

Assessment of Foot-care Practices among Women with Type II Diabetes Mellitus

Zahraa Fares Kamel¹, Wissam Jabar Qasim²

¹Academic Nurse, Ministry of Health/ Diwaniyah Health Directorate, Iraq, ²PhD. Prof., Community Health Nursing Department/ College of Nursing University of Baghdad, Iraq.

Abstract

This study aimed to assess foot care among women with Type II DM in the light of sociodemographic characteristics. A descriptive cross-sectional study conducted at the Diabetes and Endocrinology Center in Al-Diwaniyah City for the period from October 1st, 2022 to March 1st, 2023. The women with type II DM consisted of 200 women who were selected according to the non-probability (purposive) sampling method. The questionnaire was validated by experts and its reliability was validated by a pilot study. The total number of items included in the questionnaire was 9 items for assess foot-care practices. Data were collected through interviews and analyzed by applying descriptive and inferential statistical analysis. The results indicated that the average age of the respondents is 51 years, (40.5%) have insufficient monthly income, (60.5%) are urban residents, (60%) are married, (26.5%) are illiterate and (50%) are housewives. More than half (52%) of the study women with type II DM were found to engage in self-management behaviors in terms of foot care at an good level. There were statistically significant differences in foot-care practices among women according to monthly income and educational level. The results of the current study showed significantly good foot-care practices and differs according to education level and monthly income. Awareness programs for patients with diabetes who have low educational levels and monthly income are recommended in clinical practice to enhance foot-care practices.

Key-wards: Foot-care Practices, Women, Type II DM.

INTRODUCTION

Diabetes is a chronic metabolic condition that affects people all over the world. Its complications can be treated and prevented. It ranks among the top ten causes of outpatient visits in Iraq [1]. However in 2011, estimates put its frequency at 7.8% [2]. Iraqis' growing urbanization, obesity, and inadequate physical activity may all be contributing factors to this rise in mortality. Diabetic foot issues are among the most significant consequences that cause a large cost morbidity on a global scale when diabetes is not properly managed and treated [3]. Diabetic foot issues were prevalent in type II diabetes individuals in Iraq [4]. The prevention of the aforementioned foot issues depends on patient education on adequate foot care procedures [3], as these complications raise diabetic patients' risk for amputation

METHODS

The descriptive cross-sectional study design technique was adopted by standard questioning individuals of the study population with the sole purpose of describing the examined phenomena in terms of its nature and degree of presence was conducted during the period from October 1st 2022 to April 1st 2023. The study was conducted at Diabetes and Endocrinology Center in Diwaniyah City. It is one of the health institutions affiliated to the Diwaniyah Health Directorate. a non-probability (purposive) sample of (200) women with Type II Diabetes Mellitus who attend Diabetes and Endocrinology Center in Diwaniyah was chosen based on a set of criteria include: 1)Women who are diagnosed with Type II Diabetes Mellitus, 2) who are different level of education, 3)who are different age groups and 4) volunteer to participate in the study after his consent.

This questionnaire consists of socio-demographic characteristics include women age, monthly income, residents, marital status, education level, occupation,

by 12.3 times compared to the general population [5]. Thus, the goal of foot care education and awareness is to keep them under control [5]. Thus, the goal of foot care education and awareness is to keep them under control [6]. Preventive foot care procedures, such as yearly foot examinations by medical professionals, can significantly lessen the incidence of lower extremity amputation [7]. Wherever in the globe, diabetic foot should be managed by a skilled multidisciplinary team due to the fact that foot problems can consume up to 40% of total resources and can be improved by proper foot care practices [8]. Therefore, this study aimed to assess foot-care practices among women with Type II DM and investigate the differences according to socio-demographic characteristics.

duration of Type II Diabetes Mellitus, presence of chronic comorbidities. A total of (9) items of foot-care practices measured on 3-level type of Likert Scale (0=Never, 1=Sometime and 2=Always). Accordingly, points can be taken range from 0-18. The higher average defined as good foot-care practices. The questionnaire was validated by experts and then its reliability was verified through a pilot study The Cronbach-alpha value in current was 0.82 which indicate the higher reliability.

