

The frequency of COVID-19 among Mosul University students

Rian Mahmood Ibrahim¹, Mahmoud Mohammed Ahmed², Nasir Muwfaq Younis³

* Assist.Prof.PhD . College of Nursing / University of Mosul/IRAQ

** . Assist. Lecturer. College of Nursing / University of Mosul/ IRAQ

*** Prof, PhD. College of Nursing / University of Mosul/ IRAQ



Background and objectives: Since December 2019, an outbreak of pneumonia associated with a new coronavirus (i.e., SARS-CoV-2; COVID-19) has been reported in several parts of the world, and its rapid and exponential diffusion forced The World Health Organization to declare it a pandemic. Objectives of this study to estimate the prevalence of COVID-19 among undergraduate student in university of Mosul. Identify some characteristics of the disease such as symptoms duration, signs and symptoms and complications of COVID-19.

Material and methods: Descriptive study, a retrospective study design was adopted from 2019 to 2021 to achieve the objectives of the current study. The sample of the study consists of (1554), (461) male and (1092) female from different colleges in university of Mosul. the data collected via the Internet, quarantine is a condition caused by a virus Corona pandemic, and the participation was voluntary after the participants were informed that all the data, they share will be confidential and for scientific research purposes only. A questionnaire was developed based on the previous study related to the research problem. The collected data was arranged analyzed and presented in tables by using frequency and percentage by using SPSS version 26.

Results: The results of the present study showed that More than half of the students were infected with COVID-19 (54.30%), and (9.28%) were infected again. The most of student were infected suffer from symptoms of COVID-19, fever (94.56%) and headache (91.27%). Most of the complications that students experienced after infection with COVID-19 are Fatigue and loss of energy (80.31%).

Conclusion and recommendations: the researchers concluded that the spread of Covid-19 disease among students of the University of Mosul is very high More than half of the students at the University of Mosul have contracted COVID-19, and more than 9.28% of them are infected again. The researchers recommended that the students with symptoms, even if they are mild, most be isolated at least 7 days and should be tested. Encouraging students to take COVID-19 vaccines to prevent its spread.

Key words: Frequency, COVID-19, University students.

Copyright: © 2025 The Authors. Published by Publisher. This is an open access article under the CC BY-NC-ND license.

(<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Supplementary information The online version of this article (<https://doi.org/xx.xxx/xxx.xx>) contains supplementary material, which is available to autho-

Corresponding Author: Nasir Muwfaq Younis[†], College of Nursing / University of Mosul/ IRAQ

Introduction:

On 31 December 2019, the World Health Organization (WHO) was informed of a cluster of cases of pneumonia of unknown cause detected in Wuhan, Hubei Province, China. On 12 January 2020 it was announced that a novel coronavirus had been identified in samples obtained from cases and that initial analysis of virus genetic sequences suggested that this was the cause of the outbreak. This virus is referred to as SARS-CoV-2, and the associated disease as COVID-19. As of 24 June 2020 (10.00am CET), 9.2 million cases have been diagnosed globally ⁽¹⁾. In the third millennium, three major threatening infectious diseases outbreaks happened. Following the

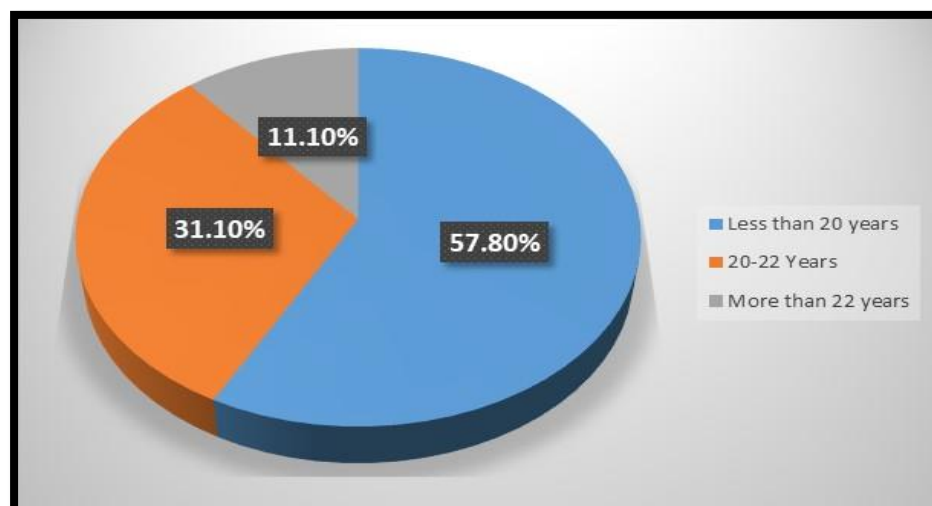
outbreak of SARS-CoV in 2002, and the MERS-COVID-19 in 2012⁽²⁾. The novel Coronavirus “COVID-19” has emerged globally and has threatened the entire world. The coronaviruses are zoonotic infections, can be transmitted from animal to animal, animal to human, and human to human⁽³⁾. Since December 2019, an outbreak of pneumonia associated with a new coronavirus (i.e., SARS-CoV-2; COVID-19) has been reported in several parts of the world, and its rapid and exponential diffusion forced The World Health Organization (WHO) to declare it a pandemic⁽⁴⁾. Social distancing, confinement and quarantine were adopted by many countries to contain the diffusion of the infection. As reported by some studies, these extreme measures, along with the fear and uncertainty of an unknown infection, have impacted on people’s lifestyles, generating high levels of psychological distress, anxiety and mood alterations. Both the fear of contracting the virus and the measures adopted to counteract the spread of infection may have been perceived as traumatic events. Consequently, they can represent risk factors for many mental diseases⁽⁵⁾. The pandemic outbreak of an unrecognized infection, with no vaccines or effective medical treatments, such as COVID-19, could be defined as a traumatic experience for its acute and chronic implications at individual and community levels. The COVID-19 outbreak has had a direct effect on the population. On the one hand, the fear of contagion and the risk of death, for oneself and loved ones, represents a direct threat⁽⁶⁾. The first patient with COVID-19 was reported in Iraq on 24 February 2020 for the Iranian student came from Iran. As of 24 May 2020, the confirmed cases of COVID-19 infections reached 4469, with 160 deaths and 2738 patients were recovered from the infection. Significant public health strategies have been implemented by the authorities to contain the outbreak nationwide. Nevertheless however, the number of cases is still rising dramatically⁽⁷⁾. Most of the cases were recorded in Baghdad followed by Basra and Najaf. About 45% of the patients were female (with 31% deaths of the total cases) and 55% were male (with 68% deaths of the total cases)⁽⁸⁾. Most cases are between the ages of (20-59) years old, and (30-39) years are the most affected range (19%) Approximately (8%) of cases are children under 10 years old. Iraq has shown a cure rate lower than those reported by Iran, Turkey and Jordan; and higher than Saudi Arabia and Kuwait. Healthcare workers represented about (5%) of the total confirmed cases. These findings enable us to understand COVID-19 epidemiology and prevalence in Iraq that can alert our community to the risk of this novel coronavirus and serve as a baseline for future studies⁽⁷⁾. The aim of the study to Prevalence of COVID-19 among students in Mosul university

