The Ministry of Health was established in 2 May 1920 and its main structuring started after 1925 (Karabulut, 2007). In spatial sense, the development process of the health organisations, giving service in health area in the name of 'hospital' started with Gureba hospitals, with the goal of modern medicine education hospitals were established almost in every city of the country from east to west in the names of 'country', 'nation' and 'state' hospitals (Aydin, 2013).

The changes that lived in medicine area in the whole world reflected on the healthcare understandings and hospital architecture, and the health investments increased especially after 1960 with the effect of economic changes in Turkey. In the last 20 years, the developments had accelerated, the city hospitals providing extensive health service with 800–1200 beds have been built in many cities in Anatolia.

3. The Change of Hospital Architecture in Konya

The first 'darussifa' in Konya – the capital of Anatolian Seljuks – was made by Sultan Meliksah of Seljuks in 1113. Taneli and Sahin (2013) indicated that there were three 'darussifas' in Konya: The first one was Maristan-I Atik built by Kilicarslan II in 12th century, the second one was Darussifa-I Alai built by Alaeddin Keykubat (1219–1238) and the third one was the 'darussifa' built by Kadi Izzettin Muhammedi – the vizier of II [Izzettin Keykavus (1249–1257)]. The hospital and the leprosy house built by Alaeddin Keykubat I in 1220–1237 were booked in Konya registry (Taneli & Sahin, 2013). Although the location of the Konya 'darussifa' could not be determined, it was recorded in the studies that the 'darussifa' was also served in Ottoman period.

In 20th century, with the goal of fulfilling the citizen's hospital requirement, the foundation of the Gureba hospital (which formed the nuclei of today's state hospital) meant to be the hospital for needy and poor was laid in 1902 in the time of Konya Governor Ferit Pasha (Dogan, 2009; Figure 5). Taneli and Sahin (2013) mentioned that the Gureba hospital was opened on July 1900. The hospital was established as a hospital for internal diseases with 30 beds, it served to the patients from the cities of Antalya, Isparta and Nigde – the Sanjaks of Konya until the declaration of the Republic.

During that period in Konya, it was seen that the epidemic diseases affected the spatial formation in hospitals. An epidemic diseases and gynaecological diseases hospitals with 20 beds each were built on the site across the Gureba hospital after the epidemic diseases spread in the city. In 1915, the sections of Emraz-i Cildiye and Emraz-i Akliye were added to the hospital (Tonbul & Forta, 2009). The building was built as an one-storey pavilion system and used as physical therapy and rehabilitation service

before the structuring process of today. The construction date of the building is unknown, but Aydin (2013) suggested that 1915 is the construction date because new services were opened at that time.



**Figure 5. Konya Gureba Hospital the foundation of which was laid in 1901 (Doganay, 2007).
The building does not exist today**

The administration of the hospital passed to Konya Governorate and both the buildings were used as Konya Country Hospital. After a while, the decision of a new hospital was made and German Lench firm started the construction of the new hospital in 1927 during the period of Governor Izzet Bey (Tonbul & Forta, 2009). The foundation of the 'H' type new building was laid in 1928 and it started to serve in 1931. The building was one of the best examples of hospital architecture in that period. There are laboratories for analysis, doctor rooms for examination and a patient care service in an open ward. The order of the building is ground+one storey (Aydin, 2013; Figure 6).



Figure 6. Konya Country Hospital H type building (<http://team-aow.discuforum.info/t2701-Konya.htm>, taken in December 2012; Aydin, 2013)

This hospital was formed of two separate blocks together with the one-storey block that served with 100-bed capacity until 1957 (Aydin, 2001). When the hospital passed through the administration of Health Ministry, it was named as State Hospital like the other hospitals in the country.

The building increased its capacity with physical additions in time. It served with 700-bed capacity until 2000s, with the name of Konya State Hospital (Figure 7).



Figure 7. General view of Konya State Hospital. The addition made to A and B blocks after 1957 (Aydin, 2001)

In 1915, typhus disease was spread across the country especially in Konya and its surroundings. Thereupon, a committee from Hilal-i Ahmer Association established in İstanbul visited Konya and its route, and it tried to take the necessary precautions with the support of local authorities. The typhus hospital built in Station surrounding was assigned to this association and started to serve again on 4 March 1915. As a result of the activities that continued for 3 months, the hospital was closed when the epidemic diseases were precluded in Konya and its environment (Sezer, 2012).