The researcher interviewee the women with type II DM, explained the instructions, answered their questions regarding the form, urged them to participate and thanked them for the cooperation. The interview techniques was used on individual bases, and each interview (15-20) minutes after taking the important steps that must be included in the study design.

The IBM SPSS 20.0 program was used for all the analyses that follow. Numbers and percentages (No. and %) were used to categorize the variables, while the mean and standard deviation were used to characterize

the continuous variables (mean and SD). ANOVA-test to determine the significant differences. Statistical **RESULTS**

Table 1, results indicate that the average age of the respondents is 51 years, (40.5%) were insufficient income, (60.5%) residents in urban areas, (60%) were married, (26.5%) illiterate and (50%) housewife.

In terms of statistical mean, table (2) demonstrated that the women with Type II Diabetes Mellitus expressed a good responses to self-management in terms of foot care as indicated by low mean scores ($M.s \geq 1.34$) at all studied items of the scale except, foot care in terms of

significance was defined as a two-tailed $p .05$.

(It is not difficult for you to dry your feet after showering, Your feet get dried every time they get wet, Wear appropriate shoes according to the season and I massage my feet daily), the responses were faire as indicated by moderate mean scores ($M.s = .66-1.33$) (Fig. 1).

The analysis of variance showed that there were statistically significant differences in foot-care practices women with respect to monthly income ($p=.000$) and education level ($p=.000$) (table 3).

Table 1
Socio-Demographic Characteristics

SDVs	Classification	No.	%
Age /years 51 ± 11.553	<30 years old	10	5.0
	30-39 years old	27	13.5
	40-49 years old	33	16.5
	50-59 years old	61	30.5
	60 and older	69	34.5
Monthly Income	Enough	50	25.0
	Certain limit enough	69	34.5
	Not enough	81	40.5
Residents	Urban	121	60.5
	Rural	79	39.5
Marital status	Single	19	9.5
	Married	120	60.0
	Separated	15	7.5
	Divorced	14	7.0
	Widower	32	16.0
Education level	Illiterate	53	26.5
	Read & write	28	14.0
	Elementary	42	21.0
	Middle school	17	8.5
	Secondary school	41	20.5
	College and above	19	9.5
Occupation	Housewife	100	50.0
	Government employ	57	28.5
	Privet sector employ	23	11.5
	Free business	7	3.5
	Retired	13	6.5

No= Number; %= Percentage

Table 2
Self-management related to Foot Care

List	Foot-care Items	Responses	No.	%	M.s	Ass.
1	Generally check your feet yourself	Never	21	10.5	1.60	Good
		Sometime	39	19.5		
		Always	140	70.0		
2	Check your nails	Never	29	14.5	1.63	Good
		Sometime	17	8.5		
		Always	154	77.0		
3	It is not difficult for you to dry your feet after showering	Never	62	31.0	1.28	Fair
		Sometime	21	10.5		
		Always	117	58.5		
4	Cut or treat your nails weekly	Never	30	15.0	1.60	Good

5	Your feet get dried every time they get wet	Sometime	21	10.5	1.20	Fair
		Always	149	74.5		
		Never	59	29.5		
6	I keep my feet warm	Sometime	42	21.0	1.49	Good
		Always	99	49.5		
		Never	41	20.5		
7	I follow up skin ulcers and dry patches with the doctor	Sometime	20	10.0	1.34	Good
		Always	139	69.5		
		Never	43	21.5		
8	Wear appropriate shoes according to the season	Sometime	47	23.5	1.27	Fair
		Always	110	55.0		
		Never	55	27.5		
9	I massage my feet daily	Sometime	37	18.5	1.05	Fair
		Always	108	54.0		
		Never	63	31.5		
		Sometime	64	32.0		
		Always	73	36.5		

Level of Assessment (Poor=0- .66; Fair=67-1.33; Good=1.34-2)

