

Assessing the Effect Pender's Model in Changing Employees' Eating Behaviors Suffer Hypertension at Mosul University Iraq

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ABSTRACT

Background: Hypertension is the most common risk factor for cardiovascular disease (CVD), and it frequently coexists with other CVD risk factors and bad lifestyle behaviors such as smoking, diabetes, cholesterol, obesity, lack of physical activity, and a poor diet. The objective of the article to identify the assessing the effect Pender's Model in changing employees' eating behaviors suffer hypertension at Mosul University Iraq.

Method: A descriptive Cross-sectional design by using approach is conducted to determine the Assess the effect Pender's Model in changing employees' Eating Behaviors suffer hypertension at Mosul university Iraq. A probability simple random sample of 50 male and female employees at Mosul university Iraq. The information was gathered using a questionnaire and analyzed using SPSS version 26.

Results: This results of this study that all the concepts of the pander model were (p value) significant, except for the concept of barriers.

Conclusion: The study concluded that the assessment through pender's Model showed a positive effect on many health behaviors that affect eating behavior, including perceived benefit, self_efficacy, activity related effect, and supporting family and friends to control hypertension.

Keywords: Assessing, effect, Pender's Model, employees', Eating Behaviors, hypertension.

INTRODUCTION

Hypertension (HTN) is defined as a systolic blood pressure (SBP) of more than 140mmHg or a diastolic blood pressure (DBP) of more than 90mmHg (DBP), is a serious public health problem across the world. Although our knowledge condition as well as the accessibility to therapies, 80 million adults in the US and 266 million people in China suffer from HTN. Secondary prevention by early illness diagnosis may contribute in lowering HTN-related health inequities and economic costs, while primary preventive efforts have been generally ineffectual in communities in recent decades^(1,2,3). Appropriate blood pressure regulation, on the other hand, may help to avoid costly medical treatments such as hemodialysis or cardiovascular surgery for the treatment of hypertension patients' difficulties^(4,5,6). In another study, it was reported that Hypertension affects over one-third (32.6%) of the adult population in the United States. It is the most common main ailment for which people seek treatment, accounting for 38.9 million yearly medical visits in the United States. An increased risk of mortality from cardiovascular diseases such as ischemic heart disease(IHD), congestive heart failure (HF), and stroke has been related to elevated blood pressure (BP). In 2015, HTN-related direct and indirect medical costs are anticipated to total \$118 billion^(7,8). Worldwide, an estimated 1.28 billion people aged 30-79 years have high blood pressure, with the majority (two-thirds) living in low- and middle-income countries, and approximately 46% of patients with hypertension are unaware of their condition. One of the global non-communicable disease goals between 2010 and 2030 is to reduce hypertension pervasiveness by 33%^(9,10). The population is harmed In Iraq, the situation is similar to that of many other nations, in terms of both age and gender .distribution and trend throughout time A poll had been conducted. In 1979, a survey indicated that 12% of the population a large portion of the Iraqi people hypertension. Following that, the chronic non-communicable disease a study of the risk factors for communicable illnesses In Iraq (2006), it was shown that there was a high frequency of Hypertension accounted for 40.4% of the population. Iraq is located in the Eastern Mediterranean. WHO has provided health data per region. In 2008, the average age for both sexes for the same age group was 29.4%^(11,12). Nutrition is play essential role in the management of hypertension. Blood pressure may be affected by lifestyle modifications; in this regard, the literature has documented the favorable benefits of diet on health and blood pressure regulation. As a result, one of the most significant parts of lifestyle for managing blood pressure is eating.

Furthermore, in stage one hypertension, diet is regarded as a first step and beginning point for blood pressure regulation. As a result, following dietary guidelines such as the Dietary Approach to Stop Hypertension can help lower blood pressure. In influencing nutritional behavior, a number of factors are crucial. Taste, affordability, and convenience are the most important considerations^(13,14). Cannot predict dietary behavior on their own. Several variables impact dietary behavior, including being more aware of psychological and environmental issues that may function as a barrier to good eating, as well as regulating and avoiding hypertension, which can help nutrition programs work more effectively^(15,16).

