

Communication on Engagement (COE) Report

This COE describes the Chronic Care Center's efforts in supporting the implementation of the ten principles and in contributing to achieving SDGs as well as the progress made during the two years of joining the Global Compact Network.

| | Period covered: 2018-2019 | |
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Period covered: 2018-2019

This COE describes the Chronic Care Center's efforts in supporting the implementation of the ten principles and in contributing to achieving SDGs as well as the progress made during the two years of joining the Global Compact Network.

Overview:

The Chronic Care Center is a medico-social institution, specialized in the treatment and follow-up of childhood chronic diseases: Thalassemia and Type I Diabetes.

The Chronic Care Center is the first philanthropic medical institution of its kind in Lebanon and the Middle East. Founded in 1992 and officially inaugurated in June 1994

Mission:

The Chronic Care Center is a non-governmental, non-profit organization striving to lead specialized care for children with insulin-dependent Diabetes and Thalassemia by providing excellent, comprehensive, and accessible services and research for Lebanon and the region.

Keeping abreast with developments in clinical research, the Center also worked with great efforts to promote its preventive role. Through its educational programs and awareness campaigns, the Center aims to increase the understanding of diseases, reduce risks and complications and contribute in building up healthy generations.

Major activities:

The Center provides persons with Insulin dependent Diabetes and Thalassemia with a high quality therapeutic surveillance, a strict medical follow-up and a regular psychosocial orientation under the supervision of a multidisciplinary team of specialized doctors, nurse educators, social workers, a dietitian and a psychologist. This unique approach empowers patients and their families to accept their chronic condition and learn how to deal with it. It offers them also with the necessary medication and material needed for their treatment.

The Center also supports research in the field of chronic disease.

The Center collaborates with the Ministry of Public Health, other ministries, scientific societies and different parties to promote awareness about the disease and contribute to its prevention through different initiatives in different regions of the country.

Values:

The Center supports the ten principles of the UN with respect to human rights, labor and environment and anti corruption.

Its humanitarian mission is founded on the basic right of every child to a better health.

Individuality, dignity of patients, differences and diversity are respected

Equity and confidentiality in health care are also honored.

An institutional review board (IRB) is designated to protect the rights, safety and well-being of humans involved in a clinical trial or research.

The contribution of the Centre towards achieving SDGs:



The Main SDG of the Center is SD3: Good Health and Well Being

A- Activities aiming at Good Health and Well Being at patient Level

Good Health of patients

During the period 2018-2019, *The Center provided on yearly basis more than* 2500 persons with Insulin dependent Diabetes and Thalassemia with a high quality therapeutic surveillance, a strict medical follow-up and a regular psychosocial orientation under the supervision of a multidisciplinary team of specialized doctors, nurse educators, social workers, a dietitian and a psychologist. This unique approach empowered patients and their families to accept their chronic condition and learn how to deal with it.

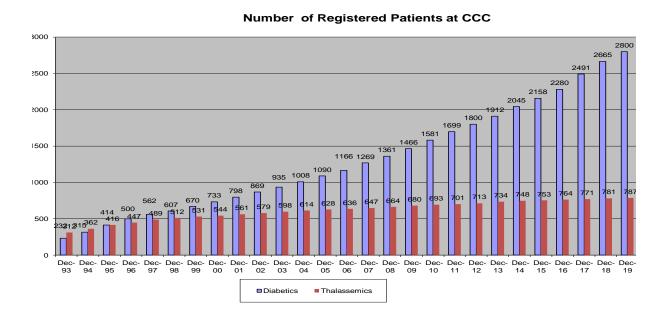
The Center has offered them also with the necessary medication and material needed for their treatment.

A 24hr support hot line is at the disposal of the patient with Diabetes

A Bone Marrow transplant program is sponsored by the Center to provide eligible patients with Thalassemia with permanent cure.

An echocardiography service was introduced in 2019 to provide patients with high quality free service since cardiac complications are the most common and the leading cause of death in patients with Thalassemia.

The number of registered persons with Type 1 Diabetes reached 2800 and 787 with Thalassemia at the end of 2019.



Well being of patients

The Center aims at improving the well being of persons with Type 1 Diabetes and Thalassemia by offering them a psycho-social follow up and by organizing activities that contribute to their empowerment and to a better quality of life.