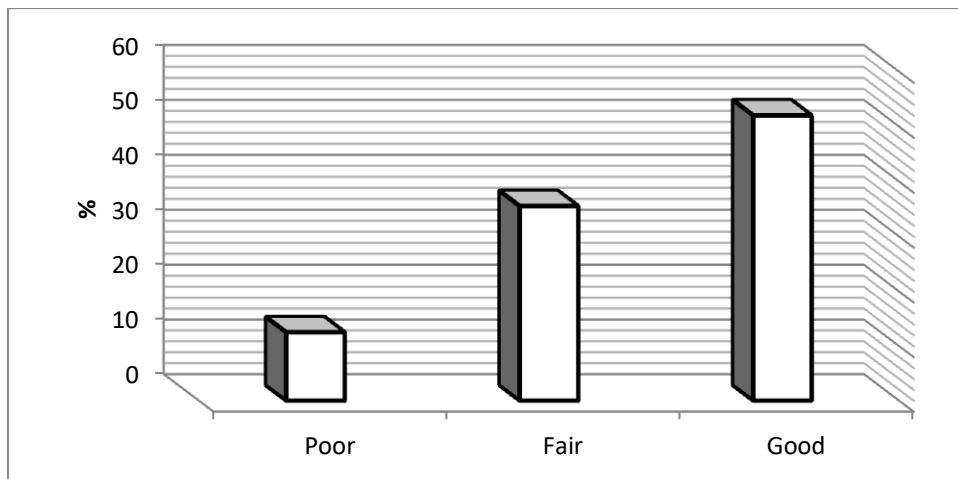


Fig.1. Foot-care Practices among Women with Type II DM

Table 3
Statistical Differences in Self-management of Type II DM with respect their Socio-Demographic Variables

Self-management	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	Sig.
Age	Between Groups	2.479	4	1.120	.769	.081
	Within Groups	47.138	195	.242		
	Total	55.618	199			
Monthly income	Between Groups	4.170	2	2.085	7.983	.000
	Within Groups	51.448	197	.261		
	Total	55.618	199			
Residents	Between Groups	1.031	4	.508	.930	.070
	Within Groups	49.586	195	.254		
	Total	55.618	199			
Marital status	Between Groups	8.262	5	1.652	.769	.120
	Within Groups	47.356	194	.244		
	Total	55.618	199			
Education level	Between Groups	8.262	5	1.652	6.769	.000
	Within Groups	47.356	194	.244		
	Total	55.618	199			
Occupation	Between Groups	2.798	4	.200	.161	.962
	Within Groups	46.819	195	.240		
	Total	55.618	199			

DISCUSSION

The women with type II DM is limited to women with Type II DM diagnoses, and the age range between 60 and 59 recorded the greatest prevalence rate (34.5%). These findings support those of a Baghdad study which found that the majority of chronic disease sufferers are in the older age bracket [9]. Diabetes is a chronic condition that typically affects older individuals [10]. Women with type II DM in the survey reported having insufficient monthly income (40.5%). These findings are in line with a study carried out in Hilla, Iraq, which found that the majority of diabetics did not have an adequate monthly income [11]. This is a bad outcome because diabetics need a large monthly income to pay for self-care. Comparing urban and rural residents, urban residents outnumbered rural ones by a margin of 60.5%. According to research from the Baghdad Diabetic Center, the majority of women with type II DM were from urban regions since there are facilities for people with diabetes mellitus in city centers [12]. Similarly, due to their high number, most rehabilitation facilities are located in city centers, and the majority of their patients come from urban areas [13]. Findings on marital status showed that 60% of the women with type II DM was already married. These results are consistent with those from Baqubah City, Iraq [14]. Given their older ages, it is typical to find that the majority of women with type II DM are married. Regarding education, the majority of Type II DM reported being illiterate and in elementary school. This findings consisting with findings from Karbala city, Iraq. The most of type II DM were informal educated due to mostly of them were women [15] In regard with occupation, half of women with type II DM were

CONCLUSIONS

The results of the current study showed significantly good foot-care practices and differs according to education level and monthly income. Awareness

