



Original Research

Apply the HBM in Changing the Beliefs Related to Weight Control Behaviors among Employees

Mahmoud Mohammed Ahmed¹ | Nasir Muwfaq Younis² | Rian Mahmood Ibrahim³

¹Assist. Prof.PhD. College of Nursing / University of Mosul/ IRAQ

²Prof.PhD College of Nursing / University of Mosul/ IRAQ

³Assist.Lecture. College of Nursing / University of Mosul/ IRAQ

E-mail co-author:

nasir.mufaq@uomosul.edu.iq



Abstract:

Background: Maintaining a healthy weight is difficult for most people. The build-up of extra body fat is characterized as overweight and obesity, a global health pandemic, as seen by the increasing incidence of overweight and obesity around the world.

Material and method: True experimental design, using a randomized controlled trial method, is carried out throughout the current study to identify the efficacy of health beliefs model through intervention in changing employees' behaviors related to weight control at university of Mosul for the period from January 10 th 2024 to March 15th 2024. The study sample consisted of 80 employees, who participated in a training program for behaviors change.

Results: Findings of this study showed that the interaction based on the health beliefs model had a significant difference between the pre and post-test at P- value (0.05) and the size effect was (0.557) in favor of the beliefs for the study group, and there was a significant difference in the pre and post-test 1&2 at P-value (0.05). The differences between the averages of behavior for the two groups were (0.364) in the pre-test and post test1 and (0.328) in the post-test 2 in favor of the experiment group.

Conclusions: This study concluded that health intervention based on the health beliefs model shows the importance of maintaining weight and a positive influence on employees' health beliefs and behaviors towards weight control.

Keywords: HBM, Beliefs, Weight Control, Behaviors, Employees.

Copyright: ©2024 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/>).

Introduction:

The main tenets of HBM are that individuals' level of concern about a specific health goal is what drives health behavior and that they also believe they have a good chance of achieving

that goal when implementing a behavioral change.⁽¹⁾The Health Belief Model was established in the 1950s by researchers at the United States Public Health Service, and it is still one of the most

extensively used conceptual frameworks of health behavior among health educators, other health professionals, and psychologists today. (2). Before the availability of sensitive, specific diagnostic tests, such as X- rays of the chest for the detection of tuberculosis, many people with the disease who didn't realize they had it continued to suffer or die. In addition to making health examinations available to the entire public, a parallel trend was developed to promote the use of preventative services for example immunization and medical commitment in general. Before that, the health belief model was rooted in providing people with relevant information to raise awareness and anxiety about life-threatening illnesses, overall illnesses that could be treated with medication if diagnosed early enough. (3). Because of these health risks, Several educators wanted for people to realize that people could lower these health risks by taking certain actions. A large portion of the psychologists subscribed to the theory that people are scared of acquiring serious illnesses and are motivated to adopt health-promoting habits based on both their belief that health-related actions reflect a person's level of fear of P. threats and the expected fear reduction potential of undertaking a suggested action. To figure out whether a change in behavior leads to better outcomes, people ask whether it is practical and mentally challenging. An overall benefit is what leads people to modify their behavior to help maintain their health. (4). The concept of an individual's specific perceptions about susceptibility, benefits, barriers, and self-efficacy thus emerges as a critical aspect of the Health Belief Model. Appropriate interventions may focus on calculating the risks and expectations, and they may also include

personalized advice and education. (5) One of the most well-studied models is the Health Belief Model, which was developed in the 1950s as a means of understanding the process of health-seeking behaviors. (6). The aim of the study to Apply the HBM in Changing the Beliefs Related to Weight Control Behaviors among Employees.

Methods and Materials:

True experimental design, using a randomized controlled trial method, is carried out throughout the current study to identify the efficacy of health beliefs model through intervention in changing employees' behaviors related to weight control at university of Mosul for the period from January 10 th 2024 to March 15th 2024. The study sample consisted of 80 employees, who participated in a training program for behaviors change. The study sample was selected from four colleges in University of Mosul includes Sciences, Engineering, Education, and Nursing Colleges. Random selection and random assignment are used to create the experimental (40), and (40) control group. A developing two self-report questionnaires in the present study, the first questionnaire consist of: (Health Belief Model questionnaire for weight management behavior), and socioeconomic status, and a component of health beliefs towards body weight control. And the second questionnaire consists of behavioral strategies for weight control. The intervention for the experimental group involved a health intervention lecture about weight control. Analyzed data using SPSS, Version 24 using descriptive statistics, inferential statistics, and mixed-design analysis of variance. (7-89).

Results:

Table (1): Repeated measures ANOVA tests the HBM in changing the beliefs related to weight control behaviors among employees in the University of Mosul.

