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Assessment Knowledge about Diabetes Mellitus at Second Stage Students of the High Health Institution in Al-Najaf Al-Ashraf

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Abstract:

Background:- Diabetes mellitus called "silent killer disease" and studies have shown that diabetes is now one of the most serious health threatening diseases worldwide, it is now as one of the most difficult problems in the public health. It is a serious, chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. This disease is a disturbance in the metabolism of carbohydrate, fat, and protein that is caused by due to lose of insulin producing cells in the pancreas or decreased tissues sensitivity to insulin that results in increased level of glucose in the blood.

Methodology:-Descriptive study is carried out at High Health Institution in Al-Najaf Al-Ashraf, from November 14th, 2018 to March, 27th, 2019, in order to assess student's knowledge concerning diabetes mellitus in High Health Institution, and to find out the association between knowledge of students and their demographic characteristics.

Result:-The findings of the present study indicated that overall assessment of the second stage student's knowledge about diabetes mellitus at High Health Institution in Al-Najaf Al-Ashraf was moderate.

Conclusion:-The study concluded that there is a strong effect of the student's demographic data and student's knowledge about diabetes mellitus.

Recommendations:-The study recommended that reinforcement should be an intensive comprehensive wide population-based (national level) studies could be conducted to assess the factors, which affect the knowledge about diabetes mellitus, with suitable solutions for these factors to improve the level student's knowledge. Health education programs should be implemented to increase the student's knowledge about the importance of chronic disease and the possible solutions for this problem. Health oriented mass media approach should be employed to increase the health staff awareness about the policies that should be used to improve the knowledge about diabetes mellitus, establishment of special policies deal with the monitoring and managing the problems that are associated with the patients' suffering by diabetes mellitus. Health oriented mass media approach should be employed to increase population knowledge and awareness of diabetes mellitus and the importance of the patients management.

Key words: Assessment, Knowledge, Diabetes Mellitus, Second Stage Students of the High Health Institution.

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INTRODUCTION:

Diabetes mellitus (DM) affects all aspects of life for affected patients, from simple daily activities to desire to continue living healthily. Patients suffering from diabetes must changing their lifestyle, including adherence to the medication for illness and diet that contribute to maintaining low levels of glucose in the body as well as adherence to exercise. One part of patients adheres to the doctor's recommendations, medication and nutritional system and there is another part that does not adhere to diet and therapeutic regimes, this represents a negative or positive response to the disease (1).

Diabetes mellitus is a one of metabolic diseases whose represent is an increase in the blood glucose level in the body. It is one of the most common diseases, lead to mortality and morbidity in the worldwide. Patients with diabetes suffering from some complications that are not only due to high blood glucose. Research has shown that there are other factors involved in the development of these complications, these factors include high blood pressure and lipid control (2).

METHODOLOGY

Descriptive study approach was carried out in order to meet previously mentioned objectives. The study period was from November, 14th, 2018 to March, 27th, 2019. The study was conducted in High Health Institution of Al Najaf Al-Ashraf. A Non-Probability (Purposive Sample) of (75) student of the High Health Institution in Al Najaf Al-Ashraf, those who second stage students was included in the study sample. Process of data collection has been administered from January, 7th to 10th 2019. Everysample takes off approximately (10-20) minute to complete the data collection.

The statistical data analysis approaches was used in order to analyze the data of the study under application of the statistical package (SPSS) ver. (20), and the Microsoft excel (2010). Data were presented using descriptive the in from of frequencies and Percentages. Summary Statistics tables including: Mean, Mean of scores (M.S), standard deviation (SD). Relative sufficiency (R.S): used to assess student's knowledge concerning diabetes mellitus by two grades (good, poor).Person's correlation coefficient: was used to estimate the scale reliability through the application. Chi-square test: used to find out the association between student's knowledge and their demographic data.

RESULTS

Table 1: Demographic Characteristic of the Study Sample:-

Demographic Data	Groups	Frequency	Percent
Age Groups/ years	18 - 24	61	81.3
	25 - 31	11	14.7
	32 - 38	3	4.0
	Total	75	100.0
	Mean ± SD		21.88 ± 3.66
Gender	Male	45	60.0
	Female	30	40.0
	Total	75	100.0
Department	Anesthesia	38	50.7
	Nursing	19	25.3
	First aides	11	14.7
	Midwifery	7	9.3
	Total	75	100.0
Residence	Urban	67	89.3
	Rural	8	10.7
	Total	75	100.0
Marital status	Single	66	88.0
	Married	8	10.7
	Widowed	1	1.3
	Total	75	100.0
Monthly income	Sufficient	32	42.7
	Barely sufficient	28	37.3
	Insufficient	15	20.0
	Total	75	100.0

This table shows that the majority of the study sample was age group within the (18 - 24) years (81.3%). Concerning gender, the majority of the study sample was male (60.0%).Concerning Department, the study showed that more half of participants from anesthesia department (50.7%). Moreover (89.3%) of them were living residential urban area. Regarding marital status, most of them was single (88.0%). Regarding the monthly income, the results showed that most of them are sufficient income (42.7%).

