Journal of Current Medical Research and Opinion
Received 13-04-2024 | Revised 14-04-2024 | Accepted 03-05-2024 | Published Online 04-05-2024

DOI: https://doi.org/10.52845/CMRO/2024/7-5-9 ISSN (O) 2589-8779 | (P) 2589-8760
CMRO 07 (05), 2460-2467 (2024)

Original Research

Apply Health Beliefs Model Towards of Substance Abuse

Nasir Muwfaq Younis[1] | Rian Mahmood Ibrahim[2] | Mahmoud Mohammed Ahmed[3]

[1]Prof, PhD. College of Nursing / University of Mosul/ IRAQ
[2]Assist. Lecture. College of Nursing / University of Mosul/ IRAQ
[3]Assist. Prof. PhD. College of Nursing / University of Mosul/ IRAQ

Abstract

Background: Substance use disorders (SUD) are significant health concern worldwide. Substance use is inveterate trouble which is associated with significant morbidity and mortality. These troubles also account for important health care employment and medical costs. However, the Substance use problems are associated with capitalize health retro gradation, weakness and death due to impacts and exceed. There is growing concern about the effects of conflict and wars on substance use in Iraq.

Methods: True experimental design, using a randomized controlled trial approach, is carried throughout the current study to determine the efficacy of health beliefs model-based intervention in changing the belief related to substance use among university students in Mosul City for period from 26-November 2019 to 1-March 2021.

Results: Findings of this study depict that there were statistically significant differences among all concepts of the Health Belief Model related to substance use, add to behavioral motivation, behavioral control and intension over time. On the contrary, the perceived barrier was the only belief that showed no significant changes over time.

Conclusion: This study concluded that designing an HBM-based study could affect students' understanding and their behaviors in the field of substance abuse. Considering the positive correlation between construct of HBM, particularly in "perceived benefits and perceived severity " related to students' beliefs. These beliefs implied a significant correlation with each other and with the attention to the prevention of addiction.

Key words: Health Beliefs Model, Substance Abuse

Introduction:

The wellness creed focuses on health motivation by personal interpretation model (HBM) and is suitable for health behavior prediction, tackling risky ones, and short- and long-term plans for improvement. There are in influencing people's prevention decisions, six key constructs were identified, screening and disease control: people

are likely to act if (a) they think they are susceptible (perceived susceptibility) to a disease, (b) assume severe consequences follow the condition (perceived severity), (c) assume it will take action decreasing the vulnerability or seriousness of the disease (perceived benefits), (d) assuming that the costs of taking action are greater than the benefits (perceived barriers),(e) are revealed signals that suggest action (cues to action), and (f) feel capable of being effective action-taking (self-efficacy) [(1)].The HBM notes that if a person suspects that he or she is vulnerable to a serious health condition, the person is supposed to feel that the advantages outweigh the barriers associated with modifying his or her conduct in order to avoid the problem. The model of health belief is a fantastic tool for nurses to provide them with a theoretical structure to help their patients avoid chronic illnesses or enhance the quality of life if illness is present [(2)]. The Health Belief Model theoretical constructs originate from theories in Cognitive Psychology [(3)]. The expectation is that a certain health action could prevent the condition for which people consider they might be at risk. The HBM suggests that your belief in a personal threat together with your belief in the effectiveness of the proposed behavior will predict the likelihood of that behavior [(4)].Substance use and addiction are a major public health concern that is increasingly expanding across the world, affecting consumers, their communities and their environments causing psychological and economic problems for health and crippling societies, with a growing decrease in consumer age [(5)].The topic of drug use is harmful and people around the world are increasingly suffering from substance use disorder. It impacts the lives of people by causing many health conditions because it interferes with individuals' mental wellbeing. The drug used is a long-lasting and reversing brain disorder which is characterized by the use and appetite of the drug without understanding its adverse effects. Examples of social harm associated with drug misuse are scarcity, illegality, high-risk behavior and many other branded diseases [(6)]. The use of drugs among students has remained steady despite the recognition of the issue by educational institutions, and students regularly report higher rates of use (smoking, substance abuse, alcohol use) [(7,8)].