Odabasi (1998) mentioned about the American Missionary Dr. Dat's Hospital in his study named '20. yy Baslarinda Konya'nin Gorunumu'. The poor people were cured for free in this private hospital with 40 beds. There is also a pharmacy near the hospital (Figure 8). The patent medicine was not sold in Konya in the beginning of 20th century. During that period, mortar medicine was prepared and used for cure. The first pharmacy in Konya came into existence in 1920s (Akcakaya, 2010).



Figure 8. Dr. Dat's Hospital (Odabasi, Ozonder & Karpuz, 2000)

Konya Maternity (today's Country Health Directorate) was built in late 1940s or early 1950s (Figure 9). Obstetrics clinic was placed within the hospitals after 1940s in Anatolia (Ceylan, 2012). The maternity is the first branch hospital in Konya. It is composed of a single 'I' shaped block with a three-storey and a raised basement floor. The patient rooms were placed on the last floor.

Aydin, D., Yaldiz, E. & Buyuksahin, S. (2017). The change of the hospital architecture from the early part of 20th century to nowadays: an example of Konya. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 4(11), 23-34. Available from: www.prosoc.eu



Figure 9. Konya maternity (<http://lcivelekoglu.blogspot.com.tr/2017/03/>)

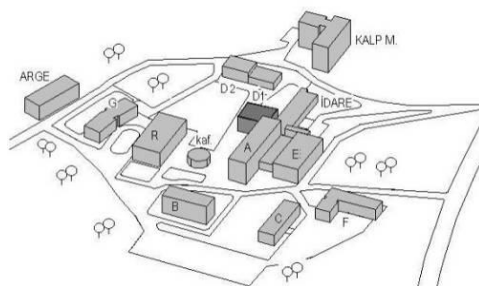
After the maternity became a private hospital, the pulmonology hospital happened to be another application of branch hospitals in Konya. The pulmonology hospital located in Meram, county of Konya, was built in 1961 and served for 20 years with 150-bed capacity. The hospital was composed of two blocks and the one with seven floors included the patient rooms. There were outpatient clinics on the ground floor and patient rooms with balconies on the upper floors. The pulmonology hospital was located in Meram region, which is away from the Konya city and centred on the hillside, where the green field and the amount of oxygen were extreme for the function of the hospital. The patient rooms were designed with balconies because of the same reason. This hospital started to serve with 400 beds along with the establishment of the Faculty of Medicine in 1984. The Faculty of Medicine physically grew in time and today, it has the bed capacity of 1,235 (Figure 10).



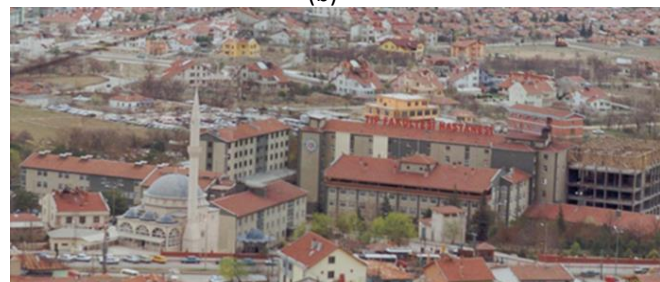
(a)



(b)



(c)



(d)

Figure 10. The Pulmonology Hospital: (a) Air photograph from 1975 (<https://kentrehberi.konya.bel.tr/#/rehber/>); (b) Pulmonology hospital bed block (Dicle Aydin Archive); (c) General view of Konya Meram Medicine Faculty Hospital (Aydin, 2001); and (d) Additions made to A block after 1984 (Aydin, 2001)

After Konya State Hospital, maternity and pulmonology hospitals, the comprehensive hospital with high-bed capacity in Konya was held as Social Security Institution (SSK) Konya Service Hospital which was built in 1967. SSK Dispensary – built in the vicinity of Old Wheat Bazaar in 1954 – formed the foundation of Konya SSK hospital. SSK Konya Service Hospital started to serve with 225 beds on Meram Yeni Yol Street. SSK Konya Service Hospital increased the number of beds after the existence of the State Hospital. The increase in the number of beds made it necessary to increase the outpatient clinics and other services. Space organisation was made according to the function, and the blocks with different heights were brought together. The hospital was morphologically planned on both horizontal and vertical directions. The patient rooms were placed in the higher block (Figure 11).