Summer Camps:

The center organized yearly summer camps for 4-5 days for 30 youngsters with Type 1 diabetes in 2018 and 2019

21st summer camp summer 2018



22nd summer camp summer 2019



Outgoing 2018-2019 for adolescents

Since adolescents are a vulnerable group, outgoings are organized to achieve better integration and better well being



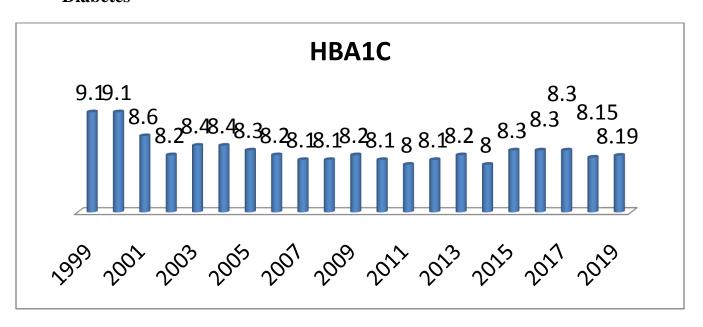
Cultural day Beiteddine 2018



Hiking Day 2019

Outcomes

1. Good HBA1C levels for patients reflecting good management of their Diabetes



2. Patients better self management, care, and social integration at the end of the camp and after outgoing for adolescents.

An increased number of patients who can do their tests and inject themselves with insulin.

An increased number of patients who can talk openly about their disease A better social integration

- 3. The Center is recognized as a Center of Excellence
 - a. The center is recognized by the International Diabetes Federation (IDF) as a Center of Excellence for the years 2018-2019



b. The Center was recognized by the American University of Beirut Pediatrics Adolescent Medicine Department for the continuous efforts to improve the lives of Children with Diabetes and the establishment of a Center of excellence in Lebanon



c. The Center was recognized by the Ministry of Public Health for its work in the field of Thalassemia



B- Activities aiming at Good Health and well being at Parents Level

Prevention of Diabetes among Parents of Type 1 Diabetes

A free screening was offered to 1037 parents of children with Type 1 Diabetes to detect undiagnosed medical condition of Prediabetes and Diabetes (2018-2019)



Outcomes

Identification of 311 persons newly diagnosed with Prediabetes and 27 with Diabetes.

Provision of needed information to prevent complications or development of diabetes.

Better understanding of the disease among this group.

Identification of population at risk: higher Ratio of 3 for male/Female at risk of Diabetes especially among person with age 40-59 years.

Abstract submission at the IDF congress 2019.

Prevalence of Type 2 Diabetes among Parents of Type 1 Diabetics in Lebanon



ETHO

Relatively high incidence of T2D has been reported among populations in the Middle Fast. The prevalence of Diabetes in Lebanon was estimated to be 14.6% in IDF 2017 atlas.

On the other hand, some studies have been conducted in the country recently reporting a prevalence of Type 2 Diabetes (T2D) around 8%1 and 15% in adults in the capital².

We considered interesting to study the prevalence of Diabetes among parents of patients with Type 1 diabetes (T1D).

The Chronic Care Center is the only specialized Center in Lebanon providing comprehensive care to T1D from all over the country.

The Center provided free screening for diabetes to the parents (father & or mother) of patients with T1D with capillary glucose testing and HBA1C measurement using HPLC method. Parents were voluntarily enrolled at the regular visit of their child.

Primary objectives:

To early diagnose Diabetes and Prediabetes among parents

To determine the prevalence of T2D and prediabetes in this population and the percentage of undiagnosed cases.

Secondary objectives:

•To study the relationship of the disease with different risk

To study the instantian of the disease with dimensional factors and its level of control in this group of population.
 To look at the screening predictability of Diabetes and prediabetes by capillary glucose versus HBA1C measurement.

1037 Persons participated in this study.

11.5 % Were found to have diabetes (10.3% T2D and 1.2% reporting T1D). Therefore only 1025 parents were considered for further analysis excluding T1D.

SAMPLE:

- Significant higher age group for men

Prevalence

ESULTS

| | Number | Prevalence | | | Female | Male to female ratio |
|-------------|--------|------------|-----------|-------|--------|----------------------------|
| T2 Diabetes | 105 | 10.2% | 8.3-12.1 | 16.6% | 5.3% | 3.13 |
| Prediabetes | 311 | 30.3% | 26,1-34,5 | 38.7% | 24.0% | 1.61 |

- Prevalence rate of T2D was at 10.2 %
- Male to female (M/F) ratio of 3. Prevalence in men was 16.6 % and 5.3 % in female.
- Prevalence of prediabetes was 30.3 % and M/F ratio 1.61
 74.3% Were diagnosed with T2D whereas 25.7% were undiagnosed prior to the study

Age adjusted percentages:

Since significantly higher age group was noted for men, further analysis by age group was done and showed higher prevalence with age. However a high M/F ratio remained after adjustment for age groups, with highest ratio (2.98) among age group 40-59

| Age Group | Diabetes Prevalence | | Diabetes Prevalence in Male | Daniel | Male to Female ratio | % Of Previously Diagnosed |
|--------------|------------------------|-----------|-----------------------------------|--------|-------------------------|---------------------------------|
| 20-39 | 2.3 % | 0.4-4.2 | 3.7 | 1.8 | 2.05 | 100% |
| 40-59 | 11.5% | 5.6-17.4 | 17.5 | 5.9 | 2.98 | 70.9% |
| 60-77 | 25.5% | 14.7-36.3 | 28.1 | 21.7 | 1.29 | 85.7% |