Methods and Materials:

Prior to the actual collection of the data, formal administration approval was obtained from department of the clinical science/ college of nursing/ university of Mosul to conduct the study. Descriptive study, a retrospective study design was adopted from 2019 to 2021 to achieve the objectives of the current study. The study extended from (1-12-2020) to (25-6-2021). The sample of the study consists of (1554), (461) male and (1092) female from different colleges in university of Mosul. The study was conducted at the College of Nursing, University of Mosul, where the data collected via the Internet, quarantine is a condition caused by a virus Corona pandemic, and the participation was voluntary after the participants were informed that all the data, they share will be confidential and for scientific research purposes only. A questionnaire was developed based on the previous study related to the research problem, and validity tested by presenting it to a group of experts in the several fields includes nursing, medicine and medical statistics. The reliability was checked through pilot study was conducted in one 20 participants and analyzed by person correlation in the data by SPSS program at value (0.73). The collected data was arranged analyzed and presented in tables by using frequency and percentage by using SPSS version 26⁽⁹⁻⁷⁵⁾.

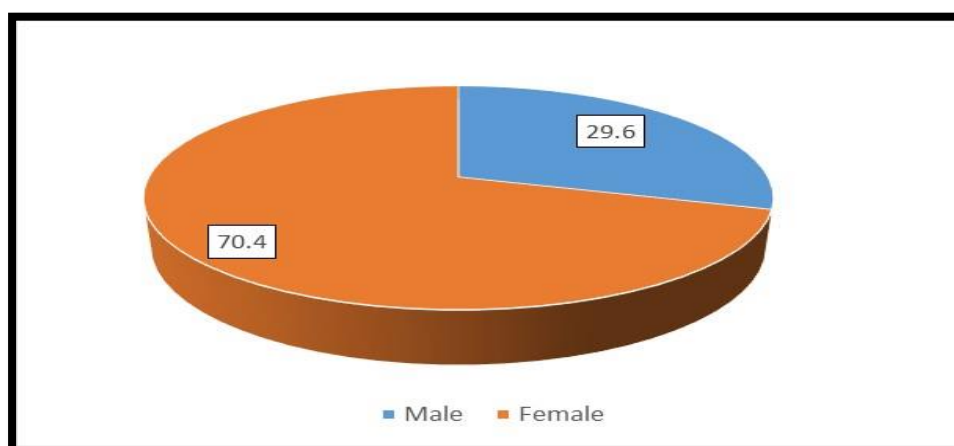
Results:

Figure (1): Distribution of the study sample according to their age group.



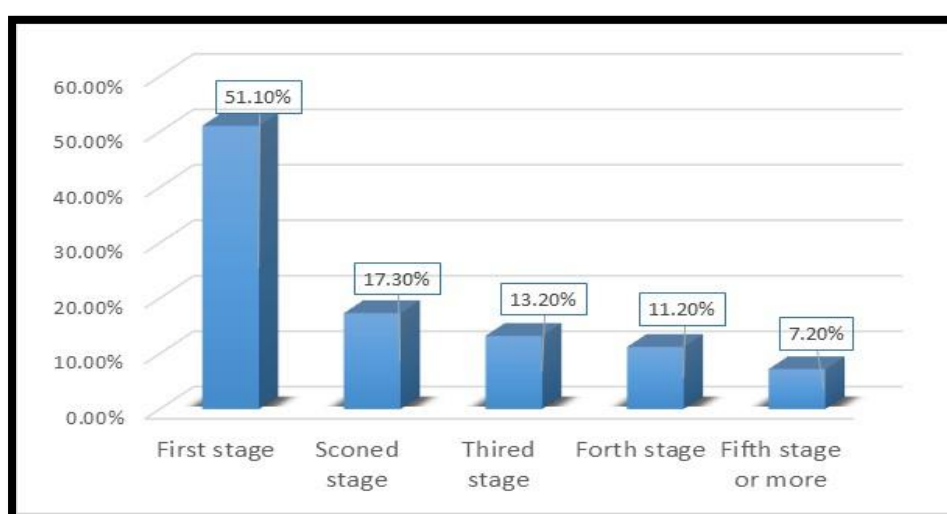
This figure indicated that the majority of the study sample was less than 20 years.

Figure (2): Distribution of the study sample according to their gender.



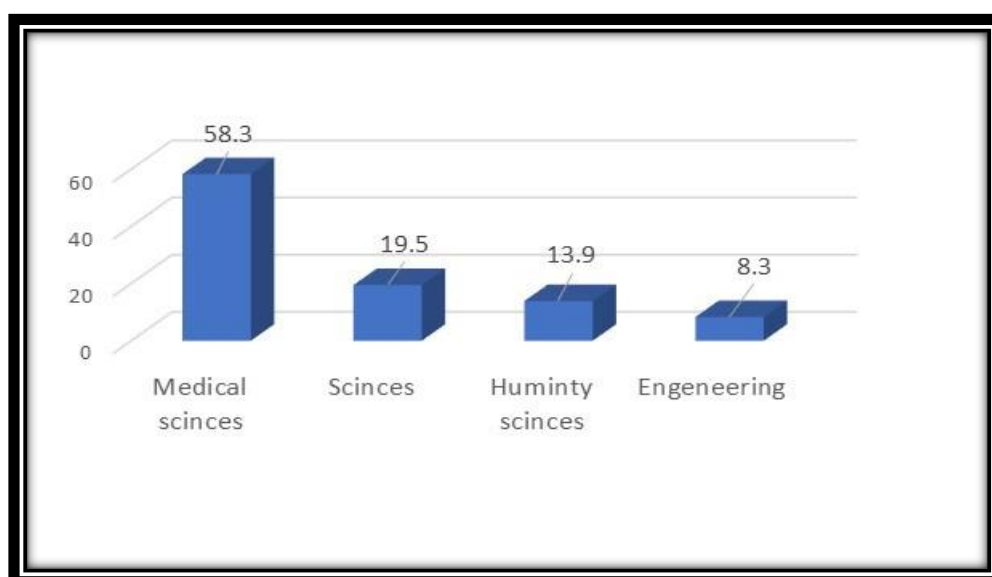
This figure indicated that the majority of the study sample were female (70.4%).

Figure (3): Distribution of the study sample according to their educational stage.