Methods and Materials:

True experimental design, using a randomized controlled trial approach, is carried throughout the current study to determine the efficacy of health beliefs model-based intervention in changing the belief related to substance use among university students in Mosul City for period from 26-November 2019 to 1-March 2021.The study sample consisted of 80 students who participated in training program for behaviors change. The study sample will be recruited from (4) colleges in the University of Mosul's Engineering, Sciences, Medicine and Education Colleges. The participants of each behavior were randomly allocated into one of two groups; (experimental group and control group). The intervention for the experimental group involved a health education lecture about substance use. Analyzed data using SPSS, Version23 using both descriptive statistics, inferential statistics (Means, and SD, Number and percentage) and chi-square, t-Test. A mixed design analysis of variance (ANOVA) is used to measure the changes among participant's beliefs, motivation, control and intentions over three times (pre-test, post-test1, and post-test2), as well as a Pearson's correlation coefficient used to identify the association between Health Belief Model concepts, behavioral motivation , behavioral control and Intentions to changing Beliefs related to substance use[(9-74)].

Results:

Table 1: Descriptive Statistics Measuring Change in Health Belief Model Concepts, Motivation, Behavioral Control and Behavioral Intensions Across Study Group and Over Times.

HBM Concepts	Groups	*M (SD)*		
		(T 0)	(T 1)	(T 2)
Perceived Susceptibility	Exp	2.42 (0.76)	3.25 (0.41)	3.21 (0.46)
	Con	2.39 (0.48)	2.44 (0.70)	2.51(0.62)
Perceived Severity	Exp	3.12 (0.71)	3.89 (0.38)	3.82 (0.33)
	Con	3.17 (0.67)	3.28 (0.79)	3.23 (0.64)
Perceived Benefits	Exp	2.91 (0.76)	3.78 (0.41)	3.63 (0.90)
	Con	2.96 (0.78)	3.13 (0.72)	3.11 (0.88)
Perceived Barriers	Exp	2.75 (0.59)	2.69 (0.50)	2.70 (0.56)
	Con	2.91 (0.56)	2.93 (0.51)	2.87 (0.70)
Cue to action	Exp	2.31 (0.70)	3.18 (0.78)	3.35 (0.40)
	Con	2.27 (0.61)	2.61 (0.62)	2.83(0.61)
Perceived Self-Efficacy	Exp	2.27 (0.91)	3.22 (0.60)	3.26 (0.56)
	Con	2.41 (0.99)	2.56 (1.00)	2.55 (0.95)
Motivation	Exp	2.77 (0.76)	3.62 (0.36)	3.58 (0.48)
	Con	2.69 (0.90)	2.78 (0.77)	2.72 (0.91)
Behavioral Control	Exp	2.83 (0.99)	3.38 (0.30)	3.36 (0.45)
	Con	2.73 (0.54)	2.81(0.51)	2.89 (0.59)
Behavioral Intentions	Exp	2.81(1.05)	4.07 (0.70)	3.71 (0.69)
	Con	2.92(0.86)	3.08 (1.02)	3.04 (0.89)

Table(2):Results of score Range, Weighted Mean and Rank for Change in Health Belief Model Concepts, Motivation Behavioral Control and Behavioral Intensions across study group.

HBM Concepts	**Score Rang**	**Weighted Mean**			**Range**	**Rank**
		T0	**T1**	**T2**		
P. Susceptibility	(1-5)	2.42	3.25	3.21	1.5	8
P. Severity	(1-5)	3.12	3.89	3.82	1.4	1
P. Benefits	(1-5)	2.91	3.78	3.63	4	3
P. Barriers	(1-5)	2.75	2.69	2.70	2.2	9
Cue to action	(1-5)	2.31	3.18	3.35	1.66	6
Self-Efficacy	(1-5)	2.27	3.22	3.26	2.5	7
Motivation	(1-5)	2.77	3.62	3.58	1.62	4
B. Control	(1-5)	2.83	3.38	3.36	2.12	5
B. Intentions	(1-5)	2.81	4.07	3.71	3	2
Total Mean	(1-5)	**2.69**	**3.45**	**3.40**		

HBM: Health Belief Model, WM: Weighted mean, , Minimum score range = 1, Maximum score range= 5

Discussion:

Table 1: indicated that before the intervention, mean scores for all concepts of HBM, add to Motivation, Control, and behaviors intensions of students they were almost equal. However, after the intervention were significantly different in the study group, while it was not significant in the control group. The difference was higher among the intervention group than the control group and it was positive for all concepts except for perceived barriers. This issue indicates that education caused significant increase in scores of sensitivities, severity, perceived benefits, cues to action, self-efficiency, motivation, behavioral control and intensions. It further reduced perceived barriers of students in the intervention group. The visual observation for (Table 1) shows that the Mean scores and the Standard Deviations for the variables under the study were changed among participant's over times. To determine the significance of this changes in the mean scores and if our health education session based on health belief model was successful in promoting enhancement among participant beliefs.Table (2): This table shows (Range score, Mean, Total mean rank and range). There was a clear change between (T1, T2 and T0) as a result of the educational program used among students. It turns out that (Perceived Severity, intentional and perceived benefits) are the highest in terms of Weighted Mean, which are estimated to be in terms of (3.81,3.71, 3.63) respectively.