Disease in relation to other Risk factors:

- Predictors for diabetes and prediabetes were age, sex, BMI, dislipidemia and hypertension
- Family history was a predictor for diabetes only
- . Different living locations and smoking were not found to have significant relation with diabetes
- Although smoking was found to be a risk factor OR1.2 but was not significantly associated with Diabetes

 There was no statistically significant difference between
- previously diagnosed and newly diagnosed in respect to medical coverage and to hypertension.
- There is no association found between medical coverage and control of diabetes among previously diagnosed
- · Multivariable level (multiple multinomial logistic regression with normal as the reference category) showed

| | Co-variates | P-value | | 95% CI (lower bound) | 95% CI (upper bound |
|----------|----------------|---------|-------|-------------------------|------------------------|
| | BMI | .061 | 1.046 | .998 | 1.097 |
| | Age (20-39) | .000 | .042 | .012 | .146 |
| | Age (40-59) | .000 | .171 | .073 | .402 |
| Diabetes | Age (60-77) | | | | |
| | Male | .000 | 4.068 | 2.495 | 6.632 |
| | Dyslipidemia | .000 | 3.794 | 2.305 | 6.244 |
| | Hypertension | .015 | 1.942 | 1.140 | 3.309 |
| | Family History | .000 | 2.996 | 1.731 | 5.188 |
| | Of Diabetes | | | | |

Predictive value of capillary glucose and HBA1C:

On a second level, the predictive value of testing by capillary glucose compared to HBA1C showed that capillary glucose is 60.9% in concordance with HBA1C values in predicting T2D condition while only 26.3 % for prediabetes.

CONCLUSION

Parents of Type 1 Diabetics in Lebanon were found to have a 10.2 % prevalence of T2D Diabetes. The percentage of undiagnosed T2D was 25.7% and a relatively high percentage of prediabetes at 30.3% was detected. In addition, a higher prevalence in males than in females, especially in the age group 40-59 was observed. Predictors for T2D were age, sex, BMI, dislipidemia, hypertension and family history with males being more at risk of having diabetes. Capillary glucose testing alone was found to be 61 % sensitive in predicting diabetes but not a good screening tool to detect prediabetes while HBA1C measurement seemed to be better at detecting diabetes and prediabetes. Comparative studies with the general population should be conducted in the future.

1 Bou-Orm, J.R. et al, Journal RESPE 2018;5;5;5515 2 Maurallah.M et al, Endocrine Practice 2017;23;9;1091

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Parents support Sessions

Parent Support sessions for parents of newly diagnosed patients with Type 1 Diabetes

Parent support sessions are done to help families cope with the new condition of their child and to maintain healthy family dynamics (On March 7, 2019 and April 18, 2019)



Parents' session for parents of children with Thalassemia on means of prevention for parents who would like to have more children.



C- Activities aiming at Good Health at Community Level

National Thalassemia Prevention Program:

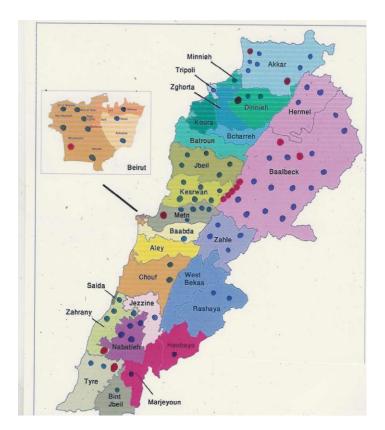
Through its national prevention program in partnership with the Ministry of Social Affairs, the center could decrease the number of patients with Thalassemia a chronic condition that requires a lifelong costly treatment and puts a heavy burden on the patient/family and society.

Outcomes

1. On- going Comprehensive Program

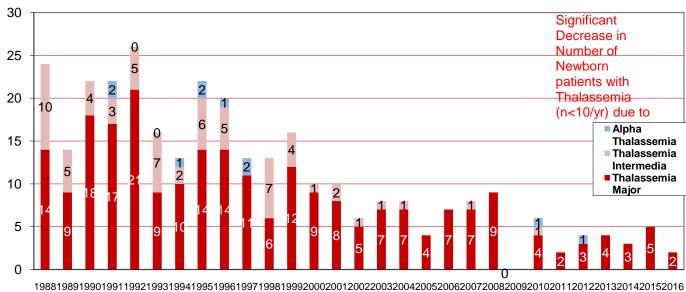
Awareness Campaigns at the national level • Around 5000 persons per year are attending these sessions (villages, schools, universities) **Training of trainers** Additional 100 professionals are trained as trainers per year to promote awareness in 2 their community • Production and dissemination of educational material 3 Free screening to identify new carriers • General population (schools, universities) • High risk group (brothers/sisters, cousins, family members) Prenatal diagnosis in genetics laboratory • Genetic testing of CVS or amniotic fluid 5 • Pre-implantation genetic diagnosis for beta thalassemia • Updated registry of carriers at the center Counseling of identified carriers

2. Activities all over Lebanon



3. Significant Decrease of more than 75 % of new cases with Thalassemia

Thalassemic Patients per Year of Birth and Diagnosis



D- Activities aiming at Good Health: Research

The Center is involved in many international clinical trials as a contribution to science

Outcomes

The findings contributed to a change in the treatment modalities of Thalassemia Intermedia a condition only common in our region.