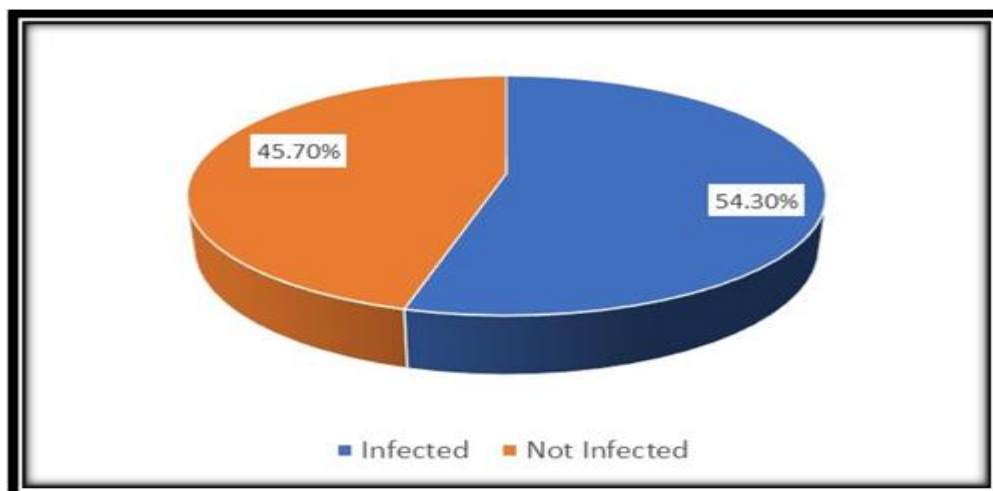
This figure indicated that the majority of the study sample were more than half in first stage (50.10%).

Figure (4): Distribution of the study sample according to their specialty.



This figure indicated that the most of the study sample were medical field (58.3%)

Figure (5): Distribution the prevalence of COVID-19 among students in university of Mosul.



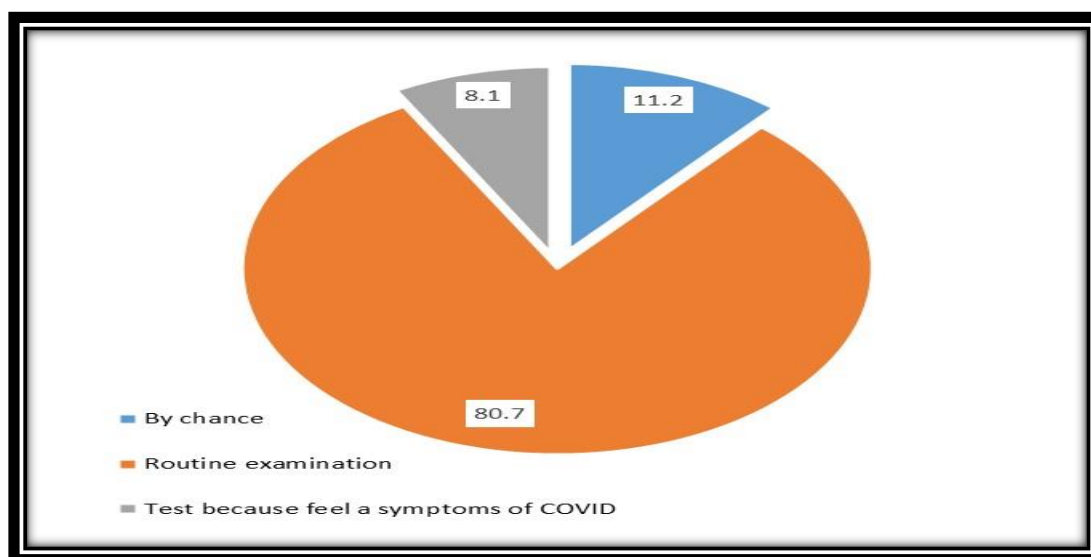
This study indicated that the more than half of the study sample were infected with COVID-19.

Table (1): Distribution of the students according to their infected by COVID-19.

	Infected		Recurrent infected	
	No.	%	No.	%
Infected	883	54.32	82	9.28
Non-Infected	742	45.78	801	90.72

This table indicated that more than half of the student was infected by COVID-19 (54.32%), and (9.28%) was infected again.

Figure (6): Distribution of the study participant according to their diagnostic tests.



This figure indicated that the most of them felt symptoms of COVID-19 and did the examination.

Table (2): Distribution of the study sample according to their duration of signs and symptoms of COVID-19.

Duration	No.	%
Less one week	362	40.99
1-2 Weeks	353	39.97
1 Month or less	96	10.87
More than months	72	8.15

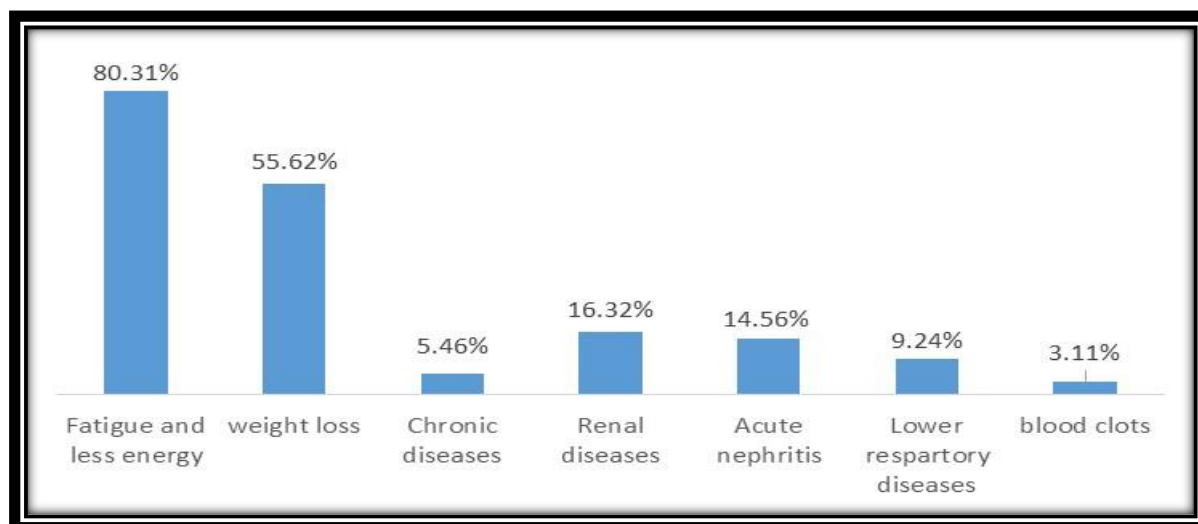
This table indicated that slightly less than half of the sample

Table (3): Distribution the study sample according to signs and symptoms related to COVID-19.