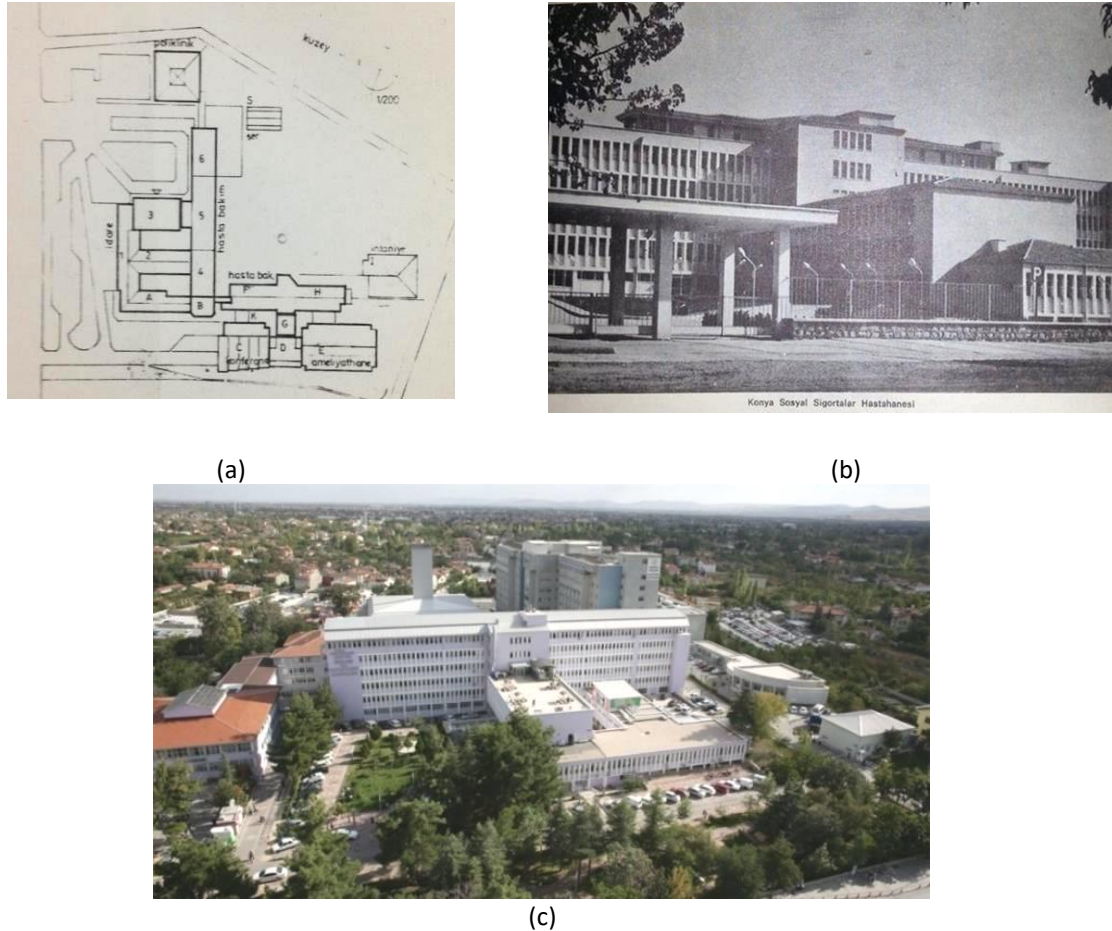


Figure 11. The SSK Meram Service Hospital: (a) Site plan of Meram Service Hospital (Dicle Aydin Archive); (b) SSK Konya Service Hospital – 1967 (Tevfik Ataberk Archive); and (c) The current situation of the hospital (<http://www.konyaea.gov.tr/konya-egitim-ve-arastirma-hastanesi>)

When Selcuk University was established (1975) and Alaeddin Keykubat Campus area was determined as the location, the architectural projects for Faculty of Medicine Hospital with 800-bed capacity were prepared on the defined area in the campus in 1984 (Figure 12). The whole architecture was formed by repetition of a module composed of spaces around a square-shaped circulation pattern and functions were placed in modules. The bed block was composed of three modules and planned as multistorey; the vertical circulations were placed in the intersection point of the modules. The design was based on the planning in vertical and horizontal directions. The start, completion and usage of the application took a long time, changing health understandings, differentiating standards and new medical equipment caused the architectural project and interior space solutions to change.



