# Measurement of the Physical Score for the Assessment of Quality Of Life in Diabetics in Morocco: About 140 Cases.

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**RESUME**

The prevalence of diabetes is increasing, from 6.4% in 2010 to 7.7% of the world's population by 2030.

Today, it is recognized that the management of diabetes, long focused on glycemic control, must integrate the preservation and improvement of the quality of life of patients.

In this study we were interested in measuring the physical score to assess the quality of physical life of Moroccan diabetics.

Method

 Descriptive and analytical cross-sectional study of 140 diabetic patients seen at the Mohamed V military training hospital in Rabat from November 1st until the end of December 2017. The quality of life is analyzed with the quality of life scale SF 12 (Short Form).

Result

The average age was $56 \pm 11.9$ years with 65% of men. The mean time to progression of diabetes was $9.62 \pm 7.12$ years. Diabetes was type 2 in 92% of patients. The quality of life was poor and the physical score was moderately impaired. Quality of life can be related to age, sex, and duration of diabetes.

DISCUSSION-CONCLUSION

The finding remains the same as the literature, the quality of life of the Moroccan diabetic patients is mediocre. Therapists must take this into account for better management of these patients.

**Keywords:** age, sex, diabetes, quality of life.

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## I.  INTRODUCTION

The global prevalence of diabetes has almost doubled since 1980, from 4.7% to 8.5% in the adult population. These numbers indicate an increase in associated risk factors such as being overweight or obese. Early diagnosis is the starting point for living well with diabetes.

According to WHO, diabetes kills 24,020 people in Morocco. Moroccan women are the most affected with 5,070 deaths among adults aged 30 to 69 years and about 4,490 deaths among male patients. In patients over the age of 70, the number of deaths is 9,280, of which 5,180 are male.

The deaths due to hyperglycemia amount to 32,260, and according to WHO, the prevalence rate in Morocco is 12.6% for men against 12.3% for women. Globally, WHO estimates that 422 million adults were living with diabetes in 2014 compared with 108 million in 1980.

The quality of life in relation to health measure is an essential complement to medical evaluation. In recent years, the measurement of the quality of life in the field of health has become widespread; therefore, work on quality of life related to health measures is growing in number.

## II.  PATIENTS AND METHODS

It was a cross-sectional study of 140 cases, our target population consisted of type 1 and 2 diabetic patients aged 20 years and over consultants at the Military Hospital  Mohamed V in Rabat.

The data collection was done during the diabetology consultations at the Mohamed V military hospital in Rabat.

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This study is based on a generic SF-12 quality of life questionnaire, a shortened version of SF-36 filled out by patients for two months from November 1st to the end of December 2017.

In this study, we looked at the evaluation of the physical score in diabetics. With regard to the demographic characteristics of the patients, we analyzed the age group and the sex and for the characteristics related to diabetes we were interested in the type of the diabetes and the seniority of the disease.

Table 1 explains the different dimensions for calculating the physical score based on the SF-12 questionnaire. The 12 items of the questionnaire are coded, the analysis of this coding requires 2 recodings: the first recode the ordinal values in a scale from 0 to 100. The second is a grouping of the 12 questions. When the score is hight, the quality of life is better.

Data collection
Data was collected by a trained research doctor. It was based on patient record. We were interested to the diabetic patients.

Data analysis
Data were analyzed using IBM SPSS 19.0 for Windows. Descriptive as well as analytical analyses were employed to determine epidemiological profile of patients and quality of life. The results are expressed in terms of numbers for the qualitative variables and on average ± standard deviation for the quantitative variables. P-values≤0.05 were considered to be statically significant in all analyses.

## III. RESULTS

The evaluation of the quality of life of type 1 and 2 diabetic patients is based on the analysis of data and characteristics of diabetic patients who consulted at the HMIMV in Rabat.

Our sample consisted of 35% (49 patients) of women versus 65% of male (91 patients) with a sex ratio H / F = 1.86. The results of the study shows that the average age of our sample was 56 ± 11,9 years, with extremes ranging from 20 to 95 years (Figure 1). Our study was based on both types of diabetes 1 and 2, for type 1 (DID: insulin-dependent diabetes) represents 8% of the sample whereas there is a preponderance for type 2 (DND: diabetes insulin dependent) (Figure 2).

One hundred and forty diabetics responded to the generic SF-12 questionnaire. The questionnaire allowed us to calculate a physical summary score average of 52.66 with a minimum score of 6.25 and a maximum score of 100. Forty-seven percent of the subjects studied their general health is mediocre against those with excellent general health who present only 2%. The average score for general health is 47.35 ± 20.46. For limitations due to physical condition, we have an average of 45.17 ± 49.26. Based on these results, 44% of diabetics were in good physical condition. In addition, for the scores obtained for physical pain, we note that the majority of the population suffer significant physical pain with an average of 62.50% of the population. The results of the descriptive analysis of the different measures are summarized in Table 2.

The comparative study (Figure 3) shows a decrease in physical activity with age. The first two age groups have high values (53,43 and 53,47), while people over 65 years have a lower score (49,47), this difference in scores between categories of age is highly significant (p ≤ 0.01).

The comparative study of SF-12 scores by sex (Figure 4) shows the existence of a difference between men and women. In general, men express a better quality of life compared to women for the different dimensions measured (p≤0,01).

The comparison of the physical scores of the two types of diabetes involved in the DID and DND study, showed that the majority of patients with type 2 diabetes had a more or less better physical score than patients with type 1 diabetes with scores 52, 79 and 51.14 respectively.

