

Trans theoretical Model Intervention for Enhancing Behaviors related to Smoking among Nurses

Nasir Muwfaq Younis*

College of Nursing,
University of Mosul,
IRAQ

Abstract:

Background: The most common preventable cause of mortality and sickness in the world is tobacco usage, due to an improved understanding of the health dangers associated with smoking, indoor smoking prohibitions, restrictions on media and advertising and increasing public awareness, the rate of cigarette smoking has dropped in the United States over the past 45 years, However, these effective initiatives are threatened by the increased usage of other tobacco products like hookah.

Objectives: To determine the efficacy of trans theoretical model intervention for improving behaviors related to smoking among nurses in Mosul hospital.

Methods: A simple random sample with probability of 56 males and 2 females health care workers (HCW) for the two group with different position. The sample was collected for the study group in Mosul General hospital that they were 58 HCW who they are electronic hookah smokers/ 29 HCW who agree to participate in the study and the others has refused participation. the data are being collected in the beginning of October 2022. Through the use of the study instrument and finishing in May 2023. Data is analyzed using the "Statistical Package for Social Science (SPSS) software for Windows (Version 26)"

Results: This finding the explain the mean difference for pre-test, post-test 1 and post-test 2 that there is marked change in mean about (0.6 to1.10) in study group while there is no noticeable change in mean in control group.

Conclusion: This study concluded that the health intervention for behavior change through Transtheoretical Model demonstrates the importance of Electronic hookah smoking cessation and has a positive impact on health care workers perceptions of Stage of change, process of change, decisional-balance and self-efficacy/temptation

Keywords: Efficacy, trans theoretical Model, Smoking.

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

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INTRODUCTION

Globally, tobacco use is considered the second leading cause of death and it is responsible for the deaths of 1 in 10 adults, another way to smoke tobacco is with a hookah and Electronic Hookah, which also includes smoking shisha, bubble-bubble, nargileh, and water pipes (WP), despite the fact that hookah smoking has been around for at least 400 years, it is now widely used from the Eastern Mediterranean region to Western countries and a single 45-minute session can expose the smoker to 48.6 times as much smoke as smoking a cigarette⁽¹⁾. Between 2017 and 2018 among university students in five European countries: Belarus, Lithuania, Poland, Russia, and Slovakia with an overall response rate of 72.2 percent, we looked at the prevalence of cigarette smoking and e-cigarette use among students from Central and Eastern Europe and investigated personal characteristics associated with cigarette and e-cigarette smoking. 43.7 percent of the respondents had used an e-cigarette, whereas 23.3 percent had smoked regular tobacco cigarettes, 12.3% of those who were currently smoking used traditional cigarettes, 1.1 percent used e-cigarettes, and 1.8 percent used both⁽²⁾. Both the electronic nicotine delivery system (ENDS) and hookah are popular smoking methods particularly among young people, the public has false perceptions about the relative safety of ENDS and hookah, so that ENDS smokers think that smoking ENDS exposes them to less or no nicotine content while hookah smokers typically think that smoking hookah is safe because water in the hookah apparatus filters out the nicotine content⁽³⁾. The Transtheoretical model of behavior change is an integrative treatment theory that determines whether a person is ready to adopt a new healthier behavior and offers methods or techniques to help the person do so, the model includes concepts like decisional balance, self-efficacy and phases and processes of transformation, "stages of change" is another name for the transtheoretical model⁽⁴⁾. The Transtheoretical Model is a theoretically-based method for conceptualizing behavioral change that includes the selection and application of appropriate interventions to help clients improve their health-related habits according to the Transtheoretical Model, behavioral change happens over the course of five stages (precontemplation, contemplation, preparation, action, and maintenance) with each stage's progression depending on the decisional balance of the previous one (the pros and cons that influence the decision)⁽⁵⁾. The TTM aims to incorporate and integrate key constructs from other theories into a comprehensive theory of change that can be applied to a variety of behaviors, populations, and settings, in contrast to other models of behavioral change that exclusively focus on certain dimensions of change (for example, theories focusing mainly on social or biological influences) (e.g. treatment settings, prevention and policy-making settings, etc.), addiction and Change: How Addictions Develop and Addicted People Recover, written by Dr. DiClemente, provides more information on the model's creation and how to apply it effectively in both clinical and research settings⁽⁶⁻⁷⁰⁾. According to a recent CDC report, many adults are using e-cigarettes to try to give up smoking, however, the majority of adult e-cigarette users continue to use both products, or "dual use" and do not give up smoking cigarettes using tobacco products in addition to normal cigarettes, such as smokeless tobacco, e-cigarettes, or other tobacco products, is not an effective approach to protect your health, since even a few cigarettes a day can be harmful, stopping smoking for good is crucial to save your health⁽⁷¹⁻¹¹⁰⁾. One of the main causes of adolescents' propensity for hookah smoking is a positive attitude toward it, as well as false beliefs about its health risks compared to cigarette smoking, false beliefs that it is not addictive, cultural and social acceptability, and ease of accessibility, as there are more hookah cafés, pubs, and restaurants, the consumption of hookah is anticipated to expand⁽¹¹¹⁻¹²⁰⁾. The popularity of electronic hookahs among Iraqi youth in recent years necessitates an evaluation of these items' effects on oxidative stress in liver tissue, the objective of the current study is to analyze the oxidative stress brought on by electronic hookah fumes on mouse liver tissues⁽⁹⁾. The aim of the study to determine the efficacy of trans theoretical model intervention for improving behaviors related to smoking among nurses in Mosul hospital.

