

CONFERENCE REPORT

Non-Communicable Diseases And Diabetes Care Guidelines: Epidemiology And Call For Collective Action. February, 6th 2010, Dat El-mad Conference Hall Complex, Tripoli, Libya

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Abstract

On February 6, 2010, over 500 health care professionals gathered in Tripoli, Libya to witness two major National Health Service achievements related to the evaluation and combating the burden of non-communicable diseases. The results of the first national non-communicable diseases (STEPwise) survey were revealed and the first national diabetes care guidelines were launched. These were the fruit of collaboration of the government departments and their agencies, non-government organizations, regional and international organizations, and national scientific societies. The survey results showed an alarmingly high prevalence of non-communicable diseases [Diabetes 16.4%, Hypertension (40.6%), and overweight/obesity (63.5%)]. These can be attributed to the low rates of physical activities (43.8%) and poor dietary habits (34%). Passive smoking is common at home and the work place. However, Active smoking is very common (49.6%) and seems to start at a young age (19 years). Hypercholesterolemia affected 20.9%

of the adult population. The Diabetes Care Guidelines were developed using the “derived” model by adapting regional and international guidelines to the local needs of Libyan patients. They included guidance on diagnosis, evaluation and clinical management in addition to the organizational issues. It remains for all concerned to get together to meet the challenges of non-communicable diseases and translate the guidelines to clinical practice in the real world.

Key words: Diabetes, guidelines, Libya, Diabetes care

Introduction

There has been a progressive reduction in the infectious diseases in the developing world. However, World Health Organization (WHO) has identified non-communicable diseases (NCDs) as a major and growing public health problem worldwide (1). The current threat of NCDs can be addressed effectively and efficiently with available knowledge and experience. The WHO demanded from

its member states a comprehensive public health response to NCDs that applies a public health perspective, health promotion, disease prevention, and cost-effective management (1). It was recommended that the progress achieved in addressing prevention and control of NCDs is monitored and evaluated. Regional networking of NCD programs and initiatives is important to share experiences and provide a framework for collaborative action for the prevention and control of non-communicable diseases (1).

On February 6, 2010, over 500 health care professionals got together at the Major Conference Hall of Dat Ellmad Complex in Tripoli. They gathered to witness two major National Health Service achievements related to the evaluation and counteracting the burden of NCDs. These were, firstly the announcement of the results of the first national non-communicable disease survey (2) and secondly the launch of the first national diabetes care guidelines (3). The day was the outcome of several months of hard work of planning, designing, implementation, data collection, and analysis. The work was an excellent example of a fruitful collaboration of the government departments and their agencies, non-government organizations and international and regional institutions energized by enthusiasm of key individuals in these organizations. The two achievements were given a very high level of importance by the presence of the Secretary of Health and Environment as well as The director of the Libyan Board of Medical Specialties. In the opening ceremony, many speakers paid tribute to Professor Ibrahim Sherif, whose leadership played a pivotal role in keeping the project in motion. Sitting and listening, I thought the whole program has almost turned to an unplanned but well timed and duly deserved “Festschrift” honoring contributions of Professor Sherif to the medical life in Tripoli for 30 years.

In this report, the highlights of the day will be presented and appraised, with view to maintain the high momentum achieved and stimulate further work.

The Non-Communicable Diseases Survey

Survey Model and Methodology

The WHO has adopted a unified approach, STEPwise, for collecting standardized information on major risk factors of NCDs globally, regionally, and nationally (1). The STEPwise surveillance tool is based on sequential process to collect information on risk factors for chronic diseases

(4). It can compare between different countries and within the same country at different times consistently. It is through this curriculum, the surveillance system in any state can incorporate valuable information on the various NCD risk factors. The model includes three sequential steps. The first step involves collecting information on risk factors that can be obtained through questionnaires served to groups from the general population. The second step involves the collection of objective data by simple physical measurements required to examine the risk factors and are sufficient to characterize the physiology of the human body in general. The third step involves detailed objective measurements for more in depth physiological characterizations, including blood samples to measure blood glucose and lipid levels. This model of research requires repeating the survey after five years to assess the value of the adopted interventions based on the results shown by this survey.