E- Activities aiming at Health and Well Being of Employees

Wellness program for employees:

The program was introduced in February 2018 and is still on- going.

The program aimed at preventing Diabetes & other chronic conditions among employees and to improve their overall health condition.

It aimed also at assessing such preventive programs in the work place

- -This program was offered to all employees (33) who had already a medical insurance.
- -It consisted of medical assessment by an endocrinologist and medical laboratory tests including fasting blood glucose, glucose tolerance test and HBA1C, lipid profile and others.
- -A dietetic assessment including body fat composition and follow-up by a dietitian was provided.
- -A fitness assessment and fitness classes were offered twice per week within working hours by professional trainer.
- -A SF-36 quality of life questionnaire was introduced.

Assessment was done prior to intervention and one year later.







Outcomes

- -Identification of % of people with undiagnosed conditions of Diabetes and other medical conditions
- 3% were found to have undiagnosed diabetes (1 person)
- 45 had all undiagnosed Prediabetes (13 persons)
- 52% abnormal cholesterol of whom 40% of them were not aware of their condition.
- Improvement / Reverse of medical condition
- 54% Reduction of the percentage of persons with Prediabetes
- -47% Reduction of the percentage of persons with high cholesterol
- -71% Reduction of the percentage of persons with high LDL
- A significant change in body weight, waist, and body fat composition
- On the fitness level, a significant improvement was recorded in terms of aerobic capacity, muscular endurance, flexibility, functional movement and heart beat.
- A change in behavior : increase in adoption of physical activity > 2h / week from 38% of employees to reach 79.3% of the group.
- -Health change in physical functioning and total quality of life score reported through SF36
- Abstract /oral presentation submission in IDF 2019 Prevention of Diabetes: An Employer Responsibility

OP-0177 Prevention of Diabetes: An Employer Responsibility M. Abi Saad.MPH', Navfal, RN', I. Chaaya RN', T. Abou Nasr Nabhan, MD', J'Chronic Care Center, specialized institution in the treatment of Type 1 Diab Prevalence of Type 2 diabetes is increasing worldwide. The greatest number of people with Type 2 diabetes was between 40 and 59 years of age therefore mainly working people. According to some studies, up to 80% of type 2 diabetes (T2D) could be prevented or delayed through healthy diet and regular physical activity. Healthy choices can be promoted in specific settings (school, workplace and home) and contribute to better health for everyone. Therefore, employers could play a major role in the prevention of Diabetes by implementing wellness programs for their employees. To assess the effect of a Diabetes prevention program that includes medical assessment and follow-up, dietetic assessment and follow-up as well as fitness activities in a workplace. Initial Assessment:

CHRONIC CARE CENTER

A wellness program targeting employees was conducted as a pilot study at the Chronic Care Center, a specialized center in the treatment of Type 1 Diabetes in Lebanon.

D¹,J. Najjar,RD¹,P. Maatouk¹,R. Medlej,MD¹

- This program was offered to all employees who had already a medical insurance.
- The program consisted of medical assessment by an endocrinologist and medical laboratory tests including fasting blood glucose, glucose tolerance test and HBA1C, lipid profile and others.
- A dietetic assessment including body fat composition and follow-up by a dietitian was provided.
- A fitness assessment and fitness classes were offered twice per week within working hours by professional trainer.
- A SF-36 quality of life questionnaire was introduced.
- Assessment was done prior to intervention and one year later.

33 Employees were voluntarily enrolled of whom 29 had completed record. Mean age 50.24 ± 9.92 and 75.8% whose age ranged between 41-60 years. 65.5% were overweight or obese. 3% were found to have undiagnosed diabetes (1 person) 45 % had all undiagnosed prediabetes (13 persons) 52% abnormal cholesterol of whom 40% of them were not aware of their condition Post Intervention: After one year of intervention, and despite that not all employees adhered to the program. A significant change in body weight, waist, and body fat composition. A significant change in body weight, waist, and body fat composition. rediabetes, high cholesterol, and high LDL 2018 2019 47% Reduction of the p-value percentage of persons with high cholesterol (p=0.02). Weight in Kg 71.30 ± 13.96 69.35 ± 12.53 0.02 1(3.4) 6(20.7) 22(75.9) 1(3.4) 13(44.8) 1.0 Waist in cm 93.53 ± 10.77 89.21 ± 9.60 < 0.0001 71% Reduction of the 24.54 ± 6.08 25.05 ± 6.02 0.01 percentage of persons with high LDL (P<0.001). 5(17.2) <0.0001 LDL 17(58.6) 27.28 ± 4.34 26.16 ± 3.98 0.001

