

Brief Communication

Methods and status of a comprehensive community-based intervention focusing on non-communicable diseases and the major risk factors in the Kingdom of Saudi Arabia. *The Crown Health Project*

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In the Eastern Mediterranean Region (EMR), non-communicable diseases (NCDs) (cardiovascular disease, diabetes mellitus, cancer and chronic pulmonary disease) accounted for 50% of all deaths in 2005.¹ Total deaths from NCDs are projected to increase by 25% over the next 10 years in the region.¹ The prevalence of risk factors for NCDs is also high in most countries of the region.¹ In a World Health Organization (WHO) STEPS (STEPwise approach for surveillance) survey conducted among adults aged 15-65 years in the EMR, almost 25% were hypertensive, and between 20-40% had hypercholesterolemia. The Kingdom of Saudi Arabia (KSA) was among the 10 countries with the highest prevalence of diabetes in the world.¹ In the EMR, high levels of overweight was found, with the prevalence of overweight/obesity ranging between 74% and 86% in women, and between 69% and 77% in men.¹ Furthermore, 17.9% of adults in KSA have diabetes, 21.1% have hypertension, 36.1% are obese, 19.3% have hypercholesterolemia, 12.9% were smokers, and 33.8% were physically inactive.² However, limited data is available on the prevalence of NCDs and the risk factors in KSA.

The growing need for costly healthcare services due to the increase in NCDs will affect both the healthcare infrastructure and the entire economy. Therefore, there is an urgent need for evidence-based interventions to combat the threat from NCDs. Preventing NCDs is most effectively carried out through a combination of community-based intervention and individually-focused intervention for risk reduction.³ However, there is no proven intervention implemented in KSA that has addressed the Saudi cultural values and lifestyle

factors. Therefore, a community-based intervention—the Crown Health Project (CHP) - was developed and implemented on a small-scale, to assess the feasibility and effectiveness of the program, in order to potentially scale it up. The objectives of the CHP are: 1. To determine the prevalence of common NCDs and their risk factors; 2. To raise awareness regarding risk factors for NCDs and preventive measures among the public; 3. To improve the early detection and management of NCDs; 4. To build capacity among health care workers (HCWs) on preventive services for NCDs; and 5. To improve diagnostic, curative, and rehabilitative services for patients.

In this paper, the CHP which was initiated and cleared for ethical approval by the Ministry of Health's Public Health Directorate, will be described along with the first results on the implementation of the program. The CHP was conducted in the Al-Jouf Region of KSA. This region was chosen, because most health services are delivered through the facilities of the Ministry of Health (MOH) (3 hospitals and 29 primary healthcare centers (PHCs). The CHP was delivered through the PHCs and reached the whole population of the region. The following activities corresponding to the previously numbered objectives were planned to be conducted in the Al-Jouf region from 2008 to 2013: 1. A survey among a representative sample of adults aged 15 years and older using the WHO STEPS methodology to determine the prevalence of common NCDs and their risk factors. The survey included both questionnaire data (demographic and socioeconomic, lifestyle factors, past medical history) and clinical data (physical measures, biochemical measures); 2. Public health education and prevention programs provided by Health Promotion Units, both to clients attending the unit (through individual counseling, group sessions, and the distribution of materials), and to the general public. The latter in collaboration with other agencies and included general health promotion programs (in local newspapers and magazines, and on television and radio) and targeted programs (programs at educational institutions, women recreation clubs, work-site programs); 3. Periodic examinations (physical and laboratory examinations) are performed by the screening units. The screening program includes the following: a) lifestyle factors (smoking, diet, physical activity); b) medical history (hypertension, diabetes etc.); c) physical measurements (height, weight, waist circumference, heart rate, blood pressure); and d) biochemical measurements (fasting blood glucose, total cholesterol). In the case of any abnormal findings, clients are referred to other health care facilities for

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rigorous diagnostic procedures. The screening program is delivered annually to the following high risk target groups: a) people over 40 years of age; b) people over 30 years of age with any of the potential risk factors (a family history of heart disease, heart attacks or diabetes; overweight or obesity; smoking). In addition, a general breast cancer screening is offered to women aged 35 or above; 4. Training courses for HCWs (each of 3 days duration) provided by the members of the General Directorate of NCD, the Health Education Directorate, and Regional Primary Health Care Centers; and 5. Purchase of appropriate equipment, development of guidelines, and implementation of new services (smoking cessation, physical activity promotion, and nutrition counseling services). Two project evaluation measures were planned to be carried out at different stages: a formative evaluation (to evaluate the program planning phase) and a process evaluation (to evaluate the program implementation phase), based on the WHO Countrywide Integrated Non-Communicable Diseases Intervention (CINDI) guidelines.⁵ Furthermore, an outcome evaluation is planned by repeating the survey after implementation of the CHP.

The project was officially launched in mid-2008. Preparatory work and establishing formal relationships with the communities and the government agencies took most of the first year. By the end of 2010, the status of the activities per objective was as follows: 1. During 2008-2009, the survey was conducted among 1050 respondents, of which 50.8% were female, and 47.3% was aged 30 or above. From these, 14.3% of the respondents were smokers, 44.6% were obese, 13% were hypertensive, 14.7% were hyperglycemic, and 18.3% were diabetics. Detailed survey results will be published elsewhere; 2. The recruitment of personnel for the Health Promotion Units and setting up the facilities with the required equipment was completed. By then, also health education materials were developed, as well as public service announcement documents for newspapers, TV and radio; 3. A total of 4 capacity-building training sessions were organized to train doctors (n=63) and health educators (nurses or allied health professionals) (n=80). Due to delays in securing of funding for the project activities, the progress of the CHP has been hampered: activities for objectives 3 and 5 have not started yet, and for objective 2 only the preparatory work has been completed. Only the formative evaluation has been completed and reported below.

Based on the formative evaluation of the program, the following lessons can be drawn from the project: 1) The implementation of the project in the target region is considered to be feasible in light of the high interest of the administrative and political leaders of the region, community leaders, HCWs, and other stakeholders; 2) It is important to establish good relationships with, for example, the media, community/tribal leaders for the promotion of the project by engaging them in the early stage of the project initiation, and keeping them updated with the progress; 3) To ensure the timely implementation of activities and to retain trained staff, it is necessary to maintain continuous financial support for the entire duration of the project. It is necessary to first complete and evaluate the CHP in Al-Jouf Region, before expanding the program to the rest of KSA (and possibly other countries in the Gulf Region).

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