Main Survey Measures

The survey included documentation of tobacco and alcohol consumption, reported usual physical activity, and characterization of food intake (in particular determination of the consumption of fruits and vegetables). It also included basic physical measurements including weight, height, waist circumference, and blood pressure. The survey included measurements of blood sugar and cholesterol in the fasting state in addition to measuring blood sugar two hours after a 75-gram oral glucose load (glucose tolerance test). Data were reported by referring to the published rates globally and regionally. The three steps of the survey were carried out as described above between February and November 2009. This was done by selecting a sample survey representing the adult population between the ages of 25 and 64 years who were visited at their homes by the field workers. The method of sampling used was the staged cluster sampling to extract data representative demographic group. Data analysis was performed in collaboration with the WHO using the EPI-INFO program. The study sample included 3625 with a good participation rate of 73 percent.

An Overview of the Preliminary Results

The data presented in this report are based on the presentations made on the event day and the preliminary report provided (Ref 2, Figure 1). Further analysis is still in process and will naturally lead to several peer-reviewed publications. There is certainly a wealth of epidemiological data enough for cover five good quality manuscripts in peer-reviewed journals.



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مجلس التخصصات الطبية

الدليل الإرشادي الوطني لتشخيص وعلاج السكري

LIBYAN DIABETES CARE GUIDELINES 2010-2012

إعداد

اللجنة الإستشارية الوطنية للتوجيهات الإرشادية للسكري
National Diabetes Care Guidelines
Advisory Board

2010

Figure 1: The cover page of the “Libyan Diabetes Care Guidelines” showing the logos of both the Secretary of health and Environment as well as the Director of Libyan board for medical specialties.

Healthy Life Style: Smoking, Alcohol, Diet, and Physical Exercise

The percentage of current smokers among men was very high at 49.6% and was remarkably very low in women at 0.7%. At least 47.6% of men smoke daily and 88.8% of smokers used manufactured cigarettes on a daily basis. The

daily average tobacco consumption reported to be as 6.9 cigarettes per day. Smoking initiation was reported at a mean age of 19.3 years.

Over eighty six percent (86.4%) of the surveyed individuals never consumed alcohol in their lives (the

corresponding figure was 99.4 percent among females). Those who consumed alcohol during the month preceding the survey were small, in men (2.3%) and none (0%) in women. On average, consumption of fruits during the week preceding the survey was limited to 2.7 days out of 7 days representing merely a 0.6 of a portion of fruit per day. The average number of days of vegetables consumption during the same week was greater (i.e. vegetables used on 5.2 days

was more obvious in women (36.0%) than in men (51.7%). However, Just over one third (34.0%) of the total sample reported regular “high level” physical activities (even lower in women; 30.7% than in men; 37.3%). The mean time spent in physical activity was 45 minutes per day for both sexes but was shorter in women (43 minutes) than in men (60 minutes).

Table 1. Stepwise survey derived data in 10 Middle Eastern countries between the years 2003 and 2009 are given. Frequency of NCD (Diabetes, Hypertension and Overweigh & obesity as per the definitions given in the head row. Frequency of risk factors (hypercholesterolaemia, smoking, low physical activity and low intake of fresh fruits and vegetables) are also given. Modified from (<http://www.emro.who.int/ncd/stepwise.htm>).

Country	Year	Diabetes (%)	Hypertension (%)	Overweight & Obesity (%)	Hypercholesterolemia (%)	Smoking (%)	Low physical activity (%)	Low intake of fresh fruits & vegetables (%)
		FBS \geq 7 mmol/ dl	BP \geq 140/ 90 mmHg	BMI \geq 25	cholesterol level \geq 5.2mmoL/dl	current daily smokers	daily activity \leq 10 min	\leq 5 serving / day
Syria	2003	20.5	28.4	56.3	34	24.7	31.15	95.7
Iraq	2005	10.4	40.4	66.9	37.5	21.6	56.7	91.4
Kuwait	2006	12.4	20.5	75.4	38.6	20.6	64.7	81
Sudan	2005	19.2	23.6	53.9	19.8	12	86.8	
Iran	2005	10.3	14.8	42.8	43.6	13	67.5	
Egypt	2005-2006	15.8	26.7	66	19.4	18	70.4	79
Oman	2006	12.2	20.5	29.6	27.6	9.3	69.9	33.2
Jordan	2007	12	26	57	46	25	51	84
Saudi Arabia	2007	18.3	21.3	68.8	19.15	11	67.7	93.45
Libya	2009	16.4	40.6	63.5	20.9	49.6	43.9	34

representing 1.2 portions of vegetables per day). However, the proportion of those who ate less than 5 servings of fruits and vegetables per day amounted to a very high at 97.4% of the sample and this was identical in men and women.

