SciMedCentral

JSM Clinical Pharmaceutics

Editorial

Health Related Quality of Life and Clinical Outcomes in Type 2 Diabetes

Sami SAQF EL HAIT[1]* and Iman A BASHETI[2]

[1]*Department of Quality Assurance, SANOFI, Saudi Arabia*
[2]*Department of Clinical Pharmacy and Therapeutics, Applied Science Private University, Jordan*

***Corresponding author**
Sami Saqf el Hait, Department of Quality Assurance, SANOFI, Jeddah 21423, Saudi Arabia, P. O. Box 9874, Tel: (966) (12) 6693318 Ext 2002; Email: sami.saqfelhait@sanofi.com

Submitted: 08 November 2014

Accepted: 11 November 2014

Published: 12 November 2014

Keywords: Diabetes; Quality of Life; Clinical Outcomes; Health; Assessment

EDITORIAL

The quality of a person's life refers to the broadest range of human experience. As well as the influence of health, it includes personal finances, job, housing, personal relationships, political and cultural climate, traffic, environmental considerations, and much more [1]. Health Related Quality of Life (HRQoL) is mainly concerned with just one particular aspect of quality of life that is how it may be affected by health and disease [1]. In medicine, HRQoL refers to a person's or group's perceived physical and mental illness [2]. Physicians use HRQoL to measure the effects of chronic illness in their patients, and to better understand how an illness interferes with a patient's daily life [2].

Polonsky (2000) defined Diabetes-specific Health Related Quality of Life (HRQoL) from patients' insight as how this disease affects his/her physical, social and psychological wellbeing [1]. Diabetes could compromise physical functioning through development of short-term and long-term complications, physical symptoms and lifestyle changes which result from the demands of the diabetes medication regimen [1]. When patients believe they are forced to limit certain activities in order to manage their disease clinically effectively (Table 1), their quality of life would be reduced. Long term complications may be vision loss, damage of the kidneys, heart disease, erection problems, peripheral and/or autonomic neuropathy, amputation and difficulty in walking and significant decline in quality of life [1,3]. Short term complications are hypertension, fatigue due to poor glycaemic control, sleep problems, and increase in the incidence of infections. In addition, tight glycaemic control may lead to weight gain, hypoglycaemia, and loss of hypoglycaemic warning signs [1].

Polonsky(1) asserts that the demand of diabetes care can have a potential negative impact on the patients' psychological wellbeing on the short- and long-term. Patients may become chronically frustrated, discouraged and/or furious with a disease that frequently doesn't seem to respond to their best efforts [1,4,5]. A randomized clinical trial by Testa [6] compared generalist care to diabetic clinic care by specialists demonstrated that in addition to improved glycaemic control by improving the physical and psychological wellbeing of patients, specialist diabetic clinics provided additional benefit by improving the emotional and psychological functioning.

Quality improvement processes would significantly lead to better clinical and physiological outcomes in diabetic patients and in patients with other chronic conditions [7,8]. Greater use of chronic Care Management Processes (CMPs), based on the model by Wagner *et al* [9], was associated with significant clinical performance: among physicians using more than five chronic care management processes, a 3.2-point higher diabetes management score on a performance scale with scores ranging from 0 to 100 ($p< 0.001$) was observed. For each 1.0-point increase on the CMP index, a 1.0-point gain in intermediate outcomes (e.g. Blood glucose levels) ($p< 0.001$) was achieved [9].

Table 1: Glycaemic Goals for Patient with Diabetes (Adapted from Diabetes Australia: Diabetes Management in General Practice 2011/12 and American Diabetes Association: Standards of Medical Care in Diabetes 2010).

Diabetes Australia and American Diabetes Association
HbA_1C <7%
Preprandial glucose 70-130 mg/dl (3.9-7.2 mmol/L) 2 hours postprandial glucose < 180 mg/dl (<10 mmol/L)
LDL-C < 2.5 mmol/L HDL-C > 1 mmol/L Triglycerides < 1.5 mmol/L Blood Pressure ≤130/80 mm Hg BMI <25 kg/m^2 Urinary albumin excretion < 20 µg/min (timed overnight collection) < 20 mg/L (spot collection) < 3.5 mg/mmol: women < 2.5 mg/mmol: men (albumin creatinine rate Cigarette consumption: Zero Physical Activity: At least 30 minutes walking (or equivalent) 5 or more days/week (Total ≥ 150 minutes/week)

A study by Toobert et al. was conducted in two phases using the Mediterranean Lifestyle Program (MLP), which was composed of counselling on eating patterns, improving physical activity, psychological management of stress, and retreatment. MLP participants took part in an initial 3-day retreat, followed by 6 months of weekly meetings, to learn and practice program components [10]. Participants in the study showed significant clinical and biological improvements over the first six months period (10). Toobert et al. [10] found overall improvement in favour of the participants who participated in the MLP intervention [Wilks' $\lambda = 0.95$, $F(4,234) = 2.95$; $p = 0.021$]. The study continued for two years, and participants continued to demonstrate considerable improvements at 12 and 24 month milestones in all lifestyle behaviours [11].