Table 2: Overall Assessment of Second Stage Students Knowledge about Diabetes Mellitus:

Groups	Rating	Freq.	Perc. %	M.S	S.D	Chi-Square				Asse.
						χ^2	d.f	P-value	Sig.	
Definition, and Causes Domain	Good	45	60.0	1.60	049	1.000	1	0.000	H.S	Good
	Poor	30	40.0							
Clinical Manifestations Domain	Good	15	20.0	1.20	0.40	2.270	1	1.270	N.S	Poor
	Poor	60	80.0							
Investigation Domain	Good	25	33.3	1.33	0.47	1.040	1	0.040	S	Fair
	Poor	50	66.7							
Treatment and nursing care Domain	Good	43	57.3	1.57	0.97	1.011	1	0.022	H.S	Fair
	Poor	32	42.7							
Complications Domain	Good	45	60.0	1.60	0.93	1.001	1	0.001	H.S	Good
	Poor	30	40.0							
Diabetic foot care Domain	Good	38	50.7	1.50	0.50	1.020	1	0.020	S	Fair
	Poor	37	49.3							
Overall Assessment	Good	25	33.3	2.34	0.47	1.030	1	0.030	S	Fair
	Fair	38	50.7							

Domain	Poor	12	16.0							

This table showed that overall assessment of the second stage students knowledge about diabetes mellitus was fair.

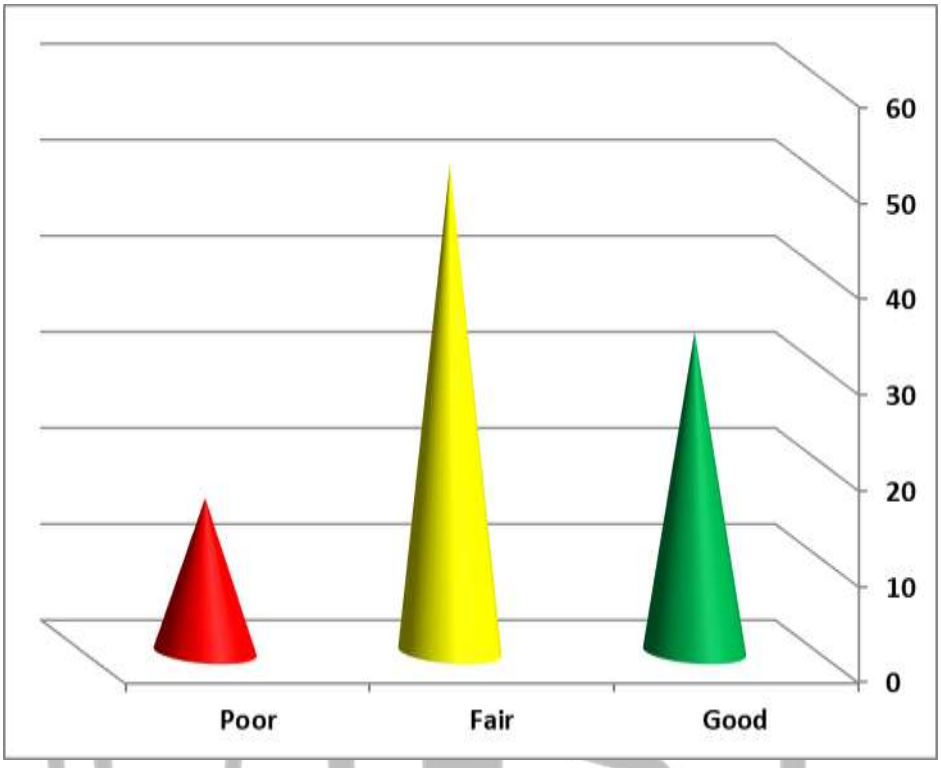

Figure (1) Distribution of the study samples by their overall assessment of the second stage students knowledge about diabetes mellitus.