## IV. DISCUSSION

In clinical research, the evaluation of the quality of life has become almost systematic to document the benefit of interventions, the legitimacy of this approach resulting from the observation that health can not be reduced to a biomedical dimension. Many measurement tools have been developed, the methodological difficulty is major since it is a question of obtaining a qualitative measure of a purely qualitative, subjective and very personal concept [1].

In general, the quality of life in relation to health in our population is moderately impaired, this is reflected in a certain discomfort and insecurity of our population that may be related to their perception of the health system. The results of our study are similar to those of the literature [2, 3]. Patients with type 2 diabetes have a physical score that is at least higher than that of patients with type 1 diabetes, as the latter seriously affects the quality of life of these patients and especially if diabetes is old, this finding is identical to that reported by other studies [4].

The most significant results from our study show that people over 65 have a poor perception of the majority of the measured domains, especially those related to physical health and relationships with others, these results are similar with those of literature [5, 6]. In the elderly, the decline in health, particularly physical, is

attributed to the natural aging process, which is a fertile ground for the development of diseases whose effects worsen with age, often leading to comorbidities in addition to changes in social and professional life;

The youth class [20-45 [have near-balanced physical health scores, which seems logical given their young age, is a better perception of their physical health.

The scores for physical functioning, physical limitations, and physical pain, dimensions mainly related to physical health, are lower in women compared to men. This finding is identical to that reported by other studies [7, 8, 9], such as the ENTRED 2007-2010 study, which showed that the physical score was higher in men than in women (43 vs 38) respectively and that this physical score decreased with age. Being elderly, being a woman, having income deemed to be inadequate, altered the quality of life. Overall, the existence of diabetes complications was linked to an impairment of quality of life [10].
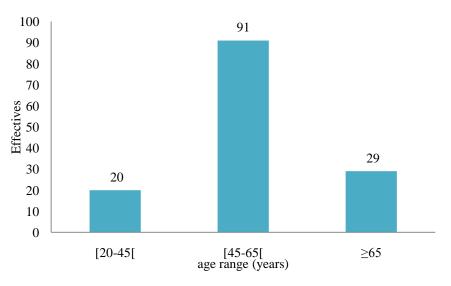
## V. CONCLUSION

In conclusion, diabetes is a chronic condition that causes an impairment of the quality of life of patients who have it. This finding is identical to that reported in other countries [11]. This deterioration worsens with age and duration of diabetes. The young age of the patients, the male sex, the less old diabetes and balanced with simple hygienic-dietary measures, the absence of previous complications, a good follow-up, are associated with a better quality of diabetic life. This study is preliminary result of a more important investigation.

**Conflict of interest:** *No conflict of interest*

**Table 1:** How to calculate the physical quality of life score.

| Dimensions | Score calculation |
|---|---|
| PF : Physical funtioning | Sum of scores obtained in items 2a and 2b divided by 2 |
| RP : Physical limitation | sum of scores obtained in items 3a and 3b divided by 2 |
| BP : Physical pain | The score obtained for question 5 |
| GH : General health | The score obtained for the first question |
| Physical score: | Sum of the scores obtained in the 4 dimensions above divided by 4 |

**Table 2:** Results of different measures of physical score, duration of diabetes and age.

| Dimensions | Average | Standard deviation | Min | Max |
|---|---|---|---|---|
| Age | 55,96 | 11,9 | 20 | 85 |
| Duration of diabetes | 9,62 | 7,12 | 1 | 31 |
| General health | 40 | 20,46 | 0 | 100 |
| Phsical funtioning | 63,21 | 35,41 | 0 | 100 |
| Physical limitation | 45,17 | 49,26 | 0 | 100 |
| Physical pain | 62,50 | 27,7 | 0 | 100 |
| Physical score | 52,65 | 28,58 | 6,25 | 100 |

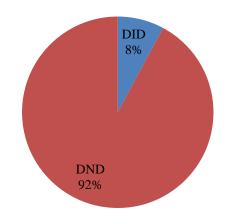**Figure1:** Distribution of diabetics by age



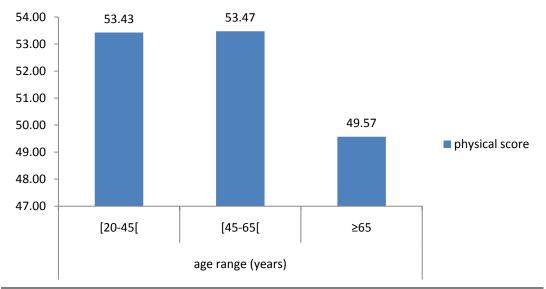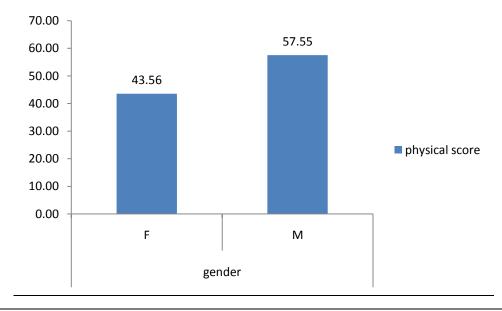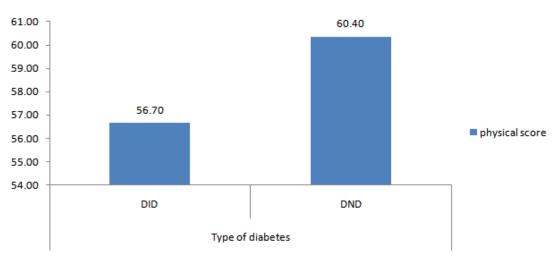**Figure 2:** Distribution of patients by type of diabetes.



**Figure 3:** Comparison of physical score by age group

**Figure 4:** Comparison of physical score by gender



**Figure 5:** Comparison of physical score by type of diabetes

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