

MARGINALISATION OF ETHNIC AND RELIGIOUS MINORITIES IN MIDDLE EAST HISTORY OF MEDICINE: THE FORGOTTEN CONTRIBUTIONS TO ARABIAN AND ISLAMIC MEDICINE AND SCIENCE

MARGINALIZACIJA ETNIČKIH I RELIGIJSKIH MANJINA U POVIJESTI MEDICINE BLISKOG ISTOKA – ZABORAVLJENI DOPRINOSI ARAPSKOJ I ISLAMSKOJ MEDICINI I ZNANOSTI

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SUMMARY

The contribution of ethnic and religious minorities to Arabian and Islamic medicine and science was a major and powerful one, yet it is rarely acknowledged. When remembered, it is often inaccurately referred to as “Arabic” or “Islamic”, contrary to its ethnic and religious origins and identity. The objective of this study was to see whether such under-representation of ethnic and religious minorities is – singly or in combination – a random act, an act of ignorance, and/or an act of programmed marginalisation.

We conducted a computerised PubMed search for all scholarly, peer-reviewed articles concerning medicine and science in the Middle East at the zenith of the Arabic and Islamic Empire from the 5th to the 12th century. The data was analysed using the binomial probability model. Our data indicates that the under-representation of ethnic and religious minorities and their contributions to Arabian and Islamic science and medicine is unlikely to be a random act. The findings suggest the possibility of ignorance and/or programmed marginalisation, attesting to the prevailing negative attitudes towards ethnic and religious minorities of the Middle East and their contributions to medicine and science.

Keywords: *Arabic, Arabian, Islamic, Assyrians, Jews, Medicine, Science, and Minorities.*

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INTRODUCTION

The contribution of ethnic and religious minorities of the Middle East, particularly the Assyrians (Also Known as Syriacs and Nestorians) to Arabian medicine and science was a major and powerful one, yet it is rarely acknowledged. When remembered, it is often inaccurately referred to as 'Arabic' or "Islamic" contrary to its ethnic and religious origins and identity. Since Arabic was the official language of the Arabic and Islamic Empire then, it is plausible to use Arabian Medicine as an acceptable representation for all non-Arab, and non-Muslims who contributed to medicine and science at the index period. Rightfully so, Dr. Donald Campbell writes, "Further, the term Arabian does not necessarily imply an Arab, for the Persians and Nestorians in the East, and the Spaniards and the Jews in the West took the principal part in the development of medicine which was expressed in the Arabic language during the dominancy of the Empire of Islam: The only prominent Arabic writer of pure Arab stock was *al-Kindi*, who was also known to the European scholastics as Alkindus." [1].

The objective of this study is to ascertain whether such under representation of ethnic and religious minorities in history of medicine is –singly or in combination- a random act, an act of ignorance, and / or an act of programmed marginalization.

MATERIALS AND METHODS

We conducted a computerized PubMed search for all scholarly, peer-reviewed articles concerning medicine and science in the Middle East at the zenith of Arabic empire (Medieval times). We used the key words, "Arabic", "Arabian", "Syriac", "Assyrian", "Jews", "Medicine", "Science", and "Medieval" to capture citations in all languages. We found 630 Citations, of which 350 were eliminated due to repetition, and or irrelevance. The remaining 280 citations constitute this study. We have adopted the term Arabian as an acceptable representation to all ethnic minorities under the Arabic and Islamic rule. The data was analyzed using the binomial probability model.

RESULTS

Of the 280 citations, 107 citations referred to *ethnicity*, of which 82 referred to Arabs and 25 to non-Arabs (Arabian). Fifty two citations referred to *religion*, of these 48 referred to Islam, and 4 to all other reli-

gions. *Scholars* were referred to in 142 citations, which were divided by religion as 117 Muslims, 16 Jews, and 8 Christians; by *ethnicity* 136 were non-Assyrians, and 6 Assyrians. Out of 142 citations referring to *scholars*, 75 were about Avicenna (980-1037 AD), 16 were about Maimonides (1138-1204 AD), 6 were about Hunayn Ibn Ishaq (Johannitius 809-873 AD), and none about the Bukht-Yishu' family (769-1058 AD).

Statistical analysis of the data using binomial probability model shows the odds of chance being responsible for representing Arabs in 82 out of 107 citations as being one in 233 millions. The odds of chance being responsible for representing Islam in 48 out of 52 citations as being one in 192 billions. The odds of chance being responsible for writing about Muslim scholars in 117 out of 142 are less than one in two quadrillions. The odds of chance being responsible for citing Avicenna in 75 out of 97 citations are less than one in two quadrillions. The odds of chance being responsible for citing the Assyrian scholars only 6 times out of 142 citations is less than one in two quadrillions.