Table 3: Association between the Sample Demographical Data with their Overall Assessment of the Second Stage Students Knowledge about Diabetes Mellitus:

Demographic characteristics	Rating	Overall patients' Commitment			Chi-Square			
		Poor	Fair	Good	χ^2	d.f	P-value	Sig.
Age	18 - 24	9	20	31	63.601	4	0.000	H.S
	25 - 31	2	4	5				
	32 - 38	1	1	2				
Gender	Male	5	19	21	4.702	2	0.095	N.S
	Female	7	6	17				
Department	Anesthesia	19	13	6	124.773	6	0.000	H.S
	Nursing	9	6	3				
	First aides	6	4	2				
	Midwifery	4	2	1				
Residency	Urban	10	22	35	0.806	2	0.683	N.S
	Rural	2	3	3				
Marital status	Single	11	20	35	4.390	4	0.532	N.S
	Married	1	5	2				
	Widowed	0	0	1				
Monthly income	Sufficient	4	14	14	3.259	4	0.036	S
	Barely sufficient	6	7	15				

	Insufficient	**2**	**4**	**9**				

This table showed that there was a high significant association between the overall assessments of the second stage student's knowledge about diabetes mellitus with their (age and department). moreover no-significant association with their (gender, residency, and marital status).

DISCUSSION:

According to age groups, the high percent (81.3%) of them within age group (18 - 24) years. This result is agreement with (ArulKumaran, et al, 2010); (Palanisamy, et al, 2013) who mentions that (24) years old were dominant age [(3),(4).]. Regarding to gender, more than half (45) from them was male. Concerning the marital status, the most of them were single, this result is agree with (Atalla, 2016); (Alwan, et al, 2014) they indicate that the highest percentage was single students [(5), (6).] In addition, it is clear that the students in the same age were often single when compared with those with early age groups. Those students were part of the populations often age early, as compared with other people from other cultures.

The majority of the residency from the study sample was urban; there were few data with the knowledge score of students from urban back ground was significantly better than their rural counter parts. The results of this current study showed that almost all the sample dwelling at urban housing area, the sample living at urban area. This result comes along with whose results indicate that the majority of the studies subjects were reside in big cities rather than the countryside (Panigrahi, et al, 2017) [(7)]. Also It is mostly attributed to better access to information among urban residents. Significant positive relationships between knowledge level and education, working status and the income were noticed. Similar findings reported in UAE where knowledge improved with increase in the level of education and socioeconomic status (El-Khawaga, et al, 2015) [(8)].

Regarding the study subjects gender, the results indicate, that the high percentages of the study sample were males. Current study result is in consisting with (Iswarya, et al, 2014); (Foma, et al, 2013); [(9), (10)] all of them mentioned that the male is the dominant gender for that study showed that subjects' knowledge was unsatisfactory and that age, gender, years of education, cognitive function, treatment time and depression level interfere in knowledge about the disease. Male and female emphasize different aspects of their life when evaluating their knowledge level of students .

Concerning the department, the higher percentages were for those who are anesthesia department. This result agreed with (Lopez, et al, 2014); (Santhanakrishnan, et al, 2014) [(11), (12)]; all of them find that the majority of the study subjects were at anesthesia department.

Regarding monthly income, the high percentages the Sufficient followed by the barely sufficient. These finding may explain that most of the students were in advanced age prefers to work in their houses because of the needs and living status, and supported with (Desalu, et al, 2011) indicate that the highest percentages are for sufficient of the monthly income [13].

In regarding to the definition, and causes, the finding of this study indicated that the higher percentages of the student's responses were good. This result was supported with the (Rodrigues, et al, 2012) their studies indicated that the high percentages of their study sample were causes diabetes mellitus [1]. Regarding to the clinical manifestations, the finding of this study indicated that the higher percentages of the student's responses were poor. (Saxena, et al, 2016) mentioned the study was directed towards the assessment of the knowledge, attitude and practice regarding the clinical manifestations and management of diabetes mellitus [14]. As far as clinical manifestations are considered, polyuria, polydipsia and polyphagia are the three cardinal features of diabetes.

Relative to the Investigation, the higher percentage is for those who are poor. This study is a replication of their investigation. The findings of this study indicated the Critical Access Hospital nurses had a mean score of 74.41 percent. This score was 10 percentage points higher than the mean score of 64 percent discovered by(Al Wadani, 2013) [15].