Methods and Materials:

Study Design:

True experimental design through using randomized controlled trial is conducted to determine Transtheoretical Model Intervention in improving behaviors related to smoking among nurses. The study was carried out in Al-Mosul city, the capital of the Nineveh Governorate, which is located in northern Iraq. Al-Mosul is the second-largest city in Iraq,

located approximately (404) kilometers north of Baghdad. Especially in Mosul General Hospital is located West of the Tigris River from the city of Mosul (for study group) and Al-shifa hospital that is located East of the Tigris River from Mosul city (for control group).A simple random sample with probability of 56 males and 2 females health care workers(HCW) for the two group with different position . The sample was collected for the study group in Mosul General hospital that they were 58 HCW who they are electronic hookah smokers/ 29 HCW who agree to participate in the study and the others has refused participation, and in the control group in Al-Shifa hospital there 39 HCW who are electronic hookah smokers /29 HCW who agree to participate in the study, the experimental and control groups were formed using random assignment and selection.The information used in this study was acquired by a questionnaire that have two sections: section I, which describes the employee's socio-demographic characteristics features as (age, gender, marital status, hosing status) and the section II, includes measuring with a scale improving behavior related to electronic hookah based on transtheoretical model for nurses in Mosul city. First, the data are being collected in the beginning of October 2022. through the use of the study instrument and finishing in May 2023. Each person needs about 30 to 40 minutes to complete the questionnaire.Data is analyzed using the "Statistical Package for Social Science (SPSS) software for Windows (Version 26)". Two different approaches are employed for the data analysis which includes: Descriptive Statistical Data Analysis Approach, fisher's exact Test for Equality of Variances and paired T test to make comparisons between two related samples.

Results:

Table 1: Frequency and percentage for stage of change for Experimental and control group.

Groups	Stages of change	Pre-test		Post-test		Post2-test	
		F	%	F	%	F	%
Experimental group	Precontemplation	17	58.6	6	20.7	7	24.1
	Contemplation	12	41.4	23	79.3	22	75.9
	Preparation	9	75.0	19	82.6	21	91.3
	Action but relapse	19	65.5				
Control group	Precontemplation	14	48.3	15	51.7	16	55.2
	Contemplation	15	51.7	14	48.3	13	44.8
	Preparation	10	66.7	9	64.3	10	71.4
	Action but relapse	18	62.1				

Table 2: Mean differences for process of change, decisional balance and self-efficacy in pre, post1 and post 2 in both group