HBM concepts	"Repeated Measures ANOVA Tests"			
	F	P	(η2)	O.P.
Main time effect	85.36	0.000	0.689	1.000
Between groups effect	106.40	0.000	0.577	1.000
Groups Interaction overtime	202.171	0.000	0.631	1.000

η2: Partial Eta Squared (size effect). O.P. Observed Power.

The findings of Table (1) show that the test within the main effect of time is significant ($F= 85.36, p= 0.000$). The significant interaction shows that the HBM among the research participants (research and control) shifts over time and changes. In this specific case, it is evident in Figure (1) that the

research group increases in beliefs over time, in contrast to the control group, whose beliefs were nearly at the same level over time. Regarding the effect size, (Table 1) shows that about (0.689) of the variance from modified beliefs is responsible for the period.

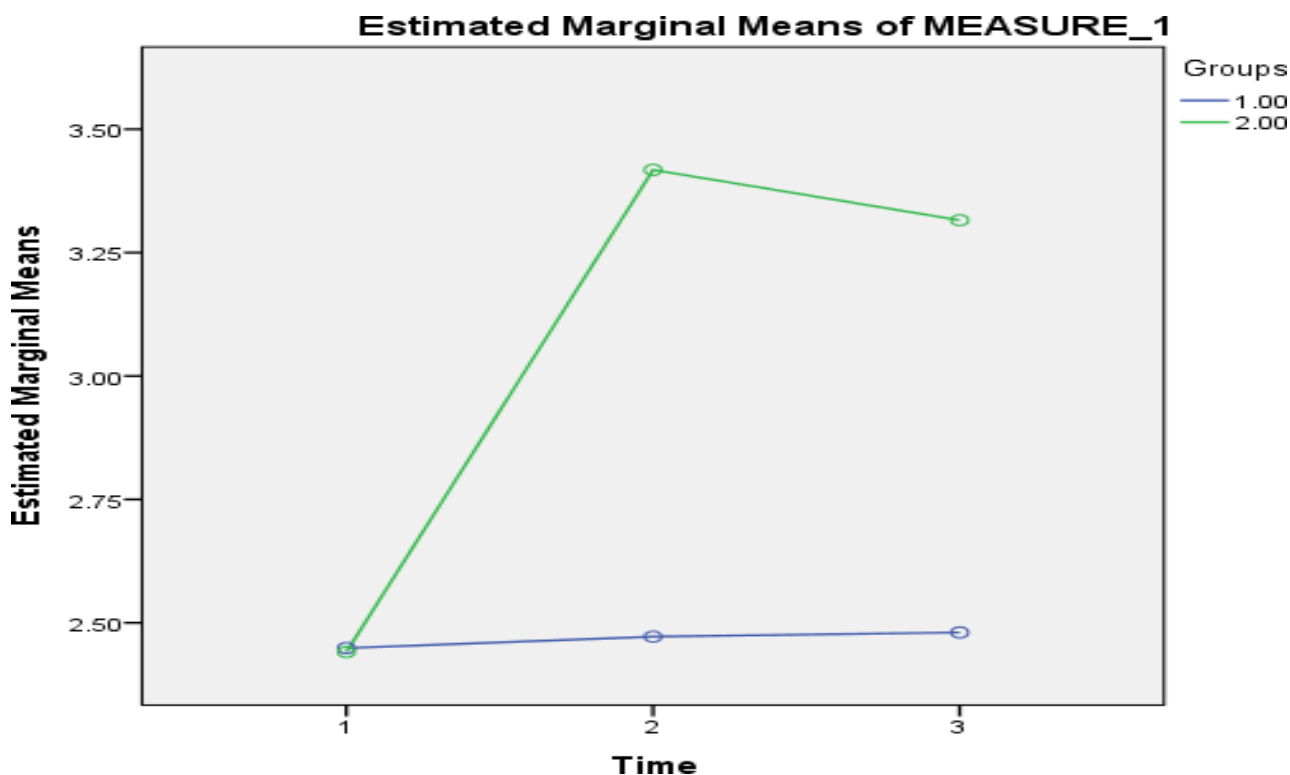


Figure (1): Changing in beliefs related to weight control among employees in University of Mosul for the study and control groups throughout the three times.

Table (2): Binary comparisons between the experimental group and the control group over time.

Dependent Variable	Mean Difference Groups	Std. Error	Sig.b	95% Confidence Interval for Difference ^b	
				Lower Bound	Upper Bound
Pre-test	-0.016	0.056	0.767	-0.127	0.094
Post-test 1	0.794*	0.056	0.000	0.682	0.906
Post-test 2	0.705*	0.052	0.000	0.601	0.809

Multiple comparisons between the study group and the control group beliefs showed that there were no significant differences at 0.05 in the pre-test, while

there were statistically significant differences between the experimental group and the control group in the post-test 1 and 2.