Concerning the treatment and nursing care, the higher percentage is for those who are good. (Policarpoa, 2014) [16] stated the questionnaire contained items to assess social, economic and clinical profiles, family history of DM2, years of conviviality with the pathology, drug and non-drug treatment, and questions related to knowledge of measures to prevent diabetic foot, attitudes to prevent it and self-care practices of the person with this disease. More over the complications, the higher percentage is for that the student's responses were good, and diabetic foot care this means that the student's responses were good. (Flora, et al, 2016) Mentioned most adolescents showed a good level of knowledge in the following dimensions: acute and chronic complications of the disease[17].

Relative to the diabetic foot care, the higher percentage is that the student's responses were good. (Chinnappan, et al, 2017) Mentioned the majority of the respondents that a foot problem was the most common complications of diabetes [18]. This result was supported with the (Ding, et al, 2010) sedentary lifestyle changes and proper foot care [19]. Such education, if integrated into the structured diabetic care in the primary care setting, results in improved patient's disease knowledge and self-care behavior. Also, (Mohammed, et al, 2013); (Surendranath, et al, 2012) mentioned that medical care staff, in common, along with physicians, specifically, occupy positions involving enormous influence in assisting sufferers to take positive knowledge actions as a way to reduce their possibility involving diabetes mellitus [20] [21]. Furthermore, this

provides further knowledge for student's to take information and recommended simply by physicians about diabetic foot care. (Bhushanam, et al, 2013); (Kanwal, et al, 2015) the above findings are supported by a study conducted to assess the improving Foot Self-Care Behaviors [22] [23]. intervention designed to improve diabetes self-efficacy and foot self-care behaviors in adult patients with diabetes, performed more-complete foot self -care one month later in their homes.

The study results show that the final assessment of the second stage student's knowledge about diabetes mellitus domains, and the overall assessment of the second stage student's knowledge about diabetes mellitus are fair. These results are supported with the (Kassahun, et al, 2010) whose study results indicate that the knowledgeable in diabetes mellitus definition ' (54.5%) [24]. Also the WHO reports that student's knowledge to diabetes mellitus is a major and an important issue worldwide, and the knowledge among student's with chronic diseases is an important thing that all the health staff must be focused on (Aguiree, et al, 2013) [25]. The (WHO) the top ten causes of death and has published that 50% is the average of knowledge in a focused health care setting and course Information for knowledge about diabetes mellitus [26]. Necessary for proper management of diet for diabetic patients and this level was reached by only 26% of nursing personnel. Another study indicated deficit in senior nursing students knowledge about diabetes mellitus in which they considered a student to be eligible to teach diabetic patients if she could answer all the questions correctly and there was no one who could answer all the questions correctly (Odili, et al, 2011); [27].

The researcher stated; these results may be due to the student's knowledge responses to the centered factors. They indicate that the student's have a positive attitude toward the knowledge regarding diabetes mellitus. In addition, their responses indicate that the student's prescriber have been given to good information, good communication and good relationship between those student's and the health care providers. They affected positively on the overall assessment for the student's knowledge regarding diabetes mellitus. The study results show that there are high significant relations of the patients' age, and department' for the student's knowledge regarding diabetes mellitus, significant effects are at the monthly income, and there are no significant effects due to their gender, residency, and marital status.

These study results are supported with the (Qurieshi, et al, 2016) the results of their study indicate that there is a high significant effect of the patients' age on their student's knowledge regarding diabetes mellitus provided by the health care provider [28]. (Nathan, et al, 2009) Find that there is a significant effect of the patients' level of education, monthly income, on their student's knowledge regarding diabetes mellitus [29]. (Al-asmary, et al, 2013) Find that there is a non significant effect of the patients' gender, residency, and marital status on their student's

knowledge [30]. (George, et al, 2013) find that there is a non significant effect of the patients' gender and the marital status and monthly income on the patients' student's knowledge regarding diabetes mellitus [31]. They also find that there is a non significant effected of the patients' age and there information about the student's knowledge regarding diabetes mellitus. (Behra, et al, 2013) stated that the age is major a factor which effect student's knowledge regarding diabetes mellitus, as well as for the effect of the residency on the student's knowledge [32]. There are many studies to find that the cultural differences between groups will affect their knowledge, actually that there is an observed cultural differences between the rural and the urban residents, additionally there is an effect on their knowledge.