Conclusion:

This study concluded that designing an HBM-based study could affect students' understanding and their behaviors in the field of substance abuse. Considering the positive correlation between construct of HBM, particularly in "perceived benefits and perceived severity " related to students' beliefs. These beliefs implied a significant correlation with each other and with the attention to the prevention of addiction**.**

Reference:

1.Jouybari TA, Hatamzadeh N, Fattahi M, Gharibnavaz H, Khashij S, Mahboubi M. Cognitive determinants of influenza preventive behaviors among students: an application of the health belief model (HBM). International Journal of Pediatrics. 2018 Jun 1;6(6):7833-41.

2.Al-Hemiary NJ, Al-Diwan JK, Hasson AL, Rawson RA. Drug and alcohol use in Iraq: findings of the inaugural Iraqi Community Epidemiological Workgroup. Substance use & misuse. 2014 Nov 10;49(13):1759-63.

3. Al-Hemiery N, Dabbagh R, Hashim MT, Al-Hasnawi S, Abutiheen A, Abdulghani EA, Al-Diwan JK, Kak N, Al Mossawi H, Maxwell JC, Brecht ML. Self-reported substance use in Iraq: findings from the Iraqi National Household Survey of Alcohol and Drug Use, 2014. Addiction. 2017 Aug;112(8):1470-9.

4. Alaska YA. Spontaneous pneumomediastinum secondary to hookah smoking. The American journal of case reports. 2019; 20:651.

5. Abraham C, Conner M, Jones F, O'Connor D. Health psychology. Routledge; 2016 Apr 14.

6. Abuse S. Mental health services administration. Results from the. 2013 Jan 10;2(013):55-68.

7. Abuse S. Mental health services administration. Results from the. 2016 Apr 23;2(342):65-72.

8.Brown P. The Financial Crisis of 2008: A Phenomenological Exploration into the Impact on Small Substance Abuse Treatment Facilities in Atlanta, Georgia. Jones International University; 2015.

9.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).

10. Ibrahim RM, Younis NM, Ahmed MM. Knowledge and Attitude of University Students

Regarding Rhinoplasty. Journal of Current Medical Research and Opinion. 2024 Apr 26;7(04):2380-8.

11. 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 Apr 26;7(04):2371-9.

12. 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.

13. Ahmed MM, Younis NM, Hussein AA. Association between Internet Addiction and Sleep disturbance Among Nursing Students. International Journal of Psychosocial Rehabilitation. 2020;24(09).

14. Ahmed MM, Naji AB. Efficacy of the health belief model in improving weight control beliefs among employees in University of Mosul: A randomized controlled trial. Teikyo Medical Journal. 2022;45(1):4659-64.

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

16. Ahmed MM, Younis NM, Hussein AA. Violence towards nurses staff at teaching hospitals in Mosul City. Indian Journal of Forensic Medicine & Toxicology. 2020 Jul 30;14(3):2598-603.

17. 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;20(3):775-9.

18. Naji AB, Ahmed MM, Younis NM. Adherence the preventive measure against for covid-19among teachers at university of mosul. International Journal of Medical Toxicology & Legal Medicine. 2021;24(3and4):273-7.

19.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. International Journal of Membrane Science and Technology. 2023 Jul 2;10(2):1433-9.

20. 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.

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

22.Muwfaq YN, Ahmed MM, Abdulsalam RR. Assessing Quality of Life in Palliative Care. Bahrain Medical Bulletin 2021;43(3):594-6.

23. 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-.

24. 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.

25. 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).

26. 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.

27. 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.

28. 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 Medical Journal. 2022 Dec 11;47(4):892-.

29. Ibrahim RM, Idrees NH, Younis NM. Epidemiology of leukemia among children in Nineveh Province, Iraq. Rawal Medical Journal: 2023 Jan. Vol. 48, (1):137-.