Discussion:

The Behavioral Risk Factor Surveillance System reported that the increase in the rates of overweight and obesity among adults under the age of 30 years with low educational levels, and this increase is the result of a combination of factors, including food behaviors, and the constant eating of fast food in restaurants. Eating light snacks between main meals, excessive intake of fatty foods, low physical activity, watching television and video games, and finally, unhealthy sleep behaviors,⁽⁹¹⁾. According to the studies, there was an increase in the value of (Physical activity, dietary impulse control, dietary planning, monitoring weight, family & friend Support) over time. According to the result, there was no significant difference in the mean of employees' behaviors before the study intervention and control groups, but the difference was significant after the intervention, indicating that health education had a positive effect on changing participants' weight control behaviors. A baseline test was given to both the experimental and comparison groups before the intervention was implemented, as we described earlier in this chapter. Only the interventions were presented to the study (experimental) group participants. The findings of the pretest indicated that the mean of control and study group members is unacceptable. This indicates that before the intervention, the participants' behaviors were low. Then, two months later, both groups were given a posttest 2 to determine the efficacy of the program of education. The primary goal of this stage was to determine whether the educational program was effective in helping study group participants maintain a healthy weight. Monitoring weight, One of the most important strategies for weight loss is to replicate the suggested daily weight for behavioral programs, and is likely to help individuals adopt weight control practices.⁽⁹²⁾ Finding techniques to lose even tiny amounts of weight can thus be clinically significant. Self-monitoring is used in the most successful weight reduction therapies to promote self-awareness about how habits affect weight. This is backed by self-regulation theory, which states that when

people self-monitor and analyze their current behavior in comparison to their goals, they are better able to self-regulate their behaviors.⁽⁹⁰⁾ This then either reinforces or enables self-correction. Daily self-weighing is one such self-monitoring approach. Because tiny changes in body weight can be noticed daily and modifications in food and exercise behaviors begin as a result, daily self-weighing may allow for better self-regulation of body weight than less frequent weighing.⁽⁹³⁾ In the baseline test, it was found that the participants in the study (study and comparison group) did not weigh themselves daily, but rather apart or when they had the opportunity, and there was no significant difference between the two groups when it came to weight tracking.

Conclusion:

This study concluded that health intervention based on the health beliefs model shows the importance of maintaining weight and a positive influence on employees' health beliefs and behaviors towards weight control.

Reference:

1. Vassallo M, Saba A, Arvola A, Dean M, Messina F, Winkelmann M, Claupein E, Lähteenmäki L, Shepherd R. Willingness to use functional breads. Applying the Health Belief Model across four European countries. *Appetite*. 2009 Apr 1;52(2):452-60.
2. Weygandt M, Mai K, Dommes E, Leupelt V, Hackmack K, Kahnt T, Rothmund Y, Spranger J, Haynes JD. The role of neural impulse control mechanisms for dietary success in obesity. *Neuroimage*. 2013 Dec 1;83:669-78.
3. Wouters EJ, van Nunen AM, Vingerhoets AJ, Geenen R. Setting overweight adults in motion: the role of health beliefs. *Obesity Facts*. 2009 Dec 4;2(6):362-9.
4. Xu W, Zhang H, Paillard-Borg S, Zhu H, Qi X, Rizzuto D. Prevalence of overweight and obesity among Chinese adults: role of adiposity indicators and age. *Obesity Facts*. 2016 Jan 9;9(1):17-28.
5. Yuan F, Gong W, Ding C, Li H, Feng G, Ma Y, Fan J, Song C, Liu A. Association of physical

activity and sitting time with overweight/obesity in Chinese occupational populations. *Obesity Facts*. 2021 Jan 26;14(1):141-7.

6. Youssefi F, Esfidarjani SS, Rahnavard Z, Sadeghi T. Investigation of Health Education Based on Health Belief Model on Prevention of Unhealthy Weight Control Behaviors in Female Adolescents Aged 13-15. *Iranian Journal of Nursing Research*. 2017 Feb 10;11(6):23-31.

7. 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.

8. 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.

9. Younis NM, Ahmed MM, Dhahir NM. Prevalence of coronavirus among healthcare workers. *International Journal of Medical Toxicology & Legal Medicine*. 2021;24(1and2):267-70.

10. 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.

11. Younis NM, Mahmoud M, Ahmed A. University Students' Attitude Towards E-Learning. *Bahrain Medical Bulletin*. 2021;43(2):460-2.

12. 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.

13. 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.

14. 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-.

15. Ibrahim RM, Idrees NH, Younis NM. Epidemiology of leukemia among children in Nineveh Province, Iraq. *Rawal Med J*. 2023 Mar 3;48(1):137.

16. 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.

17. 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.

18. 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.

19. 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.

20. 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.

21. 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.

22. 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.

23. 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.

24. 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.
25. 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.
26. Younis NM, Ahmed MM, Dhahir NM. Knowledge and Attitude toward older adults among Nursing Students. *Signal.* 2012;84:70.
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. Aayed 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.