REFERENCES

1. Rodrigues, F. F. L; Santos, M. A; Teixeira, Jefferson C. R. S; Gonela, T; Zanetti, M. L; Relationship between knowledge, attitude, education and duration of disease in individuals with diabetes mellitus, Brazil, *Nursing and Midwifery Research Journal*, 2012; **25(2)** p.: 285.
2. Chinnappan, S; Sivanandy, P; Sagaran, R; Molugulu, N; Assessment of Knowledge of Diabetes Mellitus in the Urban Areas of Klang District, Malaysia, *Pharmacy journal*, 2017, **5(11)** p.: 21.
3. ArulKumaran, K.S.G.; Palanisamy, S.; Rajasekaran, A; Development and Implementation of Patient Information Leaflets in Diabetes Mellitus, *Pharmacy journal*, 2010, **(1)**, p.p. 85–89.
4. Palanisamy, S; ArulKumaran, K.S.G; Rajasekaran, A; Knowledge assessment in adverse drug reactions and reporting. *Pharmacy journal*, 2013, **(4)**, p.p. 104–119.
5. Atalla, H. R. A; Effectiveness of Nursing Intervention Regarding Self Insulin Administration among Diabetic Patients, *Clinical Nursing Studies*, 2016, **4(2)**, p.: 59.
6. Alwan, A; Alhusuny, A; Knowledge and Practice about Diabetic Mellitus and Insulin Injection Technique among Nurses in general hospitals, Al-Hillah City, *Dental and Medical Sciences Journal*, 2014; **13(9)**,28-32.
7. Panigrahi, S; Sahu, Rama. K; Jali, S. N; Rath, B; Pati, S. R; Kerketta, M; Knowledge, Attitude and Practice Regarding Diabetic Retinopathy among Medical and Nursing Students of a Tertiary Care Teaching Hospital of Odisha: A Cross Sectional Study. *Dental and Medical Sciences Journal*, 2017, **16(8)**, p.: 5
8. El-Khawaga, G; Abdel-Wahab, F; Knowledge, Attitudes, Practice and Compliance of Diabetic Patients in Dakahlia, Egypt, *European Journal of Research in Medical Sciences*, 2015, **3(1)**, p.p.45 – 50.
9. Iswarya, S; Subitha, L; Sitanshu, S. K; Factors affecting compliance to management of diabetes in Urban Health Center of a tertiary care teaching hospital of south India, *international Multidisciplinary Research Journal*, 2014, **5(2)**, p.p. 365 - 368.
10. Foma, M. A; Saidu, Y; Akinwale, S; Awareness of diabetes mellitus among diabetic patients in

the Gambia: a strong case for health education and promotion. School of Medicine and Allied Health Sciences, University of the Gambia, Banjul, the Gambia, West Africa. Medical Research Council, The Gambia Unit, Fajara, The Gambia, West Africa. *BMC Public Health*; 2013, **(13)**, p.: 1124.

11. Lopez, J. M; Annunziata, K, Bailey. R. A; Impact of hypoglycemia on patients with type 2 diabetes mellitus and their quality of life, work productivity, and medication adherence, *Patient Prefer Adherence*, 2014, **(8)**, p.p. 683–692.
12. Santhanakrishnan, I; Lakshminarayanan, S; Sekhar, K. S; Factors affecting compliance to management of diabetes in Urban Health Center of a tertiary care teaching hospital of south India. *J Nat Sci Biol Med*, 2014, **5(2)**, p.p. 365–368.
13. Desalu, O. O; Salawu, F. K; Jimoh, A. K; diabetic foot care, self-reported knowledge and practice among patients attending three tertiary hospital in Nigeria, *Ghana Medical Journal*, 2011, **45(2)**, p.: 65.
14. Saxena, K; Sharma, M. L; Vijay, B; Dhillon, M; Knowledge, Attitude and Practice assessment of dental professionals towards diabetes: a cross sectional study, *Journal Dent Specialties*, 2016, **4(2)**, p.p. 113-118.
15. Al Wadani, F. A; The knowledge,attitude and practice regarding diabetes and diabetic retinopathy among the final year medical students of King Faisal University Medical College of Al Hasa region of Saudi Arabia: A cross sectional survey, *Nigerian Journal of Clinical Practice*, 2013, **16(9)**, p.p. 164-168.
16. Policarpoa, N. S; Moura, J. R. A; Junior, E. B. M; Paulo, C. A; Macedo, S. F; Silva, A. R. V; Knowledge, attitudes and practices for the prevention of diabetic foot, Rev Gaúcha Enferm, 2014, 35(3), p.p. 36-42.
17. Flora, M. C; Gameiro Manuel Gonçalves Henriques; Self-Care of Adolescents with Type 1 Diabetes Mellitus: Knowledge about the Disease, *Journal of Nursing Referencia*, 2016, **1(8)**, p.p. 17 – 26.
18. Chinnappan, S; Sivanandy, P; Sagaran, R; Molugulu, N; Assessment of Knowledge of Diabetes Mellitus in the Urban Areas of Klang District, *Malaysia*, *Pharmacy journal*, 2017, **5(11)** p.: 21.
19. Ding, C. H; Teng, C. L; Koh, C. N; Knowledge of Diabetes Mellitus among Diabetic and Non-Diabetic Patientsin Klinik Kesihatan Seremban, *Medical Journal Malaysia*, 2010, **61(4)**, p.p. 399 – 404.
20. Mohammed, F; Puranik, D. S; Nagaraju, B; Patan, F; Ahmed, N; Buden, R. P; Studies on Hypoglycemic Effect of Morinda citrifolia Fruit Juice: *International Journal Biopharm*, 2013, **2(1)**, p.p. 84-92.
21. Surendranath, A; Nagaraju, B; Padmavathi, G. V; Anand, S. C, Patan, F, Balachandra, G; A