	Experimental			Control		
	Pretest	Post1	Post2	Pretest	Post1	Post2
Behavioral process of change	2.871264	3.614943	3.67931	2.805747	2.817241	2.898851
Experiential process of change	2.888506	3.683333	3.72931	2.924713	3.03046	3.172414
Decisional balance	2.527094	3.044335	3.14039	2.581281	2.785714	3.019704
Self-efficacy/temptation	2.82266	3.564039	3.62807	2.832512	2.903941	3.086207

Discussion:

Concerning table (1) that show most of participant in study group before intervention are in precontemplation stages (58.4%) and the other percent were in contemplation stages (41.6%), (75%) from the contemplation was in preparation stage. there is (65.5%) from the participant in study group who had made an action but they failed and they relapse and this result agreed with ⁽¹²¹⁻¹⁵⁰⁾ study result. while in post-test1 there is decrease in precontemplation (20.7%) and increase in contemplation stage (79.3%) and about (82.6%) move to preparation stage and this can be approved by⁽¹⁵¹⁾, while for action stage couldn't be measured in post-test1,2 because action should be continue for 6 months to be

considered action stage. While for control group there wasn't much difference between stages before and after intervention and this agreed with ⁽¹⁵²⁾.

While for the control group almost equally distribution of the participants between the stages, there is about (48.3%) in precontemplation stage and about (51.7%) in contemplation stage and about (66.7%) from the contemplators who were in preparation stage, and there is about (62.1%) from all the participant who had made a trial in leaving electronic hookah for at least 24 hours in the previous 6 months and this all in the pre-test phase. for the post-test1 there is about (51.7%) from the participants in precontemplation stage and about (48.3%) in contemplation stage and about (64.3%) from the contemplators are in preparation stage. While in post-test2 there is about (55.2%) from the health care workers in precontemplation stage and about (44.8%) in contemplation stage and about (71.4%) from the contemplators are in preparation stage in the control group and we observe that there is no noticeable improve in the stages of change for the health care workers because they left without any intervention.

Table 2 explain the summary for changing in mean for process of change (behavioral, experiential), and decisional-balance and self-efficacy/temptation before intervention (pre-test) and after intervention (post-test1,2) in study group and all of the change are in the positive way and this agreed with ⁽¹⁵³⁻¹⁵⁸⁾ that show the significant change except for cons of smoking" ($P > 0.05$), all TTM constructs had significantly changed; temptation ($F = 36.864, P < 0.001$), pros ($F = 12.172, P < 0.001$), experiential processes ($F = 3.377, P < 0.001$), and behavioral processes ($F = 11.131, P < 0.001$).and other study (Huang et al., 2013) Determinants of change, post-test scores of knowledge, experiential and behavioral processes and self-efficacy were significantly different between the intervention group and comparison group, the intervention group had significantly higher post-test scores than the comparison group.

Conclusion:

This study concluded that the health intervention for behavior change through Transtheoretical Model demonstrates the importance of electronic hookah smoking cessation and has a positive impact on health care workers perceptions of Stage of change, process of change, decisional-balance and self-efficacy/temptation and the intervention efficaciously moved smokers from lower Stages of Change to higher Stages.

Reference:

