OP 40

A Unique Model for Delivering Diabetes Products and Services to Enhance Self Management of Diabetes

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Background and Aims. *One of the major programs to specially address the considerable additional cost burden borne by people with diabetes in Australia is the National Diabetes Services Scheme (NDSS). The NDSS is an Australian Government-funded scheme that aims to "enhance the capacity of people with diabetes to understand and manage their life with diabetes" and to promote self management. The Scheme provides test strips, insulin pump consumables at subsidised prices, needles and syringes for free, and delivers information and self management support services throughout Australia. Since its inception in 1987, the Scheme has been administered by Diabetes Australia on behalf of the Australian Government. Aims of the Scheme:*
Reach every person who has a medical need
Quality in product service and delivery
Maximize accessibility, particularly special needs groups
Develop and deliver diabetes health management programs to maintain or improve the health of people with diabetes and reduce their future call on health funding
Materials and Methods. *Over 3.3 million boxes of diabetes products were supplied by the NDSS during the year to 30th of June 2004, at a total cost of about $95 million. This represented a growth of 6.5% over the previous year. On average, each registrant purchases up to four boxes of test strips and/or needles and syringes, each year. In terms of the overall impact of the NDSS on the lives of registrants, a recent registrant survey conducted by Campbell Research and Consulting (CR&C)2 found that it was clear that registrants viewed the Scheme favorably and they were positive about the impact which it had on their capacity to manage their diabetes. The vast majority of respondents indicated that the NDSS had helped them to feel more knowledgeable about diabetes, and that it had assisted them to feel more confident in relation to effective management of their diabetes.*
1)Dunstan et al. The Rising Prevalence of Diabetes and Impaired Glucose Tolerance: The Australian Diabetes, Obesity and Lifestyle Study, Diabetes Care, 25: 829-834, 2002.
2) Campbell Research and Consulting (CR&C). Evaluation of The National Diabetes Services Scheme: A Report for the Department of Health and Ageing. May 2005.
Results. *As at the 30th of June 2004, some 658,743 people with diabetes were registered with the Scheme. The AusDiab study1 findings suggested that as at 2000, about 940 000 Australians over the age of 25 have diabetes. The Scheme is successfully capturing the majority of diagnosed people with diabetes in Australia. At the time of the AusDiab study, Diabetes Australia estimated that approximately 95% or more, of those diagnosed were registered on the NDSS. A specific objective of the NDSS is to maximise accessibility to diabetes products and services. The NDSS is able to reach a significant majority of individuals with a need for diabetes products and services using a combination of over-the counter, telephone, on-line and mail ordering facilities. The NDSS also requires the implementation of community tailored programs focusing on improving the quality of diabetes care and self management. Particular focus has been on priority areas such the Aboriginal and Torres Strait Islander community, those with Cultural and Linguistic Diversity and Young People with diabetes.*
Conclusion. *The NDSS registers approximately 5800 newly diagnosed patients each month. The referrals made by health professionals remain the most important step in introducing the newly diagnosed to the benefits of registering on the NDSS. With Type 2 diabetes growing at an alarming rate, it is apparent that the NDSS will continue to play an important role in providing products and services to people with diabetes into the future.*

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OP 41

Diabetes Education Intervention in Thailand: An Integrative Review

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Background and Aims. *Diabetes education intervention is one of integral parts in diabetes care to produce behavioral changes. Traditionally, diabetes education relies on assumption as knowledge gain leads to positive behavior changes, and in turn produces an improvement in glycemic control. However, there is evidence that didactic diabetes education approach was inconsistent and no correlate to improvement of self-care practices and glycemic control. Since 1988 diabetes education interventions have been developed on the basis of nursing and social learning theories. Diabetes skill training has incorporated into information training. These interventions were shown to have positive effects on self-management and glycemic control. However, the various types of intervention and outcomes measured were used. Therefore, the further researchers or clinicians are difficult to decide which diabetes education interventions are more effective in bringing about improvement in management of diabetes. The purpose of this integrative review is to summarize the accumulated state of knowledge in diabetes education intervention research in Thailand from 1977 to 2002.*
Materials and Methods. *An integrative review was undertaken on the studies of diabetes education intervention that met the selection criteria. Keywords used in computerized and hand searching were "diabetes mellitus", "patient education", and "health education". Data collection composed of general, methodological, and substantive characteristics of each study.*
Results*. A total of 63 studies were selected including master's theses, doctoral dissertation, and publications in nursing and health related journal. Theory based intervention was described in 51 studies (80.95%). Orem\'s general nursing theory was mostly used. Studied samples were predominantly mixed with gender and all age group, questionable of sampling methods, used convenience samples, or no comparison group. Incorporating of information and skill training was found in 42 studies (66.67%), and none of the study was developed and designed for coping skills training. Outcome measures were mostly on self-care behaviors, followed by glycemic control and long-term outcomes were less focused. Because the studies are variable with respect to substantive and methodological characteristics, it is difficult to draw conclusion which particular aspects of the intervention are specifically associated with favorable outcomes.*
Conclusion. *Theoretically grounded research, rigorous methodology of studies, adequate description of intervention, long-term examination of the effect of intervention and expansion of research setting would contribute to knowledge development in diabetes care. Nation standard of diabetes education, curriculum standard of diabetes education training for advanced practice nurses should be developed to serve for the increasing number of people with diabetes.*