METHO

| Laboratory | 2018 n=29 | 2019 n=29 | p-value |
|------------------------|-----------------|-----------------|---------|
| Cholesterol | 201.93 ± 39.22 | 191.55 ± 26.15 | 0.08 |
| Triglyceride | 149.69 ± 134.22 | 105.34 ± 51.89 | 0.002 |
| HDL | 53.48 ± 15.65 | 54.48 ± 13.55 | 0.39 |
| LDL | 132.97 ± 29.89 | 117.72 ± 21.11 | <0.0001 |
| Glucose | 95.17 ± 10.88 | 82.00 ± 8.89 | <0.0001 |
| HB A1C | 5.59 ± 0.43 | 5.42 ± 0.40 | <0.0001 |
| SGPT | 22.72 ± 13.58 | 16.86 ± 5.53 | 0.01 |
| GGT | 35.48 ± 34.73 | 21.31 ± 4.62 | 0.06 |
| BUN | 30.28 ± 7.53 | 31.55 ± 7.54 | 0.36 |
| Creatinine | 0.85 ± 0.16 | 0.85 ± 0.15 | 0.30 |
| Urio Acid | 4.60 ± 1.34 | 4.26 ± 1.27 | 0.004 |
| Hot | 40.75 ± 4.64 | 42.64 ± 4.73 | 0.001 |
| Hb | 13.31 ± 1.60 | 14.78 ± 1.68 | <0.0001 |
| Ferritin | 82.62 ± 66.81 | 77.48 ± 62.53 | 0.15 |
| CPK | 103.31 ± 100.78 | 79.72 ± 38.30 | 0.96 |
| Glucose Tolerance test | 98.67 ± 29.96 | 93.78 ± 31.15 | 0.27 |

| | On the | fitnes | s level | | significan | t improve | ment was |
|---|---------|----------|-------------|------|------------|-----------|------------------------|
| А | recorde | d in | terms | of | aerobic | capacity, | muscular heart beat |
| 4 | enduran | ce, flex | cibility, f | unct | ional move | ment and | heart beat |

| | | 2018 n=29 | 2019 n=29 | p-value |
|---------------------|------------|----------------|----------------|----------|
| Muscular Endurance | Mean (±SD) | 19.93 ± 16.56 | 40.84 ± 18.56 | < 0.0001 |
| Functional Movement | | | | |
| Squat and lunges | Mean (±SD) | 17.78 ± 8.96 | 34.95 ± 4.48 | < 0.0001 |
| Sit and Reach | Mean (±SD) | 42.33 ± 11.31 | 53.05 ± 11.09 | < 0.0001 |
| Aerobio Test | | | | |
| Completion | Yes | 9 (33.3) | 15 (78.9) | 0.004 |
| Minutes Required | Mean (±SD) | 1.66 ± 1.07 | 2.72 ± 0.63 | 0.03 |
| Heart Best (BRM) | Moon (+SD) | 149 01 + 95 60 | 126 84 + 21 80 | 20,001 |

A change in behavior: increase in adoption of physica activity > 2h / week from 38% of employees to reach 79.3% of the group.

Employees reported through SF36 an improvement in health change (p=0.007), physical functioning (p=0.04) and total quality of life score (p=0.03).

CONCLUSION

Although it is a pilot study on a small sample size, it could be a pioneer project to be implemented in other institutions. Employers can play a major role in the prevention of chronic diseases, metabolic and cardiovascular diseases and in particular diabetes not only by providing medical insurance but in providing similar wellness programs. Given that the prevalence of prediabetes is elevated and that the condition can be preventable, such programs which seem to have very promising results should be adopted.

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None of the authors has a conflict of interest

NB: The center will try to promote this model in business companies through Global Network



The center plays a role in patient/parent, health care professionals' medical education, community awareness and continuing education to staff. It has been recognized by IDF as a Center for education



A- Patient/Parent Education

1. Patient/ Parent Education as part of comprehensive care

Doctors, nurse educator dietitian offer medical education to patients and parents to empower them to manage better their disease .They offer one to one education as well as group education

Outcomes

- 1. Knowledge assessment of 1002 patients with type 1 Diabetes showed an **83.37% level of good knowledge** reflecting a very satisfactory education level of knowledge among patients with Type 1 Diabetes and their parents at the Chronic Care Center. It reflects the quality of patient centered education provided by a professional multidisciplinary team.
- 2. Abstract presented in IDF 2019 Congress

Knowledge Assessment of Persons With Type I Diabetes Followed at the Chronic Care Center, Lebanon



C.Rayes Sadek! MCH RN, P. Nawfall RN, C.Bittar! RN, I. Chaaya! RN, J. Najjar! RD, J. Ajouz!, M. Mrad!, M. Abi Saad! MPH.