REFERENCES

1. Abuyassin B, Laher I. Diabetes epidemic sweeping the Arab world. *World journal of diabetes*. 2016 Apr 4;7(8):165.
2. Yasso FS, Yaso SS, Yasso PS. Skin manifestations of diabetes mellitus among Iraqi patients. *Am J Med Stud*. 2013;1(3):32-7.
3. Qadi MA, Al Zahrani HA. Foot care knowledge and practice among diabetic patients attending primary health care centers in Jeddah City. *J King Abdulaziz Univ Med Sci*. 2011 Apr 1;98:1-34.
4. Alwan AH, Alhusuny A. Foot-Care Activities among Type II Diabetic Patients at Merjan Teaching Hospital, Al-Hilla City. *IOSR Journal of Dental and Medical Sciences*. 2014; 13 (9) 76. 2011;80.
5. Muhammad-Lutfi AR, Zaraiyah MR, Anuar-Ramdhan IM. Knowledge and practice of diabetic foot care in an in-patient setting at a tertiary medical center. *Malaysian Orthopaedic Journal*. 2014 Nov;8(3):22.

housewife (50%). This findings is supported by findings from Diwaniyah city [16]. This attributed to the education level are significant occupation, most of the women with type II DM are primary school graduates, and this does not qualify them to get a job [17].

Out of a total of 200 women, the women with type II DM expressed good self-management in regards to foot care (52%). When it comes to hygiene, the outcome is favorable because this is ascribed to the problem and is almost tied to personal hygiene. When combined with findings from Baquba city, these findings show that patient reactions to preventive foot care procedures were satisfactory, particularly in (self-foot care, daily foot washing, ensuring that shoe size before buying it) [18]. The proportions of these positive practicing responses were high, whereas majority of them reported that they personally depending on their selves to caring foot, this positive practice has shown in other studies [19-20]. Majority of diabetic patients reported that they always practicing foot washing daily, and this important practice has come in accordance with other studies [21-23].

The role of education and monthly income were significantly associated with overall foot care assessment in the present study; whereas a study conducted in Pakistan showed a significant association between education and general foot care practices [24-26], and another study conducted in Chamchamal District/ Iraq, they found there were a significant association between both diabetic patient's educational level and their monthly income with overall foot care practice assessment [27-30].

programs for patients with diabetes who have low educational levels and monthly income are recommended in clinical practice to enhance foot-care practices.

6. Radhi MM. Degree of Disease Acceptance and Health Seeking Behaviors for Type 2 Diabetic Patients at Diabetic Center in Hilla City. *Medico-Legal Update*. 2020 Apr 1;20(2).
7. Jinadasa CV, Jeewantha M. SP5-14 A study to determine the knowledge and practice of foot care in patients with chronic diabetic ulcers. *Journal of Epidemiology & Community Health*. 2011 Aug 1;65(Suppl 1):A449-.
8. Begum S. Knowledge and practice regarding prevention of foot ulcer among patients with Type II DM (Doctoral dissertation, Prince of Songkla University).
9. Khalifa MF. Impact of Psychological Distress in Women upon Coping with Breast Cancer. *Iraqi National Journal of Nursing Specialties*. 2022;35(1).
10. Chentli F, Azzoug S, Mahgoun S. Diabetes mellitus in elderly. *Indian journal of endocrinology and metabolism*. 2015 Nov;19(6):744.
11. Qassim WJ, Yasir AA, Radhi MM. Assessment of Self Hardness and its Relationship to Treatment Acceptance for Patients with Diabetes Mellitus at