METHODS

A descriptive Cross-sectional design by using approach is conducted to determine the Assess the effect Pender's Model in changing employees' Eating Behaviors suffer hypertension at Mosul university Iraq. The study was conducted at the University of Mosul. A probability simple random sample of 50 male and female employees from faculties of different specializations was selected for assess the effect Pender's Model in changing employees' Eating Behaviors suffer hypertension at Mosul university Iraq. The study's data was acquired using a two-part instrument: part one involved characterizing the student's socio-demographic information, collecting the data, which involved describing the student's socio-demographic (age, gender, BMI, level of education, marital status, socioeconomic status) For University of Mosul personnel, part II involved using a scale to measure Enhancing eating behaviors for hypertension based on the Bandar Health Model. This instrument was created by the student and reviewed by 13 experts in fields related to the study topic and the student's area of expertise. This scale was built using the pander model of health promotion and included five major subscales: (1) "perceived benefits subscale," (2) "perceived barrier subscale," (3) "perceived self-efficacy subscale," (4) "perceived social support subscale," and (5) "activity related affect" to improve the employee's beliefs about eating behavior. The total scale had 23 items with a 5-point scale. A five-point Likert scale was used to assess improvements in employee behavior in a health promotion-based business model. The responses ranged from (1) strongly disagrees to (5) strongly agrees for these issues, with a higher score indicating more agreement with the beliefs. A questionnaire was used to collect data, which was then analyzed using SPSS version 25.

RESULTS

Table 1: Demographical Characteristics of the sample study was (n=50)

Group statistics						
Factor	N	Mean	SD	Std. Error mean	Levene's test for Equality of variances	
					F	P-value
Age	50	2.81	1.065	0.178	1.564	0.541
BMI	50	25.32	3.322	0.723	1.776	0.421
Gender	50	1.48	0.671	0.101	0.000	1.000
Marital status	50	1.33	0.499	.09798	1.11	0.206
Residential unit	50	1.28	0.444	0.091	0.000	1.000

Note: F: Frequency, M: Mean, SD: Standard deviation, BMI: Body Mass Index, All group differences $p > 0.05$

Table 2: Statistical description of the study for each of the five studied concepts of the health promotion of Pander Model

Pender Model Concept			P-value
Benefit	Mean	2.22	0.001
	S.D	0.129	
Barriers	Mean	3.11	0.232
	S.D	0.297	
Self-efficacy	Mean	2.88	0.002
	S.D	0.194	
Social support	Mean	2.23	0.000
	S.D	0.516	
Activity related affect	Mean	2.66	0.003
	S.D	0.277	

Note: SD: Standard deviation

Table 3: Analysis of the correlation between the five studied elements of the pender model.

Correlations					
Concept of Pender Model		Barriers	Self-efficacy	Social support	Activity related affect
Benefit	P_ Correlation	0.012	0.875**	0.789**	.843**
	P-value	0.917	0.000	0.000	0.000
	Nu	50	50	50	50
Barriers	P_ Correlation		0.055	0.009	-.028
	P-value		0.638	0.941	.812
	Nu		50	50	50
Self-efficacy	P_ Correlation			0.781**	0.878**
	P-value			0.000	0.000
	Nu			50	50
Social support	P_ Correlation				0.717**
	P-value				0.000
	Nu				50

DISCUSSION

The number of participants in this study is 50 employees of the University of Mosul. According to the results the mean and SD (2.81 ± 1.065) of age for study group. The very same table also revealed that the majority of individuals were of normal body weight, with an average (mean and SD) of (25.32 ± 3.322). In terms of other demographic factors, the majority of participants in the sample study were men (67 percent). Regarding marital status, most of participants were married (76%), finally, house owner (84%). The results of this study are consistent with (Mahmood et al., 2022)⁽¹⁷⁾ which found that most of the participants were suffering from a prevalence of impairment in their eating behaviors. This study is similar to^(18,19,20), which found the average age of the participants was $2.99 (\pm 1.34)$, about (96%) of them were married, and about (72.8%) of them had a low family income. This research is comparable to that of (Naji et al., 2021), who found that the average age of respondents was (21.21 ± 2.90). Around 90% were married and 70 percent had a modest family income. Through the statistical analysis of the second table, it was found that all the concepts of the pander model were (p value) significant, except for the concept of barriers. This indicates that the cost of healthy food is very expensive and for this reason it was not significant. Analysis of the correlation between the five studied concepts of the model. Firstly, the relationship is strong and positive between the benefits and self-efficacy (0.875), and this indicates that the higher the self-efficacy leads to an increase in the perceived benefits and the relationship is not "significant, as the p-value (0.000) which is less than (0.05). A study conducted by (Khodaminasab et al., 2019) supported that the greater the self-