The quality of diabetes care was found to be sub-optimal according to the 2000 American Diabetes Association standards of medical care [12]. Patients are not treated aggressively with medications; combination of oral hypglycaemics, insulin, HMG CoA reductase inhibitors, ACE-Is, and aspirin were underutilized in this group of patient population [12]. Reasons of underutilization were speculated to include linguistic, cultural, social and health belief barriers [12].

Current diabetes guidelines in different countries, recommend a treatment to achieve target without engaging patients in self-management [13]. This philosophy requires clinicians to prescribe more medicines at higher doses which would put the patient at risk of unnecessary adverse effects and contraindications, and non-adherence [13]. When the prescriber detects non-adherence, this may lead to intensifying the therapeutic regimen, if the healthcare provider works for the principal of *treat-to-target* [13]. This would lead to worsening of diabetes control, and patient-provider communication. Therefore, it is recommended to engage the patient in choosing goals to fit their lives [13].

Diabetes Symptom Checklist-Revised (DSC-R) is a validated 34 item scale, by Arbuckle *et al*, designed to assess six categories of symptoms which is made by University of Amsterdam and EMGO Institute in Dutch and then translated and validated in English [14]. They are psychological (fatigue and cognitive), neurological (pain and sensory), cardiac, ophthalmic, hypoglycaemia, and hyperglycaemia [1]. Patients respond to the questionnaire by using a 5 point Likert scale [1]. The scores of each section are added and the total is divided by the number of questions in that section.

There is growing agreement among clinicians and researchers that the focus of HRQoL assessment should be on the subjective burden of symptoms, not simply on the presence of objectively identifiable problems [15]. Proper evaluation of quality of life should include both generic and diabetes-specific elements of HRQoL [15].

REFERENCES

1. Polonsky WH. Understanding and Assessing Diabetes-Specific Quality of Life. 2000.
2. Si D, Bailie R, Wang Z, Weeramanthri T. Comparison of diabetes management in five countries for general and indigenous populations: an internet-based review. BMC Health Serv Res. 2010; 10: 169.
3. Turner HE, Wass JAH. Part 11: Diabetes. Oxford Handbook of Endocrinology and Diabetes. 2nd ed. Oxford University Press; 2010.
4. Rubin RR, Knowler WC, Ma Y, Marrero DG, Edelstein SL, Walker EA, et al. Depression symptoms and antidepressant medicine use in Diabetes Prevention Program participants. Diabetes Care. 2005; 28: 830-7.
5. Kawakami N, Takatsuka N, Shimizu H, Ishibashi H. Depressive symptoms and occurrence of type 2 diabetes among Japanese men. Diabetes Care. 1999; 22: 1071-6.
6. Testa M. Quality-of-Life Assessment in Diabetes Research: Interpreting the Magnitude and Meaning of Treatment Effects. 2000.
7. Damberg CL, Shortell SM, Raube K, Gillies RR, Rittenhouse D, McCurdy RK, et al. Relationship between quality improvement processes and clinical performance. Am J Manag Care. 2010; 16: 601-606.
8. Saqf el Hait S, Basheti IA, McLachlan AJ, Overland J, Chaar B. The role of pharmacists in the management of Arabic-speaking people with diabetes mellitus: a systematic review. Journal of Pharmaceutical Health Services Research 2013; 4: 239-248.
9. Wagner EH, Glasgow RE, Davis C, Bonomi AE, Provost L, McCulloch D, et al. Quality improvement in chronic illness care: a collaborative approach. Jt Comm J Qual Improv. 2001; 27: 63-80.
10. Toobert DJ, Glasgow RE, Strycker LA, Barrera M Jr, Radcliffe JL, Wander RC, Bagdade JD. Biologic and quality-of-life outcomes from the Mediterranean Lifestyle Program: a randomized clinical trial. Diabetes Care. 2003; 26: 2288-2293.
11. Toobert DJ, Glasgow RE, Strycker LA, Barrera M Jr, Ritzwoller DP, Weidner G. Long-term effects of the Mediterranean lifestyle program: a randomized clinical trial for postmenopausal women with type 2 diabetes. Int J Behav Nutr Phys Act. 2007; 4: 1.
12. Berlie HD, Herman WH, Brown MB, Hammad A, Jaber LA. Quality of diabetes care in Arab Americans. Diabetes Res Clin Pract. 2008; 79: 249-255.
13. Montori V. Treat the Numbers or Treat the Patient? Australian Prescriber. 2011; 34: 94-95.
14. Arbuckle RA, Humphrey L, Vardeva K, Arondekar B, Danten-Viala M, Scott JA, et al. Psychometric evaluation of the Diabetes Symptom Checklist-Revised (DSC-R)--a measure of symptom distress. Value Health. 2009; 12: 1168-1175.
15. Polonsky WH. Emotional and quality-of-life aspects of diabetes management. Curr Diab Rep. 2002; 2: 153-159.

Cite this article

EL HAIT SS, BASHETI IA (2014) Health Related Quality of Life and Clinical Outcomes in Type 2 Diabetes. J Clin Pharm 1(1): 1004.