DISCUSSION

In the aftermath of WWI, the political map of the Middle East was re-shuffled by the collapse of the Ottoman Empire. With the birth of new states, the struggle for national identity was in order between secular factions represented by Pan-Arab ideologists and religious factions represented by Islamic ideologists. Both sides, however, were engaged in a race of re-writing the history of the Middle East - as it appealed to them, particularly the contributions to science and medicine during the Zenith of Arabic and Islamic Empire, most of which came under the unacknowledged patronage of non-Arab and non-Muslim scholars [2].

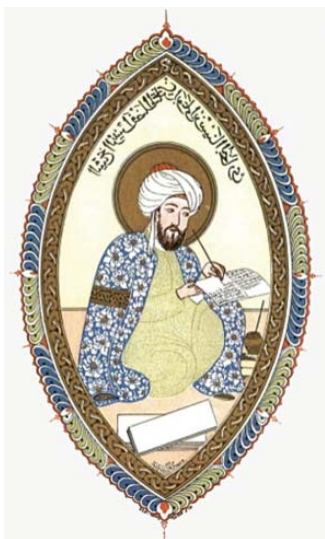
To understand the progress of science, we must study the science of ancient times, the middle Ages, and the renaissance for they are not exclusive but rather overlapping. The Greek miracle of arts, science, and culture over two centuries before the Christian era came so close to perishing if it were not for transmission through the dark ages. Perhaps as best stated by George Sarton, "From the point of view of the history of science transmission is as essential as discovery." If all of the ancient science had been hidden or lost in transmission, it would be as if it had never been.

Much of this transmission took place in Mesopotamia during the third and the seven centuries of the Christian era where a small ethnic and religious minority, the Assyrians (also known as Syriacs and Nestorians)

became the torch bearers into a new era of salvage, enrichment and transmission of science and medicine [3]. The geographical location of their land enabled them to be in contact with great civilizations; the Greeks, the Romans, the Egyptians, and the Persians. After adopting Christianity the Assyrian scholars applied themselves diligently to the study of Greek to be able to translate the Old Testament to their own vernacular, the Syriac, and by it, they delved in the study of Greek medicine, literature, and arts [4].

Their efforts came to fruition by establishing the school of Nisibin and later the school of Edessa (southeast Turkey) where theology was the major subject, but medicine was growing side by side. Soon thereafter, the teaching hospitals were added to the premises signaling the birth of the earliest modern medical school in history [5]. But when the school curators expressed views that were directly contrary to the established norms, powerful political pressure resulted in the abrupt closure of the school. In the aftermath, the Nestorian zealots took refuge in the city of Jundi-Shapur (southwest Persia) where Nestorians had established another school similar to the one in Edessa [6]. The teaching was mainly in Syriac. Although the school taught mostly Greek science, it managed to take off with its own eclectic methods. In his account of the school, Al-Qifti reported, "They made rapid progress in science, developed new methods in the treatment of disease along pharmacological lines, to the point that their therapy was judged superior to that of the Greek and Hindus. Furthermore these physicians adopted the scientific methods of other people and modified them by their own discoveries. They elaborated medical laws and recorded the work that had been developed." [7].

The school of Jundi-Shapur became the greatest intellectual center of the time. The thoughts and experiences of Greeks, Jews, Nestorians, Persians, and the Hindus were freely exchanged within its walls. The teaching hospital was organized and functioned at a time when there were no others in the entire Middle and Near East. The strongholds of the Jundi-Shapur school and hospital were not affected by the Islamic invasion in 636 A.D. The Nestorian schools and hospitals were treated with great respect by the Muslim conquerors for three reasons; the Arabs had no knowledge of the science of medicine and looked upon the Jundi-Shapur institution with wonder and admiration, many physicians who cared for the Muslim prophet Muhammad and his succeeding Islamic leaders were loyal graduates of the same school, and finally, the Nestorian denial of the Virgin Mary as mother of God and their views on trinity



Avicenna (980-1037)



Moses Maimonides (1138-1204)



The titlepage of Maimonides' work Guide of the perplexed, translated from Arabic into Hebrew in 1347. Royal Library, Copenhagen, Cod. Heb. 37.

Naslovnica Maimonidesova djela « Vodič za zbunjene» prevedemog s arapskog na hebrejski 1347. Kraljevska knjižnica, Kopenhagen, Cod. Heb. 37.



Ibn Bakhtishu's Manafi' al-Hayawan dated 12th century. Captions appear in Persian language.