efficacy of the participants, the more detrimental to the increase in the perceived benefits to them and in a positive direction. There is a direct and significant correlation between (Benefit) and (Social support) as a function of the value of the correlation coefficient whose value appeared equal to (0.789), and this indicates that the higher the social support leads to an increase in the perceived benefits and the relationship is "not significant, as the p-value (0.000) which is less than (0.05). A study conducted by (Ingram et al., 2021) agreed with our study, as it indicated that there is a strong relationship between increasing social support, which in turn leads to an increase in the perceived benefits of the people participating in the study. Also, another study conducted by (Khodaveisi, Omidi, Farokhi, & Soltanian, 2017) confirmed our finding that there is a close relationship between social support and increased perceived benefits among research participants. There is a direct and significant correlation between (benefit) and (activity related affect) as a function of the value of the coefficient 2. The correlation whose value appeared equal to (0.843), and this indicates that the higher the activity related affect leads to an increase in the perceived benefits and the relationship is "not significant, as the p-value (0.000) which is less than (0.05)". And that the benefits have a stronger influence than the self-efficacy dimension through the relative change test, so this was in a positive direction.

CONCLUSION

The study concluded that the assessment through pender's Model showed a positive effect on many health behaviors that affect eating behavior, including perceived benefit, self_efficacy, activity

related effect, and supporting family and friends to control hypertension.