Less than half of the respondents (43.9%) reported undertaking regular “low level” physical activity. This

Physical Measurements

The mean calculated body mass index was 27.7 kg/m² (higher in women; 29.0 than in men; 26.4). Overweight (defined as BMI greater than 25 kg/m²) was very common (63.5% in total; 69.8% in women and 57.5% in men). Obesity (defined as BMI \geq 30 kg/m²) affected 30.5% of

the whole sample and was greater in women; 41.1% than in men 21.4%. The average waist measurement was 93.3 cm in both men and women. The mean systolic blood pressure measured in the sample (including those who are being treated for high blood pressure) was 133 mm Hg for both sexes (men: 132 and women 130). The mean diastolic blood pressure measurements (including those who are being treated for hypertension) was 79 mmHg (men; 80 mmHg and women; 78 mmHg). The percentage who suffers from high blood pressure more than 140/90 mmHg or who are currently taking medication for high blood pressure was very high at 40.6 percent, and this is the highest to be reported in our region (Figure 2). Hypertension was evident in 45.8% of men and 35.6% of women). People suffering from high blood pressure >140/90 and not taking any treatment reached 59.7% (68.4% in men and 48.5% in women).

Biochemical Measurements

The mean fasting blood glucose in the entire survey sample, including those with known diabetes was 84 mg% (86 mg% in men and 81mg% in women). The prevalence of known and newly discovered diabetes was 16.4 percent (17.6% in men and 15.1% in women). The mean fasting total plasma cholesterol including those on lipid lowering therapies was 174.4 mg% with no significant difference between men and women. 20.9 percent of the surveyed individuals had either high total blood cholesterol level or were on lipid lowering therapy. There was a slight difference between men (19.0%) and women (22.7%).

Summary of Combined Risk Factors

The survey data on the risk factors (current daily smokers, less than 5 servings of fruits & vegetables per day, Low level of physical activity (<600 MET -minutes), overweight or obese (BMI \geq 25 kg/m²), raised BP (SBP \geq 140 and/or DBP \geq 90 mmHg) showed very low rate for those with no risk factors at 2 per thousand for both sexes. It was lower in women (1:1000) than in men (4:1000). Whereas, the overall proportion of those with 3 or more risk factors was 57.7% (62.3% in men and 52.2% in women). Furthermore, more than half of those with 3 or more risk factors are in the age group, 25-44 years. This was particularly evident in men (57.4%) compared to women (44.5%). In the older age group, 45-64 years, 78.0% had 3 or more risk factors (more in men; 80.2% than in women; 76.0%).

Conclusions

The survey results revealed for the first time that there is an

alarming upsurge in both non-communicable diseases and their risk factors. This explains the observed rise of death rate in Libya caused by non-communicable diseases. Table 1 gives a comparison of NCDs and risk factors in Libya compared to STEPwise-derived data from 9 other Middle Eastern countries. The data showed a high prevalence of obesity and overweight especially in the older age groups and more clearly so in women. This can be attributed to the low level of physical activity and poor dietary habits. Libya was shown to have the highest prevalence of high blood pressure amongst all the EMRO region states that applied the same STEPwise model. Active smoking is common and seems to start at an age that is amenable to intervention by measures directed at the public at large and at schools in particular. The commonly observed passive smoking at home needs heavily targeted public health educational programs via the media. The passive smoking in the work place is now being addressed by legislative measures progressively banning smoking in all public places.

The increase in the prevalence of diabetes and pre-diabetes can be attributed partly to the wide spread of unhealthy lifestyle and therefore requires adopting urgent interventions and the adoption of programs to promote healthy behavior and address risk factors. The Secretary of Health and Environment, in his opening speech alluded to the fact that infectious diseases such as tuberculosis were treated as a health care priority in the past. The result of this NCDs Survey calls for an immediate action to address the imbalance in emphasis between communicable and non-communicable diseases in the health care strategy.

National Diabetes Care Guidelines

The process

On the same day, another major action towards NCD control was also achieved in Libya. It was the formal adoption and launch of the National Diabetes Care Guidelines. Under the leadership of Professor Ibrahim Sherif, a mandate from the National Ministry of Health and the Libyan Board of Medical Specialties as well as generous funding from Novo Nordisk Pharmaceuticals. Over 30 diabetes care professionals from different parts of the country together with Libyan diabetologists abroad and international experts participated in the drafting, revising and final production of these guidelines. It took several months of preparatory work using different methods of communications and a solid three full days of scrutiny, word by word, to produce a final document of over 50 pages. It was as per the International Diabetes Federation, the derived types of guidelines were

adopted. The presence of two experts, Philip Home and Steven Colaguiri who have vast experience in production of national guidelines in various parts of the world was very helpful. The guidelines were published within the same week on the web sites of the LADE, MOH and Libyan Board of medical specialties. The introduction was signed off by the Secretary of Health, who expressed his gratitude to the professions who contributed to this work and to the sponsors of this work.