Study to Assess the Knowledge and Practice of Insulin Self Administration among Patients with Diabetes Mellitus, *Asian Journal Pharm*, **5(1)**, 2012, p.p. 63-66.

22. Bhushanam, Y. C; Ravi, C. M; Nagaraju, K; Shekar, H. S; Nagaraju, B; Padmavathi, G. V; A Study to Assess the Effectiveness of Structured Teaching Programme on Prevention of Microvascular and Macrovascular Complications Among Patients with Diabetes Mellitus in Selected Hospitals at Bangalore, *Journal of Applied Pharmacy*, 2013, **1(5)**, p.p. 445 – 447.
23. Kanwal. S; Malik, T. A; Noman, M; Arsalan, R; Riaz, M; Abd-ur-Rehman, H; Bilal Shah, S. M; A Cross-sectional Study Assessing Knowledge Attitude and Practice of Diabetic Patients at Tertiary Care Hospitals of Twin of Pakistan, *Journal of Applied Pharmacy*, 2015, **8(1)**, p.p. 4 – 5.
24. Kassahun, C. W; Mekonen, A. G; Knowledge, attitude, practices and their associated factors towards diabetes mellitus among non diabetes community members of Bale Zone administrative towns, South East Ethiopia. Across-sectional study, 2016, *plos one journal*, **10(137)**, p.p. 4 – 18.
25. Aguiree, F; Brown, A; Cho, N. H; Dahlquist, G; Dodd, S; Dunning, T; International diabetes foundation, diabetes Atlas, sixth edition International Diabetes Federation, 2013, p.: 155.
26. World Health Organization (2013) the Top Ten Causes of Death.
27. Odili; V. U; Isiboge, P. D; Eregie, A; Patients' Knowledge of Diabetes Mellitus in a Nigerian City, *Journal of Pharmaceutical Research*, 2011, **10(5)**, p.p. 637-642.
28. Qurieshi, M. A; Ganesh, R; Leelamoni, K; Kurian, B; A community based study on knowledge of diabetes mellitus among adults in a rural population of Kerala, *Journal of Pharmaceutical Research*, 2016, **5(10)**, p.p. 2075 – 2076.
29. Nathan, D. M; Buse, J. B; Davidson, M. B; Medical management of hyperglycemia in type 2 diabetes: A consensus algorithm for the initiation and adjustment of therapy: A consensus statement from the American Diabetes Association and the European Association for the Study of Diabetes, *Journal of Diabetes Care*, 2009, **32(1)**, p.p. 193–195.
30. Al-asmary, A. S; Mostafa; O. A; Alkhaldi, Y. M; Diabetic Patients' Knowledge and Practice Regarding Prevention of Diabetic Foot, *Medical Journal*, 2013, **1(81)**, p.p. 197-205.
31. George, H; Rakesh, P. S; Krishna, M; Alex, R; Abraham, V. J; George, K; Jasmin, H. P; Foot care knowledge and practices and the prevalence of peripheral neuropathy among people with diabetes attending a secondary care rural hospital in southern India), *Family Med Prim Care Journal*, 2013, **2 (1)** p.p. 27– 32.
32. Behra, S. K; Behera, R. R; Thakur, H. A; study of knowledge and practices in prevention of type 2 diabetes mellitus among Bhilai steel plant employs, *Indian Journal Med Specialties*, 2012, **3(14)**, p.p. 3 - 8.