30.Taher AK, Younis NM.Assessment the Effect of a Trans theoretical Model in Improving Behaviors Health Care workers related Electronic Hookah in Mosul City /Iraq. Rawal Medical Journal: 2023 Jan. Vol. 48, (1):228-.

31.Mohammad FH, Noori LK, Younis NM.Assessment of Nutritional habits among Mosul University Students regarding breakfast. 2023 Jan. Vol. 48, (1):96-.

32. Younis NM, Ibrahim RM, Idrees NH.Prevalence of snake bite among children in Nineveh Governorate/Iraq: A retrospective study. International Journal of Medical Toxicology & Legal Medicine. 2022;25(3and4):169-172.

33. Ali HA, Abbas FF, Younis NM. Mothers' knowledge and attitudes towards breastfeeding in Thi-Qar City, Iraq. Rawal Medical Journal. 2023 May 27;48(2):514-.

34.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.

35.Bura'a LN, Younis NM. Nurses knowledge regarding to phototherapy at neonatal care units in Mosul City, Iraq. Rawal Medical Journal. 2023 May 27;48(2):379-.

36. Ahmed M M, Naji A B, Younis N M. 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. http://dx.doi.org/10.21931/RB/2023.08.03.28

37.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.

38.Bura'a LN, Younis NM. An Interventional Program on Nurses Knowledge and Practice towards Phototherapy in Neonatal Care Units. International Journal of Membrane Science and Technology. 2023 Jul 2;10(2):1428-32.

39.Younis NM. Epidemiology of Hepatitis B-virus in Nineveh province: Retrospective Study. International Journal of Membrane Science and Technology. 2023 Jul 2;10(2):1440-4.

40. 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.

41.Younis N. M., Ahmed M. M., Ayed A. Y. HIV knowledge and preventive Standards Precautions Among Healthcare Workers in Blood Transfusion Centers. Revis Bionatura 2024; 9 (1) 44. http://dx.doi.org/10.21931/RB/2024.09.01.44

42.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-.

43.Younis NM, Ahmed MM, Dhahir NM. Knowledge and Attitude toward older adults among Nursing Students. 2021.P J M H S Vol. 15, NO. 3,pp:683_685.

44.Hussein AA, Younis NM, Ahmed MM. Health Promoting Lifestyle profile Among Nursing Students in Mosul University. International Journal of Psychosocial Rehabilitation. 2020;24(09).

45.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.

46.Ahmed MM, Younis NM, Hussein AA. Association between Internet Addiction and Sleep disturbance Among Nursing Students. International Journal of Psychosocial Rehabilitation. 2020;24(09).

47.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.

48.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-.

49.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.

50.Suleiman AA, Abed SM, Ahmed SS. Assessment the Levels of Depression among Patients with Hemodialysis at the Dialysis Centers in Mosul City. Pakistan Journal of Medical & Health Sciences. 2023;17(08):67-.

51.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.

52.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.

53.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.

54.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-.

55.Younis NM. Assessment for Mortality Rate Children Under Five Years in Mosul City. Journal of Kufa for Nursing Science Vol. 2014;4(1).

56.Younis NM, Ahmed MM, Hussein AA. Epidemiology of Deaths from Injuries in Nineveh Governorate (2008_2012). kufa Journal for Nursing sciences. 2014;4(2).

57.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.

58.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.

59.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.

60.Younis NM. Nursing students' attitudes towards older adult people. Zagazig Nursing Journal. 2015 Jul 1;11(2):151-9.

61. 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).

62.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.

63. 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-.

64.Younis NM. Prevalence of Electronic Hookah and Risk Factors among University Students in Mosul City/Iraq. International Journal of Membrane Science and Technology. 2023 Jul 2;10(2):1422-7.

65. Ahmed MM, Naji AB. Assessment of Health Beliefs Regarding Weight Control among Overweight and Obese Employees in University of Mosul: Applying Health Belief Model. Kufa Journal for Nursing Sciences. 2021 Dec 25;11(2):38-43.

66. Ahmed MM, Naji AB. Assessment of Weight Control Behaviors Among Employees In University Of Mosul. NVEO-NATURAL VOLATILES & ESSENTIAL OILS Journal| NVEO. 2021 Nov 29:8996-9002.

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.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.

70.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.

71. 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.

72. 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.

73.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.

74.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.