Signs & symptoms	Yes		No	
	No.	%	No.	%
Fever	835	94.56	48	5.43
cough	365	41.33	518	58.66
Sore throat	657	64.21	226	25.59
Runny nose	524	59.34	359	40.56
nausea and vomiting	347	39.29	536	60.7
Diarrhea	610	69.08	273	30.91
Joint and bone pain	782	88.56	101	11.43
Headache	806	91.27	77	8.72
Loss sense of smell or taste	614	69.53	269	30.46
Difficulty or shortness of breath	572	64.77	311	35.22
chest pain	231	26.16	652	73.83
loss of mobility	67	7.58	816	92.41

This table indicated that the majority of the study sample were suffer from headache and fever, (91.27%), (94.65%).

Figure (7) Distribution of the study sample according to complication with COVID-19.



This figure indicated that the most complication of COVID- 19 was fatigue and less energy (80.31%), weight loss (55.62%).

Discussion:

The biological and epidemiological trends in the prevalence and mortality rate are changing daily. Initially, China bore the large burden of the diseases, but the incidence is gradually increasing in other countries mainly the Europe and United States of America. Despite recent efforts to understand the novel coronavirus COVID-19, the science community, researchers, and general population would like more information about the current biological and epidemiological situation ⁽⁷³⁻¹⁴³⁾. University students are among the age groups most vulnerable to infection, especially as they meet at the university from different races and sects and from several provinces in Iraq, so they are more likely to be infected with Corona virus. Table (1) indicated that more than half of the student was infected by COVID-19 (54.32%), and (9.28%) was infected again. Table (2) indicated that slightly less than half of the sample Table(3) indicated that the majority of the study sample were suffer from headache and fever, (91.27%), (94.65%).

Conclusion:

This study concluded that the majority of the study sample were females whose age was less than 20 years in the first stage. The spread of Covid-19 disease among students of the University of Mosul is very high More than half of the students at the University of Mosul have contracted COVID-19, and more than 9.28% of them are infected again. Most students who were infected with COVID-19 experienced symptoms for a period ranging from one to two weeks and most of the complications resulting from Covid-19 disease are fatigue, lack of energy and weight loss.

Reference:

1. Park SE. Epidemiology, virology, and clinical features of severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2; Coronavirus Disease-19). *Clinical and experimental pediatrics*. 2020 Apr;63(4):119.
2. Nassar M, Bakhrebah MA, Meo SA, Alsuabeyl MS, Zaher WA. Middle East Respiratory Syndrome Coronavirus (MERS-CoV) infection: epidemiology, pathogenesis and clinical characteristics. *Eur Rev Med Pharmacol Sci*. 2018 Aug 1;22(15):4956-61.
3. Sohrabi C, Alsafi Z, O'Neill N, Khan M, Kerwan A, Al-Jabir A, Iosifidis C, Agha R. World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *International journal of surgery*. 2020 Apr 1;76:71-6.
4. Forte G, Favieri F, Tambelli R, Casagrande M. COVID-19 pandemic in the Italian population: validation of a post-traumatic stress disorder questionnaire and prevalence of PTSD symptomatology. *International journal of environmental research and public health*. 2020 Jun;17(11):4151.
5. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, Rubin GJ. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The lancet*. 2020 Mar 14;395(10227):912-20.
6. Favieri F, Forte G, Tambelli R, Casagrande M. The Italians in the time of coronavirus: psychosocial aspects of the unexpected COVID-19 pandemic. *Frontiers in psychiatry*. 2021 Mar 29;12:551924.
7. Ahmed SS, Alkaisy MS, Ahmed MM, Younis NM. Evaluation of Audit Electroconvulsive Therapy Service in Psychiatric Unit at Mosul City. 2021
8. Younis NM, Ahmed MM, Ibrahim RM. The impact of Playing Video Games on Elementary School Pupils of Mosul City. *Current Clinical and Medical Education*. 2025 May 6;3(5):39-49.
9. Bura'a LN, Younis NM. Inspection of Nurses Techniques to Phototherapy in Neonatal Intensive Care Units: A cross-Sectional Study. *Current Clinical and Medical Education*. 2025 Mar 2;3(03):01-10.
10. Younis NM, Ahmed MM, Ibrahim RM. Evaluation of the Internal Areas' Standard of Living for University of Mosul Students. *Current Clinical and Medical Education*. 2025 May 6;3(5):29-38.
11. Ibrahim RM, Ahmed MM, Younis NM. Apply the Health Beliefs Model among students to Enhancing Intentions: Randomized Control Trial. *Journal of Current Medical Research and Opinion*. 2024 Sep 1;7(09):3505-14.
12. Ibrahim RM, Ahmed MM, Younis NM. Using the Behavioral Motivation to Enhancing Behavior of Students Towards Addiction. *Journal of Current Medical Research and Opinion*. 2024 Jul 22;7(07):3337-44.
13. Younis NM, Ahmed MM, Dhahir NM. Knowledge and Attitude toward older adults among Nursing Students. *Signal*. 2012;84:70.
14. Mohammad FH, Noori LK, Younis NM. Assessment of Nutritional habits among Mosul University Students regarding breakfast. *Rawal Med J*. 2023 Mar 3;48(1):96.
15. Ibrahim RM, Ahmed MM, Younis NM. Mental health problems with aging: Across Sectional Study. *Journal of Current Medical Research and Opinion*. 2024 Aug 17;7(08):3454-61.
16. Younis NM, Ahmed MM, Ibrahim RM. Application the Beliefs Model to change the Beliefs Concerning the drug Abuse. *Journal of Current Medical Research and Opinion*. 2024 Aug 17;7(08):3445-53.
17. Ahmed MM, Younis NM, Abdulsalam RR. Assessment of changes in sleep habits in elementary students during covid_19 lockdown. *International Journal of Medical Toxicology & Legal Medicine*. 2022;25(1and2):76-80.
18. Adea MK, Lefta RM, Younis NM. Impact of psychosocial aspect parameters on psoriasis patients' quality of life at outpatient clinic in Al-Dewania City, Iraq. *Rawal Med J*. 2022 Dec 11;47(4):892.
19. Ibrahim RM, Ahmed MM, Younis NM. Modifications in Sleep Patterns During the COVID-19: Review of Subject. *Journal of Current Medical Research and Opinion*. 2024 Jul 25;7(07):3354-62.
20. Taher AK, Younis NM. Effect of a trans theoretical model in improving behaviors of health care workers related to electronic hookah in Mosul, Iraq. *Rawal Medical Journal*. 2023 Mar 3;48(1):228-.
21. Ibrahim RM, Idrees NH, Younis NM. Epidemiology of leukemia among children in Nineveh Province, Iraq. *Rawal Med J*. 2023 Mar 3;48(1):137.
22. Ali HA, Abbas FF, Younis NM. Mothers' knowledge and attitudes towards breastfeeding in Thi-Qar City, Iraq. *Rawal Med J*. 2023 May 27;48(2):514.