ACKGROUN

Maintaining normal blood glucose levels will result in preventing or decreasing the degree of acute and chronic complications in diabetes

Individuals with diabetes should understand the importance of:

Exercise

Diet

Treatment

This article describes the level of knowledge in patients with diabetes who attended at least four sessions of education by the multidisciplinary team of the Chronic Care Center (C.C.C), a specialized center in treatment of type I diabetes in Lebanon



To evaluate the knowledge of type 1 diabetic patients who were educated by the multidisciplinary team at the Chronic Care Center, the only specialized center in the treatment of Type 1 Diabetes in Lebanon.

 Survey of 1002 Type I diabetics of all age groups visiting the C.C.C ETHO

- · Period of four months May - September 2017
- The questionnaire included
- 17 questions on demographic information
- 41 questions on:
- Knowledge in nutrition
- Disease self-management
- Different types of insulin Management of acute complications
- Prevention of chronic
- complications
- Based on the Diabetes Knowledge Test (DKT2)

RESULTS

- The average age of the study population was (17.9 ± 7.64)
- The mean of HbA1c of the study population was



Distribution of HbA1c levels of our study population according to the IDF guidelines with a mean of 8.26% ± 1.48

The correlation between the level of knowledge and HbA1c with P=0,002

39.5% 60.5%

43.6% 56.4%

HbA1c<7.5%

7.5%>HbA1c<9%

HbA1c>9%

Poor Knowledge

Good Knowledge

Those who have an HbA1c < 7.5% had a significant higher level of good knowledge compared to those with an HbA1c >9%.

83.37% ± 11.97% of patients gave correct answers thus reflecting a very good education level

| Questions | Correc | t answer |
|--------------------------------------|--------|----------|
| | Mean | Std Dev |
| Physiopathology (Q1-Q6) | 89.75 | 15.49 |
| Management of Hypoglycemia (Q7-Q11) | 92.05 | 14.04 |
| Management of hyperglycemia(Q12-Q17) | 75,82 | 19,9 |
| Insulin therapy (Q18-Q28 + Q33) | 75.56 | 18,07 |
| Sports and diabetes (Q29-Q30) | 96_27 | 14.09 |
| Complications Q31-Q32) | 86.44 | 25.86 |
| Nutrition (Q34-Q41) | 80.54 | 16.20 |
| Mean of Total Questions | 83.37 | 11,97 |

Factors affecting knowledge

- Sex: Girls have a better knowledge (58.9%) than boys (51.4%) with P=0.01
- Socio-economic status: Better knowledge among persons with better economic 4.9%) with P=0.001 level (74,4% vs 4

55.1%

600\$ - 1000\$

> 1000\$

Poor Knowledge Good Knowledge Monthly income

- Number of family members: Higher in families with less number of children (1-3 kids) 60,3% vs 33,6% for families > 6 kids P=0.001
- Number of years with diabetes: Higher for > 5 years 59.4% vs 45.6% < 2 years
- Pump therapy: Better knowledge with patients using pump (85.4%)

CONCLUSION

The level of knowledge of the type 1 diabetic population and their parents at the Chronic Care Center is more than satisfactory. It reflects the quality of patient centered education provided by a professional multidisciplinary team. We need to focus more our education on patients with lower socio-economic level, and complement it with other educational methods. In addition, we have to look into other psychological factors that may play a role in affecting

2. Group Sessions on Celiac Disease a condition present among persons with Type 1 Diabetes:



3. Capacity building workshop for young leaders with Type 1 Diabetes on June 2019



B- Health Care Professionals Education

Annual workshops on Diabetes

The center organizes a free annual workshop for school nurses, nurses or /& dietitians on Diabetes aiming at spreading better knowledge about practical management of disease

- -Nov 2018, 5th annual workshop for healthcare professionals for 80 participants
- Jan 2020 , $\boldsymbol{6}^{\text{th}}$ annual workshop for healthcare professionals for 90 participants



Training of Nurses in order of nurses



C- Community awareness

The center contributes to community awareness about the diabetes and thalassemia in schools, universities, municipalities and through collaborative national campaigns.



NGO fair at American University of Beirut

Thalassemia

The center trough its prevention program spread awareness about the disease and its prevention

2018 number of persons who received awareness sessions about the disease 3025

2019 number of persons who received awareness sessions about the disease 7507

Screened:104



D- Staff Continuous Medical Education

- Nurses, dietitians, health care professionals participate in several conferences to serve better patients and for their professional growth



Participation in IDF 2019

⁻They also receive continuous training on new technologies ex: insulin pumps, flash monitoring etc.



Support to patients for carrier development

Social service supports patients and parents in orienting them for a better carrier development or in finding jobs. It orients students to technical schools when patients are in educational difficulties or to do vocational training to be able to find jobs.

They are referred to other institutions that provide this kind of support like office of social development or to "tadamon el mehani" from where they can get reseanoble loans to open small business or to YMCA to do vocational training to acquire technical skills like hairdressing, carpeting etc...