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OP 42

Periodontal Disease Program in Educational Hospitalization for Type 2 Diabetes Mellitus

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Background and Aims. *This study was designed to estimate our periodontal disease (PD) education program in educational hospitalization (EH) for patients with type 2 diabetes mellitus (T2DM). We have held EH for T2DM since the establishment of our hospital in 1984, and added the PD education program since 2002.*
Materials and Methods. *A total of 26 patients with T2DM, 15 males (52-92 y.o.) and 11 females (32-75 y.o.), were subjected. Periodontal factors (community periodontal index of treatment need: CPITN and number of missing teeth: MT), diabetic factors (HbA1c, HOMA-R and so on), background factors (age, sex, duration form onset, BMI and serum lipids) and questionnaire scores (QSs) were analyzed. A questionnaire was held as questions (Qs) 1-3 on EH and Q 4-6 on PD program using postal cards. Each QS was ranked as good: 2, fair: 1 and poor: 0, respectively.*
Results. *There was significant correlation between CPINT and MT ($r=0.544$, $p=0.004$). CPITN correlated significantly with age ($r=0.462$, $p=0.018$) and BMI ($r=0.389$, $p=0.049$). MT showed significant correlation only with age ($r=0.466$, $p=0.016$). Both CPITN and MT showed no significant correlation with other background factors as well as diabetic factors. QSs in Qs were 1.77±0.12 (M±SE) in Q1 (duration of EH), 1.69±0.09 in Q2 (general contents of EH program), 1.73±0.11 in Q3 (guidance of EH), 0.65±0.11 in Q4 (previous knowledge of PD), 1.00±0.11 in Q5 (acquired knowledge of PD) and 1.77±0.10 in Q6 (preventional usefulness for PD). A QS in Q5 was significantly higher than that in Q4 (t and p were 2.214, 0.036, respectively). In Q3 and Q5, QSs of aged subjects (> and = 65 y.o. : group A, n=12) were significantly higher than those of non-aged subjects (<65 y.o. : group B, n=14) (t and p were 2.159, 0.027; 1.915, 0.041, respectively). However, there was no significant difference of QSs between groups A and B in other Qs including change in knowledge of PD (QS in Q5- QS in Q4). BMI gave no significant difference in QSs in all Qs.*
Conclusion. *From these data, it is concluded that subjects almost accepted our EH, but they had not enough knowledge of PD, and that we have to hold strict check of PD for aged and obese subjects with T2DM and have to improve PD education program especially for non-aged subjects.*

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OP 43

Impact of Physician-Pharmacist Collaboration on Dyslipidemia Management in Type 2 Diabetic Patients

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Background and Aims. *Despite evidence from clinical trials and recommendations from guidelines, failure to achieve lipid goals especially in diabetes patients is still common. We therefore aimed to determine the impact of physician-pharmacist collaboration on lipid management in type 2 diabetic patients compared with usual care.*

Materials and Methods.This was a prospective, non-randomized, controlled trial conducted in type 2 diabetic patients at a 450-bed tertiary care hospital in Bangkok. Patients cared for by participating physicians were enrolled into the intervention group. Patients cared for by other physicians were randomly selected and served as the usual care group. Patients in the intervention group received interventions by clinical pharmacists which included intensive education regarding diet, exercise and drug therapy, assessment of compliance to pharmacological and non-pharmacological therapies, detection of drug-related problems and evaluation of lipid modifying treatment. After completing the evaluation, clinical pharmacists communicated with physicians regarding potential measures to improve lipid controls in each patient such as initiation of statin therapy or increasing the intensity of existing statin therapy. The decisions to modify treatment plan were executed by physicians. The primary outcome of the study was the achievement rate of LDL-C goal. The secondary outcomes included changes in lipid parameters and changes in the usage rates of lipid modifying agents.