Ibn Bakhtishu: Manafi' al-Hayawan iz XII. stoljeća na perzijskom jeziku



Hunayn Ibn Ishaq
(Johannitius, 809-873)

appealed very strongly to the Muslims, whose credo insisted upon the one and only Allah [8]. In the Sura of Unity, the Quran states that “Allah begat not, nor was he begotten”, with which the Nestorian doctrine seemed to agree, thus set apart from other Christian infidels. By the 13th Century, the city and its institution were reduced to nothing as a result of the earlier transfer of the medical center to the new Abbasid capital of Baghdad.

The unique and pioneering group of Assyrian Nestorian physicians learned and taught at Jundi-Shapur and set an example for later generations, who adopted their methods for training physicians and care for the sick [9]. To name a few, the “Bukht-Yishu” family of physicians who had dominated the royal courts of the Abbasid dynasty for six generations spanning over 250 years (769-1058 AD); Hunayn ibn Ishaq (Johannitius 809-873 AD) [10], a true scholar who not only observed a high moral and ethical standards in his professional conduct but was the best translator of all times of the marvelous heritage of Greek science into Syriac and later into Arabic. And by adding more than one hundred original works he managed not only to preserve but also to transfer and enrich the existing fund of knowledge ensuring its safe passage through dark ages to future generations [11].

The contribution of Assyrian scholars to Arabian medicine and science was a major and powerful one, yet it is rarely acknowledged. When remembered, it is often inaccurately referred to as ‘Arabic’ or ‘Islamic’ contrary to its ethnic and religious origins and identity. Such connotation has been duplicated by the Western scholars who followed in the footsteps of their Middle Eastern counterparts. As a result, there is a complete lack of historical understanding even among the educated people of the Middle East, let alone the lack of any objective data about the minorities and their contributions to humanity in the official curricula of educational systems of the Middle East at all levels. Therefore, it is no surprise that the minorities are considered by many as foreign elements in the makeup of the Middle Eastern fabric.

To make our point, we conducted a computerized PubMed search for all scholarly, peer-reviewed articles concerning medicine and science in

the Middle East at the zenith of Arabic and Islamic empire (Medieval times). A wide range of key words were used to ensure capturing as many citations as possible covering the area of concern in all languages. Two hundreds and eighty citations met the criteria for this study and were analyzed based on ethnicity, religion, and the scholars involved. We have adopted the term Arabian as an acceptable representation of all ethnic minorities under the Arabic and Islamic rule. The data was analyzed using the binomial probability model assuming equal representation of Arabic versus non-Arabic, and Islamic versus non-Islamic contribution to medicine and science during the index period.

The preponderance of our data referred to Arabs and or Muslims as the main contributors, and singled out Avicenna (980-1037 AD) from all others who had preceded him. It also showed that the role played by ethnic and religious minorities in the medical history of the Middle East is extremely under represented, if not completely ignored in favor of Arabs and or Muslims for reasons that cannot be explained solely by random act or chance. The more we delve into the subject, the more significant appears the remark once made by George Sarton, who said:” We can measure our knowledge, but we can never measure our ignorance.”

CONCLUSIONS

Our study indicates that the under representation of the ethnic and religious minorities and their contributions to Arabian science and medicine is extremely unlikely to be a random act or pure chance. The findings suggest ignorance and / or programmed marginalization, attesting to the prevailing negative attitudes towards the ethnic and religious minorities of the Middle East and their contributions to medicine and science.

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SAŽETAK

Doprinos etničkih i religijskih manjina povijesti arapske i islamske medicine i znanosti bio je velik, ali i rijetko prepoznat. Čak i tamo gdje je prepoznat, često se u izvorima pogrešno poziva na "arapski", odnosno "islamski", bez obzira na njegov etnički i religijski identitet, odnosno podrijetlo. Cilj je ovog ispitivanja bio vidjeti je li ova podzastupljenost etničkih i religijskim manjina, promatranih zasebno ili svih zajedno, posljedica pojedinačnih ispada, neznanja i/ili planske marginalizacije.

Ispitivanje obuhvaća računalni pregled svih akademskih, recenziranih članaka indeksiranih u bazi PubMed, a koji se odnose na medicinu i znanost Bliskoga istoka u razdoblju od V. do XII. stoljeća, kada je arapsko i islamsko carstvo doseglo svoj vrhunac. Podatke smo analizirali s pomoću binominalnoga modela vjerojatnosti.

Naši podaci upućuju na slabu vjerojatnost da je podzastupljenost etničkih i religijskih manjina u doprinosima arapskoj i islamskoj medicini i znanosti posljedica pojedinačnih ispada. Vjerojatniji je razlog neznanje i/ili planska marginalizacija, što potvrđuje da je prevladavao negativni stav prema etničkim i religijskim manjinama Bliskoga istoka i prema njihovom doprinosu medicini i znanosti.

Ključne riječi: *Arapsko carstvo, arapski jezik, Muslimani, Asirci, Židovi, medicina, znanost, manjine*