Outcomes

More productive patients and parents.

Support to employees

-Provision of free of charge physical activities to employees within working hours

Outcomes

- -Better health refer to scientific abstract in SDG3 section
- -Better quality of life refer to scientific abstract
- -Better interpersonal relationship at work



Innovative ways in preventing Diabetes introduction of wellness programs in work place (Activity aiming at Good Health and Well being among employees)

Project described in SDG3 section

Outcomes

Refer to abstract mentioned in SDG3: Prevention of diabetes: An employer responsibility

Better health, quality of life and work environment

Aim at spreading this experience among business partners and through the Global Compact Network.

Young leaders Support: Peer support

Creation of a body of young patients with Type 1 Diabetes to support younger patients

Outcomes

- -Involvement in summer camp
- -mentoring /role models to younger
- -Involvement in awareness session
- Better social integration and management of disease by younger patients







The Center alleviates the financial burden of the cost of the treatment of the disease by providing subsidized treatment

Cost of the treatment per patient with Type 1 Diabetes per year is around 2000 $5000\$

Cost of treatment per patient with Thalassemia per year ranges between 10000 \$ - 30000 \$

Outcomes

Patient contributes with symbolic amount thus this support reduces the financial burden on the family and contributes to prevention of poverty among families with scarce or limited resources.



Economic inequalities

Patient's equity is one of the values adopted at the center. All patients have the same right to receive medical care irrespective of social or economic level

Outcomes

Quality treatment is provided to all persons equally.

Social integration vs. Discrimination

The center works hard at promoting the productive image of patients with Type 1 Diabetes and thalassemia in order to reduce social inequalities that they might face in society, at school, at work place through:

- Awareness community sessions, TV, radio sessions



-Involvement of patients in TV sessions



Patients talking about their daily challenges and about their productive life

-Participation of patients in Marathon to ascertain their physical ability







Community support to needs of other citizens: Blood Donation

The center works hard at promoting the importance of blood donation among citizens through community activities and blood drives

A- Outcomes

Increased awareness about the need to support patients spread by celebrities. Units of blood collected for treatment of patients with Thalassemia (campaign May 2018)



Involvement of singers Antony Touma and Marc Hatem , Actor George Khabbaz and many other celebrities in promoting blood donation.

-Awareness campaign on the seaside sidewalk "be a hero donate blood" for a week to encourage citizens to donate blood in support of the treatment of people with Thalassemia (throughout the year)

Collection of 70 units of blood on May 4, 2019









Recycling of medical waste

The center recycles all its medical waste and some of the patients medical waste Through Arcenciel (another member of Global Compact Network Lebanon)

Outcomes

3833.32 Kg of medical waste were recycled through another GNL partner Arcenciel 2018-2019 (2027.32 in 2019 and 1806 Kg in 2019)

Education on proper recycling

Teaching patients how to recycle their medical waste and to dispose of needles safely

Outcomes

Safety disposal of medical waste at the home level

Responsible consumption

Administrative control on the necessary consumption of free medication is done to avoid over consumption by requesting empty vials of some expensive medication.

Outcomes

Optimal use of free medication and prevention of unused expired medication.



The Center has partnered with many bodies for better achievement of its goals

Partnership with Ministry of Public Health

Diabetes

In 2018, the Center partnered with ministry in the National Campaign on Screening for Diabetes

Outcomes

- Over 45 days, it reached 6135 persons
- The Chronic Care Center's team covered 15 places and screened 3217persons

• TV interviews, screening at TV stations, supermarkets and fairs



Black Friday Fair



Screening in Supermarkets



In 5 Tv stations

Abstracts on the lesson learned presented IDF Congress 2019

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National Awareness and Screening Campaign on Diabetes in Lebanon: Lessons Learned



M. Abi Saad MPH*, A. Echtay, MD*, R. Hamra Dr, Pharm D, MPH*

¹ Chronic Care Center, specialized institution in the treatment of Type 1 Diabetes, Lebanon | * Ministry Of Public Health, Lebanon

BACKGROUN

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RESULTS

The high rates of Diabetes reported in the Middle East has put Diabetes as a priority for health authorities.

Several stakeholders are implicated in the control of the disease and its complications. Joined efforts will lead to better early detection and prevention of the disease.

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The primary objective of the campaign was to increase awareness about Type2 Diabetes at the national level and to highlight the ease and importance of early detection.

The collection of data was done to have an estimate of the prevalence of the disease and to assess the effectiveness of community activities

The Lebanese Ministry of Public Health in collaboration with the Lebanese Society of Endocrinology Diabetes and Lipids, the Chronic Care Center (an NGO and specialized center in the treatment of Diabetes), the Order of Nurses and seven pharmaceutical companies have joined efforts to launch a national awareness campaign in November 2018 aiming at early detection of the disease with the siogan "In a minute, you gain years".