23. Ahmed MM, Ibrahim RM, Younis NM. Perceived Susceptibility toward Smoking among Students. *Journal of Current Medical Research and Opinion*. 2024 Jul 12;7(07):3217-25.
24. Ahmed MM, Younis NM, Dhahir NM, Hussain KN. Acceptance of Covid-19 vaccine among nursing students of Mosul University, Iraq. *Rawal Medical Journal*. 2022 Apr;47(2):254.
25. Abbas AS, Younis NM. Efficacy of Pender's Health Promotion-based Model on Intervention for Enhancing University of Mosul Hypertensive Employees' Eating Behaviors: A randomized Controlled Trial. *Revis Bionatura*. 2022;7(3):35.
26. Younis NM, Mahmoud M, Ahmed A. University Students' Attitude Towards E-Learning. *Bahrain Medical Bulletin*. 2021;43(2):460-2.
27. Younis NM, Taher AK. Efficacy of Trans Theoretical Model Intervention for Improving Behaviors related to Electronic Hookah Smoking among Healthcare Workers in Mosul Hospital: A Randomized Control Trail. *Int J Membrane Sci Tech*. 2023 Jul 2;10(2):1433-9.
28. Younis NM. Epidemiology of Hepatitis B-virus in Nineveh province: Retrospective Study. *Int J Membrane Sci Technol*. 2023 Jul 2;10(2):1440-4.
29. Abbas AS, Younis NM. Assessing the effect Pender's Model in changing employees' Eating Behaviors suffer hypertension at Mosul University Iraq. *Pakistan Journal of Medical & Health Sciences*. 2022 Jul 29;16(06):476-.
30. Ayed AY, Younis NM, Ahmed MM. Comparison of infection severity of vaccinated and unvaccinated health workers with Corona Virus: A cohort study. *Journal of Education and Health Promotion*. 2023 Sep 1(1):336.
31. Younis N. Assessment of healthy lifestyle habits among Mosul university students. *Int J Adv Nurs Stud*. 2014 Jul 1;3(2):69-73.
32. Hussein AA, Younis NM, Ahmed MM. Health Promoting Lifestyle profile Among Nursing Students in Mosul University. *International Journal of Psychosocial Rehabilitation*. 2020;24(09).
33. Younis NM, Naji AB. Assessing the effect of an educational intervention based on health belief model on preventive behaviors of addiction. *Pakistan J Med Health Sci*. 2021;15(3):813-7.
34. Younis NM, Naji AB. Evaluation of preventive behaviors of addiction among students: Application of health belief model. *Indian J Forensic Med Toxicol*. 2021 May 17;15(4):1273-8.
35. Bura'a LN, Younis NM. Educational Program of Nurses Practices Towards to Phototherapy at Neonatal Care Units. *Pakistan Journal of Medical & Health Sciences*. 2023 Jun 9;17(04):530-.
36. Younis NM, Naji AB. The effect of health education based on the health belief model about changing the belief related to substance use among university students in Mosul city-Iraq. *Annals of the Romanian Society for Cell Biology*. 2021 May 4:14687-98.
37. Younis NM, Hussein AA, Ahmed MM, Younis NM. Quality of life and occupational hazards among cement factory workers in Mosul city. *QoL and Occupational Hazards among Cement Factory Workers*. 2021;24(2):1-8.
38. Younis NM. Assessment for Mortality Rate Children Under Five Years in Mosul City. *Journal of Kufa for Nursing Science Vol*. 2014;4(1).
39. Jasem WM, Younis NM. Assessment of Nurses' Performance Regarding Nursing Documentation in Pediatric Wards at Mosul Hospitals. *Journal of Current Medical Research and Opinion*. 2024 Apr 12;7(04).
40. Ahmed AS, Younis NM. Assessment of Nurses Knowledge Regarding Blood Exchange Transfusion at Mosul Neonatal Care Units. *Journal of Current Medical Research and Opinion*. 2024 Apr 12;7(04):2285-8.
41. Younis NM, Naji A. Efficacy of Health Belief Model-Based Training in Changing the Beliefs about Substance use. *Kufa Journal for Nursing Sciences*. 2021 Jun 25;11(1):221-9.
42. Ahmed MM, Younis NM, Hussein AA. Association between Internet Addiction and Sleep disturbance Among Nursing Students. *International Journal of Psychosocial Rehabilitation*. 2020;24(09).
43. Younis NM, Salih YH. Nursing Students' Knowledge about Caring for the Elderly. *Journal of Current Medical Research and Opinion*. 2024 Apr 15;7(04):2320-7.
44. Abed SM, Suleiman AA, Ahmed SS, Younis NM, Ahmed MM. Road Traffic Accident Characteristics And Injury Outcomes Among Victims In Mosul City. *Journal of Pharmaceutical Negative Results*. 2023 Sep 15:4102-8.