Results. *One hundred and 108 patients were enrolled into the usual care and the intervention groups, respectively. Baseline demographic and lipid parameters were similar between groups. At the end of the study, the mean LDL-C was significantly lower in the intervention group (111.8+33.1 mg/dL vs 124.8+38.3 mg/dL; p = 0.009). The proportion of patients who reached the LDL-C targets of < 100 mg/dL in the intervention group was significantly higher than those in the usual care group (39.8% vs 25%; p = 0.023). Beneficial changes in other lipid parameters in favor of the intervention group were also observed. Overall, clinical pharmacists made 60 interventions regarding the modification of lipid lowering therapy, 21 of these were fully accepted. Sixty interventions on treatment monitoring were made, 32 were accepted. Significantly more patients in the intervention group received statin therapy. The intensity of statin therapy was also significantly higher in the intervention group.*

Conclusion. *Physician-pharmacist collaboration can effectively increase the achievement rate of LDL-C target in diabetic patients compared with usual care. The findings of our study support the benefits of multidisciplinary approach in dyslipidemia management of type 2 diabetes.*

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OP 44

Cardiovascular Risk in Diabetes: Group Education Focusing on Understanding of Key Concepts and Interactions with Social Contexts

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Background and Aims. *Therapeutic patient education is primarily based on knowledge transmission, psychological supports, coping with disease and empowerment. In most situations however the actual appropriation of knowledge by patients in the context of daily life is questionable. Group education is able to reach this objective if a real work is done aiming at the construction of appropriate situations in which patients interact with knowledge and if these educational situations take into account the social, familial, professional, psychological context. The aims of this work was to test the feasibility and implementation of such educational methods in primary care networks.*

Materials and Methods. *Three educational sessions were structured under the supervision of a researcher in Social and Educational Sciences. Themes were cardiovascular risk, fat intake, and physical activity. Relevant scientific and medical knowledge facts and key concepts to be appropriated by patients were collected, extracted and confronted to the results of cognitive investigations conducted among type 2 diabetic patients. The educational sessions were then constructed and framed in order to let the patients be able to identify, analyse, compare, knowledge elements and relationships in their life contexts.*

Results. *Group sessions for 6-10 patients, 2h long, have been implemented in a primary care professional network. Fourty eight health professionals (HP) have been trained for this purpose through 3 one-day pragmatic sessions, managed both by medical and educational science expert. Thirty three HP completed the 3 group sessions for their patients, 11 completed 2 sessions the 3rd session being planned, and 4 HP dropped out. Hence, at 1 year, 495 (310F, 125H) patients aged 57,4±0,8 yrs (20-83) have been included, and 125 group sessions completed (mean 6.7 patients per session). At t0, HbA1c was 7.97±0.11, BP 135.8±1.1 mmHg, LDL-chol 115±3 mg/dl, HDL-chol 48±1 mg/dl, TG 159±9 mg/dl, BMI 29,3±0,3 kg/m2, Waist circumference 101,7±1,0 cm. Clinical and biological indicators are currently collected at 1 year after the initiation of group sessions. Knowledge and practical implications for patients will be assessed via semi structured interviews and observations in context.*

Conclusion. *The implementation of group sessions aiming at the complex appropriation of knowledge by patients in context appears to be feasible in primary care networks, provided that educational sessions are thoroughly prepared and implemented via training sessions. Overall management by a specialist/ expert in Social and Educational Sciences is to be considered.*

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OP 45

The Association of Sociodemographic Factor and Self-Efficacy among Type 2 Diabetes Patient in Indonesia and Japan

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Background and Aims. *The burden of diabetes has increased dramatically in most developed countries, as well as in developing countries undergoing epidemiological transition. Patient's perception and knowledge about their disease, as well as other psychological factors such as stress management and self-efficacy are important predictors for the success of diabetes management. Little is known about diabetes patient's self-efficacy in Indonesia and its association with sociodemographic factors. To know the characteristics related self-efficacy among type 2 diabetes patients in Indonesia, this study assessed and compare the self-efficacy level and its association with sociodemographic factors in Indonesia and Japan.*