The contents

The document included the introduction and acknowledgement of the membership of the guidelines development group. This was followed by the sections on definition, diagnosis, and classification of diabetes and carbohydrate intolerance states. A section stressed the criteria of screening and early recognition of diabetes. The sections on management of diabetes highlighted the glycemic control goals and targets, and then proceeded to outline the organization of diabetes care in various levels. Justifiably, management of glycemia was covered in a detailed section. It gave the basic recommendation, some background information, discussed the role and models of diabetes education and nutrition therapy. Glucose-lowering therapies were discussed in a stepwise manner with some special details on oral agents and insulins given in tables. The principles and practicalities of diabetes self-management were stressed. A section was allocated to acute complications of diabetes and in-hospital management covering both diabetes care in hospitals and in emergency departments. Prevention and management of cardiovascular disease was discussed, providing guidance on treatment targets and tools. The major classical chronic complications of diabetes (retinopathy, nephropathy, and neuropathy) were discussed giving guidance on prevention, screening, referral criteria, and management. Foot care was outlined including the screening in the diabetes clinic and the role of the multi-disciplinary team. The special areas of care such as diabetes in pregnancy, diabetes in young people and care of older adults with diabetes were given a reasonable degree of detail notwithstanding the fact these remain within the sphere of specialist care. A short note was given on prevention of diabetes. Five appendices were attached, covering the oral glucose-lowering drugs, characteristics, and use of various types of insulin, recognition, management, and prevention of DKA in young people, and diabetic hypoglycemia in children.

Final Remarks: The Way Forward

Firstly, the Libyan health care professionals, government departments, institutions, and the non-government organizations (mainly the Libyan Cardiac Society and the Libyan Association for Diabetes and Endocrinology) must be congratulated on these two major achievements. Each of these is an initial step on a long way forward. A collective action is required by all those involved to keep the momentum and carry on the good work. The conduct of this program gave the valuable opportunity to acquire the necessary leadership and field skills that will facilitate conducting similar studies and the repeating of this survey 5 years later. Perhaps more importantly, it stimulated a wide interest in epidemiological research in the many individuals who had an excellent opportunity to participate in the whole process from planning, training, and implementation to data analysis and presentation.

The STEPwise survey is obviously the start for continuous monitoring of non-communicable diseases, their risk factors, and determinants. A framework must be identified to provide monitoring of information to inform and support the political decision-making strategy, and identify priorities for the distribution of human and material resources. There is a need to adopt national programs to promote healthy life style, with views to direct preventative measures targeting non-communicable diseases control in the most vulnerable groups. Early allocation of adequate resources toward the control of non-communicable diseases must be viewed as an investment, in order to avoid Years of productivity loss because of premature death and disability. The report made it clear that the control of non-communicable diseases and risk factors involves targeting determinants outside the health sector through the adoption of interventions of all sectors of the state and society. All these could be achieved only through the formal adoption of the Global and Regional Strategy produced by the WHO-EMRO office for the prevention of non-communicable diseases and control for the years 2008-2013. This indeed calls for strengthening the partnership for prevention and control of non-communicable diseases between all institutions of society and public official, private and civil. The call for a development of an institutional building or the approval of a suitable structure on combating non-communicable diseases and coordinate the efforts of all those involved in the institutions seemed timely.

Publication of the first ever diabetes care guidelines adopting a version of the internationally- accepted standards and

modifying them to the specific needs of the Libyan patients was indeed an achievement on its own right. Perhaps, getting 30 health care professionals from different parts and institutions to meet and work together over so many months to form a common understanding of diabetes care needs for Libya was an achievement per se. Although the role of the LADE was not formally recognized, many of its senior members at home and abroad were very instrumental in the timely realization of the draft documents to be discussed and agreed. There is now a great chance to translate these guidelines into clinical practice. Perhaps, a “diabetes Road Show” type of regular hand on workshops run by the ministry, the board, and Libyan Association for Diabetes and Endocrinology to disseminate these guidelines amongst the front line workers should be the first step. It is noteworthy that most of the local nursing staff has a limited command of English; translation to Arabic will obviously enhance their involvement in implementing these guidelines. This process may even help patients understand “what care to expect.” It is an important advocacy role very appropriate for the LADE to undertake.

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