# Title of the article "The treatment of type 2 diabetics through a spatially-centered care network: what contributions? Case of DIABIR<sup>3</sup> »

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DIA refers to patients with type 2 diabetes and BIR at Birtraria hospital in Algiers.

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# **Summary**

A health care system faces a number of limitations which, all of them, can make the organization of its distribution of care, at a given moment, its inoperative evolution. Indeed, the traditional organizational patterns on which this distribution of care is based can experience a shortness of breath since the care provided to patients has several characteristics: continuous care, global care, quality care ... To answer these legitimate quests of sick to be better informed and to benefit from a more humane, better coordinated and closer to their place of life, care networks can help to correct a number of difficulties inherent in the distribution of care through schemas classics.

The organization by network is called to play a primordial role and to hold a prominent place in the current organization of the distribution of care and this by its triple contribution to know:

- adopt a new patient-centered approach;
- make changes in organizational patterns to distribute the care focused for the time on public health care facilities and private medicine;
- to guide the reflection of all health care providers to become real actors for the restructuring of the healthcare system and hospital reform by fighting against hospital-centrism but also to decompartmentalize practices.

The birth of the DIABIR network follows the global explosion of T2 diabetes underpinned by the pandemic of obesity. Algeria is a country that does not escape this fact since type 2 diabetes is considered a major public health problem given the growing number of patients and the feeling of failure of health professionals in this disease, this on the one hand. On the other hand, this network has the mission of early detection and education of patients in this disease in other words it is to make the prevention of T2 diabetes and its possible complications.

The **central question** that we ask ourselves and on which rests all our writing is to know what are the contributions able to bring out of the care of the type 2 diabetics through a space-centered care network: case of DIABIR?

It is a matter of recounting the experience lived by health professionals by having created a DIABIR network of care intended for a population pool at the level of a health sector of Algiers center, with a focus on changes in health, practices that this experiment has with regard to the activity of these professionals and their auxiliary by emphasizing the contributions of this network with regard to the complementarity and coordination of care in relation to the individualization of care. What does the classic scheme of care entail, putting the doctor in touch with his patient?

Indeed, in this paper, we will wonder about the changes brought about by the setting up of this DIABIR care network on certain practices of the health professionals resulting, for the most part, from the system of care in question whereas this last one has difficult to know an improvement either in terms of practices or the organizational schema of care.

**Key words:** healthcare network, DIABIR network, health professionals, traditional care plan, complementarity of care, contribution of care networks.

### I- Background of the creation of the DIABIR network

# 1-The epidemiological situation of noncommunicable diseases (NCDs) in Algeria

According to estimates by the World Health Organization, NCDs could eventually become the leading cause of death by 2020, with 73% of deaths and 60% of morbidity causes in Algeria. The various surveys conducted throughout the country during the nineties (90) found that cardiovascular diseases, diabetes, chronic respiratory diseases and cancers were among the most frequent and most diagnosed diseases. Indeed, the evolution of these diseases tends to become major<sup>4</sup> given current trends and especially if urgent measures are not taken immediately.

The appearance of these diseases in Algeria follows the epidemiological transition that has prevailed in the country for more than a decade. This state of affairs, translates into an increasingly heavy weight on the Algerian health system because the latter will have to take care of the diseases with waterborne transmission, the zoonoses, the diseases of the EPI and

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<sup>&</sup>lt;sup>4</sup> RADP/ MSPRH « Situation épidémiologique de Algérie », Alger, février 2004.

above all these non-communicable diseases known to be diseases whose treatment is excessively expensive.

Therefore, more attention must be given to these diseases because the epidemiological data concerning them are less precise and especially less available in relation to the other diseases declared in Algeria. Despite the existence of some regional registers on the reporting of cases of cancer and diabetes in Algeria, there is, unfortunately, no reporting system applied to all other diseases. However, the interest in these diseases is very recent, however, the absence of their statements is an imperfection that should be lifted urgently.