45. Saad WI, Kumait AS, Younis NM. Workplace challenges and violence against nurses: subject review. *Pakistan Journal of Medical & Health Sciences*. 2023 Mar 2;17(01):509-.
46. Taher AK, Younis NM. Evaluation Of Processes Of Change Related To Trans Theoretical Model Of Enhancing Behaviors Of Healthcare Workers User Electronic Hookah. *Journal of Pharmaceutical Negative Results*. 2023 Mar 16:3190-3.
47. Alkaisy MS, Ahmed SS, Alsydan MS, Suleiman AA, Younis NM, Ahmed MM. Post-Traumatic Stress Disorder Following Wars and Repression at Mosul City-Iraq. *Indian Journal of Forensic Medicine & Toxicology*. 2021 May 17;15(3):1240-5.
48. Younis NM, Ali MT, Hasan MK, Khalaf MS, Abdullah MN, Ahmed YL, Abdulkadir MN. Knowledge and attitude of collegians at university in Mosul towards the prevention and control of COVID-19. *Turkish Journal of Physiotherapy and Rehabilitation*. 2021:7975-8.
49. Younis NM, Ahmed MM. Knowledge and Compliance with Standard Precautions among Nursing Students in Mosul University. *Assiut Scientific Nursing Journal*. 2014 Jun 1;2(3):152-9.
50. Younis NM, Ahmed MM, Hussein AA. Epidemiology Of Deaths From Injuries In Nineveh Governorate (2008_2012). *kufa Journal for Nursing sciences*. 2014;4(2).
51. Younis NM, Ahmed MM. knowledge and Attitude of Nursing Students' towards Palliative Care. *Journal of Current Medical Research and Opinion*. 2024 Apr 20;7(04):2345-53.
52. Younis NM, Ahmed MM. Road Traffic accidents in Nineveh Province (2017_2021): A retrospective study. *Journal of Current Medical Research and Opinion*. 2024 Apr 20;7(04):2354-62.
53. Ibrahim RM, Younis NM, Ahmed MM. Knowledge and Attitude of University Students Regarding Rhinoplasty. *Journal of Current Medical Research and Opinion*. 2024 May 1;7(05):2411-9.
54. Hussein AA, Younis NM, Ahmed MM. Assessment of Diabetic Self-Management among Patients with Diabetic Type II. *Journal of Current Medical Research and Opinion*. 2024 May 1;7(05):2402-10.
55. Ahmed MM, Ibrahim RM, Younis NM. Nursing Students' Attitudes about Organ Donation in University of Mosul/Iraq. *Journal of Current Medical Research and Opinion*. 2024 May 1;7(05):2430-7.
56. Ahmed MM, Ibrahim RM, Younis NM. Assessment of Sleep Habits among Nursing Students in Mosul City/Iraq. *Journal of Current Medical Research and Opinion*. 2024 May 1;7(05):2420-9.
57. Ahmed MM, Ali Hussein A, Youns NM. Knowledge, attitude, and practice (KAP) of voluntary blood donation among nurses in Mosul Teaching Hospital. *Mosul Journal of Nursing* (Print ISSN: 2311-8784 Online ISSN: 2663-0311). 2017 Jul 1;5(1):24-32.
58. Ahmed MM, Ibrahim RM, Younis NM. Assessment of Nursing Students' Attitudes Toward Obese Individuals. *Journal of Current Medical Research and Opinion*. 2024 May 4;7(05):2468-76.
59. Younis NM, Ibrahim RM, Ahmed MM. Apply Health Beliefs Model Towards of Substance Abuse. *Journal of Current Medical Research and Opinion*. 2024 May 4;7(05):2460-7.
60. Ibrahim RM, Ahmed MM, Younis NM. Prevalence of COVID-19 among Students in Mosul University. *Journal of Current Medical Research and Opinion*. 2024 May 4;7(05):2477-88.
61. Younis NM, Ahmed MM, Dhahir NM. Knowledge and Attitude toward older adults among Nursing Students. 2021. *PJM HS*.;15(3).
62. Ahmed MM, Ibrahim RM, Younis NM, Ahmed SS. Nurses Knowledge and Practice about adverse Effects Following Immunization at Primary Health Care Centers in Mosul City. *Journal of Current Medical Research and Opinion*. 2024 May 15;7(05):2536-42.
63. Hussein AA, Ahmed MM, Younis NM, Ibrahim RM. Apply Pender's Health Promotion Towards Hypertension of Employees in Mosul City/Iraq. *Journal of Current Medical Research and Opinion*. 2024 May 15;7(05):2529-35.
64. Ibrahim RM, Ahmed MM, Younis NM. Benefits and Challenges of Healthy Dieting among Nursing Students. *Journal of Current Medical Research and Opinion*. 2024 May 15;7(05):2521-8.
65. Allawi RH, Ahmed MM. Assessment of Nurse's Knowledge Towards Diabetic Ketoacidosis among children in Mosul City/Iraq. *Rawal Medical Journal*. 2023 Apr;48(2).

66. Allawi RH, Ahmed MM. Assessment of Nurses' Practices Towards Children with Diabetic ketoacidosis. *Pakistan Journal of Medical & Health Sciences*. 2023 Jun 2;17(04):444-.
67. Kaleel MI, Mahmoud MA. Assessment of Mothers' Knowledge about Breastfeeding Premature Infants in Mosul city. *Journal of Current Medical Research and Opinion*. 2024 Apr 19;7(04):2328-33.
68. Mahmoud MM, Ahmed MM. Assessment of Self-Management Behavioral Skill among Patients with Diabetic type II in Mosul City. *Journal of Current Medical Research and Opinion*. 2024 Apr 19;7(04):2334-9.
69. Ibrahim RM, Al Hafidh NM. Acute Diarrhea in Exclusively Breast Fed Infants in relation to Zinc Level. *Pak J Med Health Sci*. 2021;15:1431-5.
70. Younis NM, Ahmed MM, Abdulsalam RR. Assessing quality of life in palliative care. *International Journal of Medical Toxicology & Legal Medicine*. 2021;24(3and4):115-8.
71. Muwfaq YN, Ahmed MM, Abdulsalam RR. Assessing Quality of Life in Palliative Care. *Bahrain Medical Bulletin* 2021;43(3):594-6.
72. Ahmed MM, Younis NM, Hussein AA. Prevalence of tobacco use among health care workers at primary health care centers in Mosul City. *Pakistan Journal of Medical and Health Sciences*. 2021;15(1):421-4.
73. Younis NM, Ahmed MM, Hussein AA. Nurses' knowledge, attitude and practice towards preparedness of disaster management in emergency of mosul teaching hospitals. *Medico-Legal Update*. 2020 Jul 1;20(3):775-9.
74. Naji AB, Ahmed MM, Younis NM. Adherence the preventive measure against for covid-19 among teachers at university of mosul. *International Journal of Medical Toxicology & Legal Medicine*. 2021;24(3and4):273-7.
75. Ibrahim RM, Ahmed MM, Younis NM. Correlations Between Health Beliefs Model and substance use among University students. *Journal of Current Medical Research and Opinion*. 2024 Jun 12;7(06):2810-8.
76. Ahmed MM, Ibrahim RM, Younis NM. Enhancing Weight Control Behaviors among University Employees: Health Beliefs Model. *Journal of Current Medical Research and Opinion*. 2024 Jun 12;7(06):2801-9.
77. Younis NM, Ahmed MM, Ayed AY. HIV knowledge and preventive Standards Precautions Among Healthcare Workers in Blood Transfusion Centers.
78. Younis NM, Ibrahim RM, Ahmed MM. Health Problems Related to Quality of Life among Aging in Iraq. *Journal of Current Medical Research and Opinion*. 2024 Jun 24;7(06):3015-24.
79. Younis NM, Ibrahim RM, Ahmed MM. Independency Domains Among Old Age in Mosul City/IRAQ. *Journal of Current Medical Research and Opinion*. 2024 Jun 24;7(06):3025-33.
80. Ayed AY, Younis NM, Ahmed MM. Teachers' knowledge about communicable disease control at primary schools in Mosul City: A cross-sectional study. *International Journal of Academic Medicine*. 2024 Apr 1;10(2):75-9.
81. Younis NM, Ibrahim RM, Ahmed MM. Life of adaption among Old Adults in Nineveh Governorate. *Journal of Current Medical Research and Opinion*. 2024 Jul 1;7(07):3099-106.
82. Younis NM, Ibrahim RM, Ahmed MM. Personal Hygiene Towards Old Age. *Journal of Current Medical Research and Opinion*. 2024 Jul 1;7(07):3107-113.
83. Younis NM, Ahmed MM, Dhahir NM. Knowledge and Attitude toward older adults among Nursing Students. 2021.
84. Ibrahim RM, Ahmed MM, Younis NM. Physical activity among Elderly in Mosul City/IRAQ. *Journal of Current Medical Research and Opinion*. 2024 Jul 5;7(07):3149-54.
85. Ibrahim RM, Ahmed MM, Younis NM. Psycho-Social Aspects Among Elderly in Nineveh Governorate. *Journal of Current Medical Research and Opinion*. 2024 Jul 5;7(07) : 3155-63.
86. Ibrahim RM, Ahmed MM, Younis NM. Perceived Benefits Related to Drug Abuse among Students. *Journal of Current Medical Research and Opinion*. 2024 Jul 8;7(07):3179-86.
87. Ibrahim RM, Ahmed MM, Younis NM. Perceived Barriers for substance Abuse among Students. *Journal of Current Medical Research and Opinion*. 2024 Jul 8;7(07):3171-8.
88. Ibrahim RM, Ahmed MM, Younis NM. Correlation Between HBM and Weight Control among Employee University. *Journal of Current Medical Research and Opinion*. 2024 Jun 17;7(06):2870-8.