- Diabetic Center in Hilla City/Iraq. *Journal of Pharmaceutical Sciences and Research*. 2018;10(1):142-5.
12. Abbas SQ, Al-Tukmagi HF, AL-Auqbi TF. Assessment of knowledge, attitude and practice in a sample of Iraqi type 2 diabetic patients. *Al-Qadisiyah Medical Journal*. 2016;12(21):100-6.
 13. Juma Elywy G, Radhi MM, Khyoosh Al-Eqabi QA. Social Support and Its Association With the Quality of Life (QoL) of Amputees. *Iranian Rehabilitation Journal*. 2022 Jun 10;20(2):253-60.
 14. Mohammed MY, Abdulwahed HS. Assessment of Health Follow up and Weight Control for Women with Osteoporosis in Baqubah City. *Iraqi National Journal of Nursing Specialties*. 2021;34(2):89-98.
 15. Khudhair SS, Ahmed SA. Type 2 Diabetic Patients' Knowledge Regarding Preventive Measures of Diabetic Foot. *Iraqi National Journal of Nursing Specialties*. 2022;35(2).
 16. Hermis AH, Abed RI. Effectiveness of Self-Regulation Fluid Program on Patients with Hemodialysis Self-Efficacy for Fluid Adherence in Al-Diwaniyah Teaching Hospital. *Iraqi National Journal of Nursing Specialties*. 2021;34(2):74-88.
 17. Mansur M, Khalifa M. Evaluation of Health Promotion Program for the Prevention of Epidemics at Primary Health Care Centers in Baghdad City: Comparative Study. *Iraqi National Journal of Nursing Specialties*. 2020 Sep 27;33(1):63-72.
 18. Noaman AA. Assessment of preventive foot care practices among patients with diabetes mellitus type II. *Journal of the Faculty of Medicine Baghdad*. 2017 Oct 1;59(3):244-8.
 19. Dikeukwu RA. The awareness and performance of appropriate foot self-care practices among diabetic patients attending Dr. Yusuf Dadoo Hospital. Gauteng Province, South Africa. 2012.
 20. Policarpo ND, Moura JR, Melo Júnior EB, Almeida PC, Macêdo SF, Silva AR. Knowledge, attitudes and practices for the prevention of diabetic foot. *Revista Gaucha de enfermagem*. 2014 Sep;35:36-42.
 21. Qadi MA, Al Zahrani HA. Foot care knowledge and practice among diabetic patients attending primary health care centers in Jeddah City. *J King Abdulaziz Univ Med Sci*. 2011 Apr 1;98:1-34.
 22. Muhammad-Lutfi AR, Zaraihah MR, Anuar-Ramdhan IM. Knowledge and practice of diabetic foot care in an in-patient setting at a tertiary medical center. *Malaysian Orthopaedic Journal*. 2014 Nov;8(3):22.
 23. Wazqar AA, Baatya MM, Lodhi FS, Khan AA. Assessment of knowledge and foot self-care practices among diabetes mellitus patients in a tertiary care centre in Makkah, Saudi Arabia: a cross-sectional analytical study. *Pan African Medical Journal*. 2021 Oct 29;40(1).
 24. Hasnain S, Sheikh NH. Knowledge and practices regarding foot care in diabetic patients visiting diabetic clinic in Jinnah Hospital, Lahore. *JPMA*. The journal of the Pakistan Medical Association. 2009 Oct 1;59(10):687.
 25. Mohammad HM, Lafi SY. Assessment of Patient's Knowledge and Practice Regarding their Diabetic Foot in Chamchamal District (AL-Slemani City). *Kufa Journal for Nursing Sciences*. 2016;6(2).
 26. Hussein ZK, Mohammed WK. Association between Enhancing Learning Needs and Demographic Characteristic of Patients with Myocardial Infarction. *Iraqi National Journal of Nursing Specialties*. 2022;35(2).
 27. Hamzah M, Talib M. Assessment of Health Care Quality through Clients' Perspectives at Outpatient Consultancy Clinics in Al-Hilla City Hospitals. *Iraqi National Journal of Nursing Specialties*. 2020;33(2):51-9.
 28. Abdul-hussain M. Effectiveness of an Instructional Program Concerning Non-Pharmacological Guideline on Controlling Essential Hypertension among Patients at AL-Sader Hospital in AL-Najaf AL-Ashraf City. *Iraqi National Journal of Nursing Specialties*. 2020 Sep 27;33(1):93-103.
 29. Mousa AM, Mansour K. Effectiveness of an Instructional Program Concerning Healthy Lifestyle on Patients' Attitudes after Percutaneous Coronary Intervention at Cardiac Centers in Baghdad City. *Iraqi National Journal of Nursing Specialties*. 2020 Sep 27;33(1):1-1.
 30. Mohammed MY, Abdulwahed HS. Assessment of Health Follow up and Weight Control for Women with Osteoporosis in Baqubah City. *Iraqi National Journal of Nursing Specialties*. 2021;34(2):89-98.
 31. Kadhim AJ, Khudur KM. Evaluation of Nurses' Intervention toward Oral Hygiene in Critical Care Unit Patient at Baghdad City. *Evaluation*. 2021;10(3).