Figure 12. Site plan of the SU Medicine Faculty Hospital (left) and the general view of the SU Medicine Faculty Hospital (right)

It was seen that the physical changes in existing hospitals increased after 1980s. The increase in urban population due to immigration, education, the technological innovations, the purchase of medical equipment (MR, tomography, laboratory equipment, etc.) and physical obsolescence obliged the change.

In 1990s, many architectural project competitions for hospitals were declared in Konya. Konya Sanity and Rehabilitation Center (200 beds) and Physical Therapy and Rehabilitation Center (100 beds) typical project competition in 1992; State Hospital (250 beds) typical project competition; Konya Oncology Hospital (200 beds) architectural project competition in 1993 were opened. The application processes of winner architectural projects in the area determined as hospital zone took a long time and the hospitals started to serve between 2007 and 2009 (Figure 13).



Figure 13. Hospital zone and general view of hospitals

The additional blocks built in 1957 for the first hospital of Konya were decided to be demolished in 1990, because of the physical obsolescence and spatial inadequacy. The first registered buildings built in 1915 and 1927 were conserved, and a comprehensive hospital project was applied to the same area. New hospital was handled with a compact solution because of the size of the area and environmental density; horizontal and vertical planning was based on in such a way to obtain maximum usage area. Multistorey solution was preferred also in the block which is wide in the horizontal direction (Figure 14).



Figure 14. The Numune Hospital designed in 2011 in a way conserving the first hospitals in the area (Projen & BTS Mimarlik-Aydin, 2013)

Another hospital which has an ongoing application process as of 2017 is Konya City Hospital (Konya Integrated Health Campus) with 1,250 bed-capacity (Figure 15). City hospitals are designed as complex buildings including common emergency service, service units, laboratories and surgeries and have patient care units differentiated according to the specialty areas.



Figure 15. Konya integrated health campus (http://konhaber.com/haber-konya_ya_yapilacak_sehir_hastanesi_nde_flas_gelisme-515924.html)

4. Evaluation and Conclusion

The health buildings, which were seen as ‘Gureba hospital’ in the beginning of 20th century were as follows:

- Spaces in block hospital type with few floors and had ward type bed order. One- or two-storey buildings were limited from the point of branching out as internal diseases and external diseases.
- The maternity and pulmonology hospitals were seen as branch hospitals. The location of branch hospitals was important according to the branch. While the maternity was located in the city centre, the pulmonology hospital was outside the city. Another situation that draws attention is that the patient rooms had balconies in pulmonology hospital. The need for open air and oxygen as a part of the treatment changed the quality in spatial sense.

- Every hospital built in the city brought about the increase in the bed capacity along with it. While new hospitals were built, the existing ones grew in physical size with additional buildings, and thus, the hospital capacity was increased.
- The SSK Service Hospital with 225 beds built in 1967 was much more complex and larger than the previous hospital applications. Rather than the block hospital type, the hospital architecture was formed by bringing the units that have different heights and sizes as building dimensions and formed together was seen. Functional grouping was also sensed in the form.
- Selcuk University Faculty of Medicine Hospital with the capacity of 800 beds designed in 1984 was a different hospital from the point of capacity and dimension in that period. The quality was changed as it is a University hospital and a region hospital. The repetition of the form was adopted as a module that formed the whole. Modules also provided the functional diversity.
- In 1990s in the designs obtained through competitions, it was seen that the quality of branch hospitals changed, the capacity increased, the architectural solution formed of dense block togetherness in horizontal and formalistically seen in general hospitals which was also adopted in branch hospitals. In that period, the understanding of the region and the location of the hospitals together and away from the centre of the city drew attention.