REFERENCE

- 1 Zhang, R. M., McNerney, K. P., Riek, A. E., & Bernal-Mizrachi, C. (2020). Immunity and Hypertension. *Acta Physiologica*, 231(1). <https://doi.org/10.1111/apha.13487>
- 2 Gorbani, F., Mahmoodi, H., Sarbakhsh, P., & Shaghghi, A. (2020). Predictive Performance of Pender's Health Promotion Model for Hypertension Control in Iranian Patients. *Vascular Health and Risk Management*, Volume 16, 299–305. <https://doi.org/10.2147/vhrm.s258458>.
- 3 Nasir Muwfaq Younis ,Mahmoud Mohammed Ahmed, and Ahmed Ali Hussein.Nurses' knowledge, attitude and practice towards preparedness of disaster management in emergency of mosul teaching hospitals. *Medico-Legal Update*, 2020, 20(3), pp. 775–779
- 4 Pender, N. J., Murdaugh, C. L., & Mary Ann Parsons. (2014). *Health promotion in nursing practice*. Harlow: Pearson Education.
- 5 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. <http://dx.doi.org/10.21931/RB/2022.07.02.35>
- 6 Shatha Abdul Rahman H. Al-Ghurairi, Nasir Muwfaq Younis , Mahmoud Mohammed Ahmed.Prevalence of weight gain among students of Mosul University, Iraq during quarantine 2020. *Rawal Medical Journal*: 2022. Vol. 47, No. 3.
- 7 Axon, R. N., Turner, M., & Buckley, R. (2015). An Update on Inpatient Hypertension Management. *Current Cardiology Reports*, 17(11). <https://doi.org/10.1007/s11886-015-0648-y>
- 8 Mahmoud Mohammed Ahmed, Nasir Muwfaq Younis and Ahmed Ali Hussein. 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), pp. 421–424
- 9 World Health Organization. (2019, May 16). Hypertension. Retrieved from Who.int website: <https://www.who.int/news-room/fact-sheets/detail/hypertension>
- 10 Williams, B., Mancia, G., Spiering, W., Agabiti Rosei, E., Azizi, M., Burnier, M., Lip, G. Y. H. (2018). 2018 Practice Guidelines for the management of arterial hypertension of the European Society of Cardiology and the European Society of Hypertension. *Journal of Hypertension*, 36(12), 2284–2309. <https://doi.org/10.1097/hjh.0000000000001961>
- 11 Vallée, A., Gabet, A., Deschamps, V., Blacher, J., & Olié, V. (2019). Relationship between Nutrition and Alcohol Consumption with Blood Pressure: The ESTEBAN Survey. *Nutrients*, 11(6), 1433. <https://doi.org/10.3390/nu11061433>
- 12 Najji AB, Ahmed MM, Younis NM. Adherence the Preventive Measure Against for COVID-19among Teachers at University of Mosul. In *J Med Tox Leg Med* 2021;24(3&4).
- 13 Nasir Muwfaq Younis,Mahmoud Mohammed Ahmed and Nawaf Mohammed Dahir. Prevalence of Covoravirus among Healthcare Workers. *International Journal of Medical Toxicolgy&Legal Medicine*.Volume 24,Nos.1-2,jan-jaune 2021.
- 14 Aziz Kamran, Gholamreza Sharifirad, Heshmatolah Heydari, Elham Sharifian. (2021). The Effect of Theory Based Nutritional Education on Fat Intake, Weight and Blood Lipids. Retrieved November 5, 2021, from Ephysician.ir website: <http://www.ephysician.ir/index.php/browse-issues/2016/12/530-3333>
- 15 Muwfaq YN, Ahmed MM, Abdulsalam RR. Assessing Quality of Life in Palliative Care. *Bahrain Medical Bulletin* 2021;43(3):594-6.
- 16 Mahmood Mohammed Ahmed, Nasir Muwfaq Younis, Nawaf Mohammed Dahir, Kareem Nasir Hussain. Acceptance of Covid-19 vaccine among nursing students of Mosul University, Iraq. *Rawal Medical Journal*: Apr-Jun 2022. Vol. 47, No. 2,pp:254_258.
- 17 Kawamura, A., Kajiya, K., Kishi, H., Inagaki, J., Mitarai, M., Oda, H., ... Kobayashi, S. (2016). Effects of the DASH-JUMP dietary intervention in Japanese participants with high-normal blood pressure and stage 1 hypertension: an open-label single-arm trial. *Hypertension Research*, 39(11), 777–785. <https://doi.org/10.1038/hr.2016.76>
- 18 Ahmed MM, Younis NM, Hussein AA. Violence towards nurses staff at teaching hospitals in Mosul City. *Indian J. Forensic Med. Toxicol* 2020;14(3):2598-603.
- 19 Al-Mahmood Asia Abed, Al-Mahmood Sumayah, Al-Mahmood Abid Ahmad Salman, Al-Sharifi Ehan Abdulhadi. The knowledge of medical and dental college students about covid-19 in Baghdad, Iraq. In *J Med Tox Leg Med* 2021;24(3&4).pp:263_266.
- 20 NASIR MUWFAQ YOUNIS, MAHMOUD MOHAMMED AHMED, NAWAF MOHAMMED DHAHIR. Knowledge and Attitude toward older adults among Nursing Students .2021.P J M H S Vol. 15, NO. 3,pp:683_685.
- 21 Younis NM, Mahmoud M, Ahmed A, et al. University Students' Attitude Towards E-Learning. *Bahrain Medical Bulletin* 2021;43(2):460-2.
- 22 Khodaveisi, M., Omid, A., Farokhi, S., & Soltanian, A. R. (2017). The Effect of Pender's Health Promotion Model in Improving the Nutritional Behavior of Overweight and Obese Women. *International Journal of Community Based Nursing and Midwifery*, 5(2), 165–174. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5385239/>
- 23 Ahmed Salem Abbas , Nasir Muwfaq Younis.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.
- 24 Qassim, M., & Najji, A. (2019). Efficacy of Health Belief Model in Enhancing Weight Loss Behaviors to Prevent Stroke among Overweight and Obese Geriatrics Homes Residents in Baghdad City. 9, 1-8.
- 25 Al-Ghuzi, A. A. S., & Al-Asadi, J. N. (2014). Prevalence and socio-demographic determinants of hypertension in Thi-Qar Governorate: a household survey. *Am J Adv Drug Deliv*, 2(6), 802-815