89. Al-Ghurairi SA, Younis NM, Ahmed MM. Prevalence of weight gain among students of Mosul University, Iraq during quarantine 2020. *Rawal Medical Journal*. 2022 Jul;47(3).
90. Ahmed MM, Younis NM, Hussein AA. Violence Towards Nurses Staff at Teaching Hospitals in Mosul City. *Indian Journal of Forensic Medicine & Toxicology*. 2020 Jul 1;14(3).
91. Ahmed MM, Ibrahim RM, Younis NM. Perceived Seriousness related to Smoking among students. *Journal of Current Medical Research and Opinion*. 2024 Jul 13;7(07):3234-43.
92. Ahmed MM, Younis NM, Ibrahim RM. Evaluation of Behavioral Control aimed at Improving Students' Behavior Concerning Substance abuse. *Current Clinical and Medical Education*. 2024 Jul 19;2(7):92-9.
93. Ahmed MM, Ibrahim RM, Younis NM. Behavioral Intention to Improvement Behavior of Students' related to Drug Use: Apply the Health Beliefs Model. *Current Clinical and Medical Education*. 2024 Jul 19;2(7):100-6.
94. Younis NM, Ahmed MM, Dhahir NM. Prevalence of coronavirus among healthcare workers. *International Journal of Medical Toxicology & Legal Medicine*. 2021;24(1and2):267-70.
95. Younis NM, Ibrahim RM, Ahmed MM. Relationship between Quality of Life and Lifestyle of Health Old Age. *Current Clinical and Medical Education*. 2024 Aug 1;2(8):18-28.
96. Ibrahim RM, Ahmed MM, Younis NM. Correlation between Physical Activity and Quality of Life of Elderly. *Current Clinical and Medical Education*. 2024 Aug 1;2(8):9-17.
97. Younis NM, Ibrahim RM, Ahmed MM. Relationship between Personal Hygiene and Elderly Health. *Current Clinical and Medical Education*. 2024 Aug 4;2(8):199-206.
98. Ibrahim RM, Ahmed MM, Younis NM. Association between Psychological Problem and Health old age. *Current Clinical and Medical Education*. 2024 Aug 4;2(8):190-8.
99. Younis NM, Ahmed MM, Ibrahim RM. Motivation of Application Health Beliefs Models With Substance Abuse. *Current Clinical and Medical Education*. 2024 Aug 10;2(8):236-43.
100. Younis NM, Ahmed MM, Ibrahim RM. Confidence of Application Health Beliefs Models with Addiction. *Current Clinical and Medical Education*. 2024 Aug 10;2(8):218-26.
101. Younis NM, Ahmed MM, Ibrahim RM. Health Beliefs Model in Enhancing the Beliefs Concerning Healthy Weight. *Current Clinical and Medical Education*. 2024 Aug 10;2(8):227-35.
102. Ibrahim RM, Ahmed MM, Younis NM. Effectiveness of a Model-Based Intervention Based on Health Beliefs in Altering the Beliefs of Students Regarding Substance use. *Journal of Current Medical Research and Opinion*. 2024 Jul 29;7(07):3363-72.
103. Ibrahim RM, Younis NM, Ahmed MM. Sleep Disorder with Internet Addiction in University Students: A Cross-Sectional Study Correlational. *Journal of Current Medical Research and Opinion*. 2024 Aug 27;7(08):3492-504.
104. Ibrahim RM, Younis NM, Ahmed MM. The relationship between factory workers' quality of life and occupational hazards. *Current Clinical and Medical Education*. 2024 Aug 27;2(8):369-80.
105. Nasir MY, Rian MI, Nada HI. Prevalence of snake bite among children in Nineveh Governorate/Iraq: A retrospective study. *International Journal of Medical Toxicology & Legal Medicine*. 2022;25(3and4):166-9.
106. Bura'a LN, Younis NM. Nurses knowledge regarding to phototherapy at neonatal care units in Mosul City, Iraq. *Rawal Med J*. 2023 May 27;48(2):379.
107. Ibrahim RM, Ahmed MM, Younis NM. Nursing Students' Information Toward Distraction Techniques for Children Undergoing Procedures. *Journal of Current Medical Research and Opinion*. 2024 May 23;7(05):2597-605.
108. Muwfaq Younis N. Efficacy of Health Beliefs Model-Based Intervention in Changing Substance Use Beliefs among Mosul University Students: A Randomized Controlled Trial. *Revis Bionatura* 2022; 7 (2) 35.
109. Ahmed MM, Younis NM, Ibrahim RM. Apply the HBM in Changing the Beliefs Related to Weight Control Behaviors among Employees. *Journal of Current Medical Research and Opinion*. 2024 Jul 22;7(07):3345-53.
110. Younis NM, Ahmed MM, Ibrahim RM. Motivation of Students for Enhancing the Beliefs related to Substance abuse: Apply Health Beliefs Model. *Journal of Current Medical Research and Opinion*. 2024 Sep 5;7(09):3549-58.
111. Ibrahim RM, Idrees NH, Younis NM. Knowledge about Type 1 Diabetes in Children among Nursing Students of the University of Mosul. *The Malaysian Journal of Nursing (MJN)*. 2024 Jul 25;16(1):117-23.
112. Ahmed MM, Hussein AA, Younis NM. Assessment of nursing student's beliefs about healthy dieting. *Journal of Education and Health Promotion*. 2024 Oct 1;13(1):408.