As a result, the formal change of hospitals is much more obvious in 20th century. The capacity increase due to the population increase together with the medical technological improvements is effective on this change. The physical change will continue in hospitals and the 'healing hospital' understanding focused in the last century will bring different seeking and spatial qualities together with it. The documentation of these changes is important from the view point of architectural history, and the documentation of the change and improvement of space design.

Acknowledgements

This study was supported by Necmettin Erbakan University BAP Coordination Office Automation within the scope of Project No. 172518001-317.

References

- Aciduman, A. (2010). Darussifalar baglaminda kitabeler, vakif kayitlari ve tip tarihi acisindan onemleri - Anadolu Selcuklu Darussifalari ozelinde. *Ankara University Journal of Medicine Faculty*, 63, 9–15.
- Akcakaya, M. S. (2010). *Daily life in Konya during the years of Second World War* (Master's thesis). Department of History, Institute of Social Sciences, Selcuk University, Konya, Turkey.
- Aran, B. (1971). Saglik yapilarinin evrimi. *Mimarlık. TMMOB*, (9–10), 17–23.
- Aydin, D. (2001). *Genel hastanelerde teknolojik gelismen bina ihtiyac programina etkileri* (Doctoral thesis). S.U. Graduate School of Applied Sciences.
- Aydin, D. (2013). Anadolu'ya yayilmis ortak bir hikaye: Memleket Hastanelerinin kurulusu ve Konya Memleket Hastanesinin degisim sureci. *Journal of Academic Studies of Turkish Islamic Civilization*, 8(15), 45–54.
- Benek, B. S., Sakar, H., Bayram, R. & Gumustekin, K. (2015). The oldest medical center of the Anatolia: Gevher Nesibe Darussifa and Medical School. *Anatolian History of Medicine, Acta Medica Anatolia*, 3(3), 108–110.
- Cantay, G. (1992). *Anadolu Selcuklu ve Osmanli Darussifalari*. Ankara, Turkey: Ataturk Culture and Language History Association, Ataturk Culture Center Publish.
- Ceylan, I. (2012). *Turklerde cerrahinin gelismisi*. Ankara, Turkey: Turk Surgery Association Publish.
- Dogan, S. (2009). Konya Devlet Hastanesi tarihcesi. *Akademik Sayfalar*, 9(27), 422.

Aydin, D., Yaldiz, E. & Buyuksahin, S. (2017). The change of the hospital architecture from the early part of 20th century to nowadays: an example of Konya. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 4(11), 23-34. Available from: www.prosoc.eu

Doganay, O. (2007). *Son devir Osmanli hastahaneleri* (O. F. Yilmaz, Ed.). Istanbul, Turkey: Camlica Publish.

Odabasi, S. (1998). *20.yuzyil baslarinda Konya'nin goronumu*. Konya, Turkey: Konya Governorate, County Culture Directorate.

Odabasi, S., Ozonder, H. & Karpuz, H. (2000). *Eskimeyen Meram*. Konya, Turkey: Damla Publish Meram Municipality.

Onal, F. & Onal, B. (2000). *Hastane yapilari gelism surecleri ve tasarim ilkeleri baglaminda degerlendirilmesi*. 3. National Symposium of Health and Hospital Management Proceedings, A.U.Medicine Faculty, Ankara, Turkey.

Ozbek, N. (2002). *Osmanli Imparatorlugu'nda sosyal hizmet*. Istanbul, Turkey: Iletisim Publish.

Sezer, C. (2012). Birinci Dunya Savasi'nda Hilal-i Ahmer Cemiyeti'nin saglik alanindaki faaliyetleri. *History Studies*, 4, 373–384.

Taneli, B. & Sahin, H. (2013). *Cumhuriyetten once ve sonra ulkemizde hastaneler, cocuk hastaneleri ve tip egitimi*. Ege University Publish House.

Terzioğlu, A. (1964). *Modern hastane insaati* (Architect No: 315.2).

Tonbul, Z. & Forta, O. (2009). *Tarihi hastaneler, Gureba Hastanelerinden Memleket Hastanelerine ilk sivil hastaneler*. Novartis Culture Publish.

Ulman Isil, Y. (2007). Turkiye'de 19-20 Yuzyilda tip tarihinin anahatlari (1827–1923). *Journal of Hospital Health Management and Medicine Technology*. Retrieved October 2012 from <http://www.hastanederjisi.com/48/busayi.asp>.