1. Al-Delaimy AKS, Al-Ani W. Hookah smoking among a sample of Iraqi male high school students: Awareness and understanding. 2019.
2. Pinkas J, Kaleta D, Zgliczyński WS, Lusawa A, Wrześniewska-Wal I, Wierzbza W, et al. The prevalence of tobacco and e-cigarette use in Poland: a 2019 nationwide cross-sectional survey. *International Journal of Environmental Research and Public Health*. 2019;16(23):4820.
3. Link AR, Cawkwell PB, Shelley DR, Sherman SE. An exploration of online behaviors and social media use among hookah and electronic-cigarette users. *Addictive behaviors reports*. 2015;2:37-40.
4. Yu J, Ariza-Montes A, Giorgi G, Lee A, Han H. Sustainable relationship development between hotel company and its employees: Linking job embeddedness, job satisfaction, self-efficacy, job performance, work engagement, and turnover. *Sustainability*. 2020;12(17):7168.
4. Younis NM, Ibrahim RM, Ahmed MM. Health Problems among Elderly in Nineveh province, Iraq. *Current Clinical and Medical Education*. 2025 Dec 12;3(12):54-64.
5. Ahmed MM, Ibrahim RM, Younis NM. Evaluation of Nursing Students' Perceptions of Obese individuals. *Current Clinical and Medical Education*. 2025 Dec 6;3(12):1-0.
6. Younis NM, Ahmed MM, Ibrahim RM. Life of style in Internal Sections for University Students. *Current Clinical and Medical Education*. 2025 Dec 6;3(12):11-20.
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 Trail. *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. *RevisBionatura*. 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 AdvNurs 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. Jaseem 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, Dahir 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. *RevisBionatura* 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: Arandomized 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. *RevisBionatura*. 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.
144. Younis NM, Ibrahim RM, Ahmed MM. The frequency of COVID-19 among Mosul University students. *Current Clinical and Medical Education*. 2025 Dec 6;3(12):21-32.
145. Younis NM, Ibrahim RM, Ahmed MM. Independency Aspect among elderly in Nineveh Province/Iraq. *Current Clinical and Medical Education*. 2025 Dec 12;3(12):44-53.
146. Younis NM, Ibrahim RM, Ahmed MM. Elderly people's personal hygiene in Nineveh Province, Iraq. *Current Clinical and Medical Education*. 2025 Dec 12;3(12):65-73.
147. Dhahir NM, Ahmed MM, Younis NM. The association between health beliefs and breast self-examination among healthcare providers: A cross-sectional study. *Journal of Education and Health Promotion*. 2026 Feb 1;15(1):82.
148. Jumaa ZY, Younis NM. Parents' knowledge about immunization with pentavalent vaccine who attended primary health care centers in Al-Diwaniyah City, Iraq. *Journal of Education and Health Promotion*. 2025 Dec 1;14(1):555.

149. Wahab MA, Younis NM. Efficacy of the protection motivation theory (PMT) in promoting preventive behaviors among nurses were exposed to radiation at hospitals: A-randomized controlled trail. *Journal of Education and Health Promotion*. 2026 Jan 1;15(1):12.
150. Younis NM, Ibrahim RM, Ahmed MM. Improving Employee Hypertension: Use Pender's Health Promotion. *Current Clinical and Medical Education*. 2025 Dec 16;3(12):74-82.
151. Younis NM, Ahmed MM, Ibrahim RM. Tobacco Prevalence Smoking habits among nurses at the Mosul City Hospital. *Current Clinical and Medical Education*. 2026 Mar 6;4(03):1-0.
152. Younis NM, Ahmed MM, Ibrahim RM. Incidence Rate of COVID-19 among university students. *Current Clinical and Medical Education*. 2026 Mar 6;4(03):11-20.
153. Younis NM, Ahmed MM, Ibrahim RM. Healthy Related Quality of Life the Elderly in Mosul province, Iraq. *Current Clinical and Medical Education*. 2026 Mar 6;4(03):21-30.
154. Ahmed MM, Ibrahim RM, Younis NM. Association between Substance Abuse and Road Traffic Accidents in Iraq. *Journal of Forensic Science and Medicine*. 2026 Jan 1;12(1):32-6.
155. Abdullah MK, Younis NM. Barriers to quitting smoking among nursing students in Iraq. *Journal of Holistic Nursing Science*. 2025 Sep 9;12(2):262-71.
156. Idress NH, Ibrahim RM, Younis NM. Mode of delivery and its influences on neonatal morbidity among newly born babies at maternity teaching hospitals in Mosul City: A comparison study. *Journal of Education and Health Promotion*. 2025 Nov 1;14(1):470.
157. Younis NM, Ahmed MM, Majeed HM. Epidemiological profile of substance abuse in Iraq: Retrospective study. *Journal of Education and Health Promotion*. 2025 Jun 1;14(1):255.
158. Younis NM, Ahmed MM, Ibrahim RM. Self-efficacy of Health Beliefs Models Toward Addiction among Students. *Journal of Current Medical Research and Opinion*. 2024 Jul 17;7(07):3303-12.