113. Ahmed MM, Ibrahim RM, Younis NM. Improving University Staff Members' Weight Control Practices: Health Beliefs Model. *Journal of Current Medical Research and Opinion*. 2024 Sep 11;7(09):3559-71.
114. Ibrahim RM, Ahmed MM, Younis NM. Weight Control and Health Beliefs Model: A Comparative Study. *Journal of Current Medical Research and Opinion*. 2024 Sep 11;7(09):3572-83.
115. Andreatta PB, Klotz JJ, Dooley-Hash SL, Hauptman JG, Biddinger B, House JB, Ahern K. Performance-based comparison of neonatal intubation training outcomes. *Advances in Neonatal Care*. 2015 Feb 1;15(1):56-64.
116. Luhaib YR, Younis NM. Utilization of Primary Health Care Services in Qayyarah City Northern Iraq. *Journal of Current Medical Research and Opinion*. 2024 Nov 19;7(11):3746-54.
117. Younis NM, Ibrahim RM, Ahmed MM. Evaluation of Nurses Practices Towards to Phototherapy: Across-Sectional Study. *Journal of Current Medical Research and Opinion*. 2024 Nov 19;7(11):3735-45.
118. Jasem WM, Younis NM. Nurses' Practice Towards Nursing Documentation: Across-sectional Study. *Journal of Current Medical Research and Opinion*. 2024 Nov 25;7(11):3767-78.
119. Jasem WM, Younis NM. Nurses' knowledge Towards Nursing Documentation: A descriptive study. *Journal of Current Medical Research and Opinion*. 2024 Nov 25;7(11):3755-66.
120. Younis NM, Taher AK. Transtheoretical Model on changing Electronic Smoker-Related Behaviors among Caregiver. *Current Clinical and Medical Education*. 2025 Feb 25;3(2):43-51.
121. Younis NM, Ahmed MM, Ibrahim RM. Using the Nola Pender's Model in Health Promotion towards Hypertension of Employees in Nineveh province. *Current Clinical and Medical Education*. 2025 Mar 9;3(03):39-53.
122. Younis NM, Ahmed MM, Ibrahim RM. Quality of life for Students Universities in Internal Sections: A cross-Sectional Study. *Current Clinical and Medical Education*. 2025 Apr 4;3(4):1-1.
123. Younis NM, Ahmed MM, Ibrahim RM. Knowledge of Healthcare Giver Towards Pharmacovigilance: A Descriptive Study. *Current Clinical and Medical Education*. 2025 Apr 4;3(4):12-22.
124. Ahmed MM, Younis NM, Ibrahim RM. Pharmacovigilance Barriers for Healthcare Providers: A cross-sectional study. *Current Clinical and Medical Education*. 2025 May 1;3(5):18-28.
125. Younis NM, Ahmed MM, Ibrahim RM. Healthcare Provider Perceptions of Pharmacovigilance: A Cross-Sectional Investigation. *Current Clinical and Medical Education*. 2025 May 1;3(5):7-17.
126. Mnawer MS, Younis NM. Effectiveness of an Educational Program in Improving Nurses' Knowledge Towards Communicable Diseases. *Salud, Ciencia y Tecnología-Serie de Conferencias*. 2025(4):1584.
127. Wahab MA, Younis NM. Efficacy of an Educational Program Based Intervention in Improving Nurses' knowledge Toward Radiation Protection Measures: A Randomized Controlled Trails. *Salud, Ciencia y Tecnología-Serie de Conferencias*. 2025(4):1585.
128. Taher AK, Younis NM. Impact of a Transtheoretical Model on Enhancing Electronic Hookah-Related Behaviors among Nurses. 2025
129. Ahmed MM, Ibrahim RM, Younis NM. Diabetic Distress among Patients with Type II: A Descriptive Study. *Advanced Biomedical Research*. 2025 Mar 1;14(1):23.
130. Taher AK, Younis NM. Impact of a Transtheoretical Model on Enhancing Electronic Hookah-Related Behaviors among Nurses. 2025
131. Younis NM, Ibrahim RM, Ahmed MM. Lifestyle of Elderly in Mosul Governorate: A Cross-Sectional Study. *Journal of Current Medical Research and Opinion*. 2024 Sep 1;7(09):3515-24.
132. Younis NM, Ahmed MM, Ibrahim RM. The Relationship Between Lung Cancer and Addiction: A Comprehensive Review. *Current Clinical and Medical Education*. 2025 Jun 5;3(6):1-0.
133. Younis NM, Ahmed MM, Ibrahim RM. Using the Health Promotion Towards Hypertension among Employees: A Randomized Controlled Trial. *Current Clinical and Medical Education*. 2025 Jun 11;3(6):29-38.
134. Bura'a LN, Younis NM. An Interventional Program on Nurses Knowledge and Practice towards Phototherapy in Neonatal Care Units. *Int J Membrane Sci Technol*. 2023 Jul 2;10(2):1428-32.

135. Younis NM. Evaluation the health lifestyle of kindergarten students at Mosul city/Iraq. *International Journal of Medical Toxicology & Legal Medicine*. 2023;26(1and2):148-52.
136. Younis NM. Prevalence of Electronic Hookah and Risk Factors among University Students in Mosul City/Iraq. *Int J Membrane Sci Tech*. 2023 Jul 2;10(2):1422-7.
137. Ahmed MM, Naji AB, Younis NM. Efficacy of an educational program based on health belief model to enhancing weight control behaviors among employees in the University of Mosul: a randomized controlled trial. *Revis Bionatura*. 2023;8(3):28.
138. Awad MS, Younis NM, Aneed SH, Diala CG, Okenwa CR, Hammed SU, Ibishagba SM, Uduebholo VJ, Ohaekwe CC, Binuyo OA, Owokoya AO. Attitude of University Students toward Covid-19 Vaccines. *International Journal of Medical and All Body Health Research*. 2025;6(4):01-4.
139. Younis NM, Ahmed MM, Ibrahim RM. Nurses Practice Toward Adverse Effects Following Immunization: Cross-Sectional Study. *Current Clinical and Medical Education*. 2025 Jun 27;3(6):64-73.
140. Ali JM, Younis NM. Utilizing an intervention based on the health beliefs model to enhance nurses' perceptions of drug dosage errors. *International Journal of Pediatrics and Adolescent Medicine*. 2025 Aug 1:10-4103.
141. Ahmed MM, Ibrahim RM, Younis NM. Assessing Nurses' Knowledge about Vaccination: A Survey Study. *Current Clinical and Medical Education*. 2025 Nov 29;3(11):1-9.
142. Younis NM, Ahmed MM, Ibrahim RM. The Impact of the Interrelationship Between Smoking and Addiction on Lung Cancer: A survey study. *Current Clinical and Medical Education*. 2025 Nov 29;3(11):10-8.
143. Younis NM, Ibrahim RM, Ahmed MM. Challenges facing nurses in Iraq: A review study. *Current Clinical and Medical Education*. 2025 Nov 29;3(11):19-28.