Materials and Methods. *A cross-sectional study on a convinient sample of type 2 diabetes patients at outpatient clinic in Dr. Sardjito Hospital in Indonesia and Kobe University Hospital in Japan. Face-to-face interview was done to administer the questionnaire, which included on socioeconomic data and self-efficacy scale. Two constructs of self-efficacy were assessed, i.e. active coping behavior (14 items) and controllability for health (10 items). Student-t test was used to assess the difference of self-efficacy level in two countries, while factor analysis was conducted to identify predictive factors of self-efficacy.*

Results. *Self efficacy level was significantly higher among female patient in Japan compared to Indonesia ($p<0.05$). No difference was observed among male patient in both countries. In the univariate analysis, age and duration of illness have been observed as significant predictors of self-efficacy. After controlling for sex, marital status, education level, and presence of complication, only duration of illness predicted self-efficacy significantly.*

Conclusion. *The low level of self-efficacy among diabetes patient in Indonesia should be the main concern in the management of diabetes type 2. Patient should be motivated to actively cope with their disease. Intervention should be tailored to improve patient's self-efficacy for the success of the treatment.*

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OP 46

He Influence of Social Support to Psychological Stress Response in Type 2 Diabetes Mellitus in Yogyakarta, Indonesia and Kobe, Japan

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Background and Aims. *This research was aimed to analyze the influence of social support to psychological stress response in type 2 Diabetic patients in Yogyakarta Indonesia and Kobe Japan. Differentiation, determinants and sources of social support were also explored in both places.*

Materials and Methods. *Cross sectional research was conducted to diabetic out-patients who had treatment in DR.Sardjito, Kobe and Murayami Hospitals along with this research. The number of sample was 112 patients in Yogyakarta and 49 in Kobe. Psychological stress response was measured by SRS-18 questionnaire, comprising of 18 items. On the other hand, social support was measured by social support questionnaire, comprising of 20 items. Since both questionnaire were originally in Japanese language, collecting data in Yogyakarta was done after translation and back translation processes. Regression test was used to measure the influence of social support to psychological stress response. Differentiation of social support was measured by independent t-test.*

Results. *There was no influence of social support to psychological stress response in both Yogyakarta and Kobe. The number of social support did not differ in both places. Married respondents in Yogyakarta had more social support than unmarried respondents ($p<0,05$). In Kobe, respondents with more than 10 years of suffering diabetes tended to have more social support than those who had less than 10 years of suffering diabetes did ($p<0,05$). Source of social support most expected by respondents in Yogyakarta was support from their partner (42,74%). Meanwhile, health providers were most expected as source of social support in Kobe (46,15%)*

Conclusion. *There is no influence on social support to psychological stress response both in Yogyakarta and Kobe. In both places, the number of social support do not differ. Family and health providers are expected as important sources of social support for diabetic patients in those places.*

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OP 47

Effect of Social Support on Self-Efficacy and Psychological Stress Responses in Type 2 Diabetics of Indonesia

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Background and Aims. *Self-care is important for management of diabetes. Social support is considered to be one of the influential factors to accomplish satisfactory self-care. We studied whether the social support promotes self-efficacy and reduces psychological stress responses in type 2 diabetics, that may facilitate the diabetic control.*

Materials and Methods. *125 type 2 diabetic outpatients (65 males and 60 females) at Dr. Sardjito hospital, Yogyakarta, Indonesia, were subjected to the questionnaire study in September. They were 60±9.3 years of age (mean±S.D.) The questionnaires used were the scale of Social Support for Chronic Diseases developed by W. S. Kim, Self-Efficacy for Motivation by W. S. Kim and SRS-18. Data were analyzed using AMOS Statistical Soft Ware®. The written informed consent from individual patients were obtained before the study.*

Results. *'$When emotional support,one fraction of Social support, was high, self-efficacy of the patients shown to be elevated and stress responses were reduced.a$When actual physical support, the other fraction of Social Support, was high, self efficacy was reduced and stress response revealed to be increased.b$When self-efficacy was elevated, stress responses were decreased.*

Conclusion. *In Indonesian type 2 diabetics emotional support seems to be favorable for the management of diabetes throngh increasing their self-efficacy and, thereby, reducing stress response, whereas physical support might be rather unfavorable in behavioral terms.*

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