The 40-day-campaign comprised:

Media campaign

- Official launching at the Ministry

- TV spot diffused on national TVs
- TV interviews
- Mobile advertising truck
- Social media messages

Community awareness and screening activities

- 37 activities in different regions of the country
- Performed by the team of nurses and paramedical staff of the Chronic Care Center and nurses from the Order of Nurses.
- Reached more than 6000 persons
- Provided free of charge homoglucotest and point of care HBA1C test HBA1c was only offered to Lebanese citizens known to have diabetes and those with abnormal hemoglucotest results.
- Education with appropriate advice and distribution of brochure on Diabetes.
- Screening activities in TV stations for TV staff and celebrities
- Live TV screening confirming the ease of testing and early detection
- Screening in supermarkets and Fairs
- Screening in villages, municipalities and dispensaries

Out of a sample of 5896, 5513 Lebanese were tested.

12.8 % were found to have diabetes of which 10.7% were previously diagnosed and 2.1 % were newly diagnosed.

The average HBA1C for previuosly diagnosed diabetics was 7.79 whereas for undiagnosed 8.18.

A higher percentage of previously diagnosed diabetics were observed in locations where prior directed invitation to diabetics by the local community was sent or screening site was near a health care service.

In a subsample of 2182 persons, the average age was 45, the average for diagnosed diabetics 52 and the newly diagnosed 51 years.

A small percentage was identified to have prediabetes due to limitation in the screening method

Conclusion

- National Campaigns with involvement of different stakeholders seems to be successful in raising awareness in the community.
- 12.8% Prevelance of diabetes was noted despite screening limitations
- Only a small portion of prediabetics could be identified due to testing limitations.
- Systematic HBA1C should be recommended in future activities.
- Standardized training of team and recruitment of individuals should be adopted.
- Among screening activities, testing in TV stations of TV staff and celebrities as well as live TV screening confirming the
 ease of testing and early detection was innovative and effective.

Thalassemia:

• In 2018, the center partnered with the Ministry of Public Health to promote the importance of premarital testing in prevention of Thalassemia

Outcomes

- Joint social media campaigm
- -Press conference
- Better Awareness
 - Provision of Medication for persons with Thalassemia by the Ministry

Partnership with Ministry of Social Affairs

The Center is a partner with the Ministry in the National Thalassemia Prevention Program described earlier

Outcomes

In 2018-2019 : 10532 trained persons

104 screened persons

- -Continuous effort to decrease number of new cases.
- -Monitoring of new cases: around 2- 5 cases / year

Partnership with Ministry of Education

Diabetes:

The Center coordinates with the Ministry to give permission to patients with Diabetes to have their medication and monitoring device as well as sugar during official exam

Outcomes

Safer environment and access to adequate treatment during official examination

Thalasemia:

Acesss schools for awareness sessions oin Thalassemia and training of health counselor in public schools

Outcomes

Increased awareness among students and teachers in public schools

Partnership with Cities Changing Diabetes



- The center as the only NGO, partnered in 2018 with the MOPH, the Lebanese society of endocrinology and NovoNordisk to improve diabetes in our country. An assessment of needs and plan will be developed in 2020
- One of the activities performed was screening in the Municipality of Beirut

The aim was to improve awareness on Diabetes, prevent Diabetes or its complications and promote healthy life style

- 171 employees and visitors were screened
- They were offered blood glucose screening and HBA1C
- Medical consultation for people at risk
- Dietetic Consultation



Outcomes

- 42 were discovered to have Diabetes and Prediabetes.
- Proper Advice was given to them for a better followup of their case

Partnership with International Bodies: International Diabetes Federation (IDF)

The Center has been a member of the International Diabetes Federation .It participates in regional meetings as well as international congresses

Outcomes

The Center has been acknowledged as Center of Excellence for Care &Education



- IDF provides Educational platforms for health education: 4 nurses benefited from online training for Diabetes nurse educator
- Yearly celebration of World Diabetes Day following the IDF theme. Many activities are organized by the Center and shared with the network of other members of the Federation. It includes workshops, lighting the Center in blue, screening activities etc...



Partnership with International Bodies: International Thalassemia Federation (TIF)

Representation of the Center by a board member, Michele Abi Saad in the TIF

Exchange of expertise and representation of the region

Training by the TIF of one of the patients with Thalassemia to be an expert patient

Exchange of information

On- line Educational platforms made available for patients

Partnership with other NGOs

The Center partnered with Walid bin Talal foundation and George Khoriaty Foundation (GKF) to sponsor bone marrow transplantation, an expensive treatment for selected group of patients with Thalassemia

Outcomes

Sponsorship of a treatment that costs 35000 \$/ patient for 3 patients.

Partnership with Scientific Society: Lebanese Society of Endocrinology Diabetes and Lipids

The Center participates on a yearly with the Society in a public conference in the occasion of World Diabetes Day. It participated in its 14th Conference in Nov 2018

Outcomes

Complimentary role between different stakeholders in the country to achieve common goals.