- **2- The rise of diabetes in Algeria:** Type 2 diabetes ranks fourth among noncommunicable diseases and its prevalence continues to increase. The prevalence of infectious diseases is declining at the national level. However, in recent decades, noncommunicable diseases have increased, including heart disease and type 2 diabetes<sup>5</sup>. The latest national study, based on the STEPwise approach of the World Health Organization, puts the prevalence of type 2 diabetes at 7.3%. The study was conducted under the aegis of the Ministry of Health, the Prevention Directorate and the National Diabetes Committee, and aims to assess and combat the major risk factors for diabetes<sup>6</sup>. The increase in the prevalence of type 2 diabetes is closely linked to environmental factors such as poor eating habits and a sedentary lifestyle.
- **3-** The evolution of eating habits: although Algeria is a Mediterranean country associated with a healthy food model, the fact remains that behavioral changes are noticeable especially in terms of nutrition. Indeed, the evolution of dietary habits according to the TAHINA study (Transition and Health Impact in North Africa) reveals a tendency to the consumption of products harmful to health such as processed foods, bread with each meal, low consumption of fruits and vegetables and, above all, low consumption of fish compared to animal fats, even in coastal areas. Therefore, it is urgent to return to healthy traditional eating habits.
- **4- the feeling of failure of health professionals:** the growing number of patients and complications give rise to a feeling of failure among health professionals.

# II-Current limitations of organizational care plans

<sup>&</sup>lt;sup>5</sup> Benkedda S, et al. Prevalence of cardiovascular risk factor in the Algerian population. A national survey. J Hypertens 2005; 23 (sup2): S188.

<sup>&</sup>lt;sup>6</sup> World Health Organization. Measurement of risk factors for noncommunicable diseases in two pilot villages in Algeria, WHO STEPwise approach. WHO. Algiers, 2005.

1- The long way to heal: the organization of the distribution of care in Algeria is based on a hierarchy of levels of care that is to say that a patient must follow, to heal, a whole path that can from the care room in an urban district or rural location to the nearest polyclinic, until reaching the "health sector" hospital located at a daira or the hospital of a hospital-university center located at the head of the wilaya, if his state of health requires care in a heavy health facility or finally in a health region hospital at the top of the pyramid of care. To access each of these levels of care, appropriate health facilities are provided. Nevertheless, this entire health care organization has not worked since the treatment room is deserted by qualified medical personnel and some of these units are closed to the public. The polyclinic is marginalized since the daïra or wilaya hospital took the most human and material resources. That said, for the patient to be treated for a benign disease he must address a heavy health facility while his state of health requires care in light structures of care.

For all these inconsistencies, a new organization for public health establishments has begun to be set up pursuant to Executive Decree<sup>7</sup> No. 07-140 of 19 May 2007. This new system introduces changes in the organization of care distribution in Algeria. Indeed, a new configuration is set up with the appearance of two types of establishments:

- ✓ Public hospitals (EPH);
- ✓ Public institutions of local health (EPSP).

However, university hospital centers and specialized hospitals<sup>8</sup> are maintained. It is therefore the health sectors that have undergone a new organization since they are split into two autonomous establishments whereas they previously formed a single entity.

**2- The hospital-centrism<sup>9</sup> of our system of care:** privileging the curative on the preventive so an organization of the distribution of care having for center pivot the hospital which makes difficult any coordination between the different levels of hierarchical care. Indeed, the care system in Algeria is based on a logic of hospitalization where the hospital occupies a preponderant place while it is a question of rehabilitating the basic care and thus the structures of light care.

<sup>&</sup>lt;sup>7</sup> Executive Decree No. 07-140 of 19 May 2007 on the establishment, organization and functioning of public hospitals and public health establishments.

<sup>&</sup>lt;sup>8</sup> MSPRH / INSP "National health system: elements of reflection", preparatory document, INSP, Algiers.

<sup>&</sup>lt;sup>9</sup> MSPRH / INSP "National health system: elements of reflection", preparatory document, INSP, Algiers.

**3- The act of care is an isolated act:** the care of the patient takes place between the doctor and his patient without any bridges being established between all the medical and even nursing existing in health care facilities. Which makes one say that every therapeutic or caring act is an isolated act. The medical profession thus gains in freedom in the practice of the profession which it exercises. That said, the latter loses efficiency since there is no established relationship between the doctors themselves belonging to the same specialty and other practitioners who belong to other specialties but who may possibly intervene in different phases of care to curb the different consequences of the disease on the patient.

4- The absence of protocols in the therapeutic management: In Algeria, for the majority of diseases, there are no therapeutic protocols. For some diseases, such as tuberculosis, to better control and prevent the development of resistance, there is a protocol since the 1970s, revised once in 1980 and 2000. This protocol specifies the methods of diagnosis, screening in the surrounding, type, duration of treatment and criteria for diagnosis and cure. In oncology, for example, there is consensus on a case-by-case basis, that is to say, after the diagnosis, the oncologist, the surgeon, the radiotherapist discuss the therapeutic protocol and take into account the cost of treatment, the time of survival gained for the patient and the strain of treatment. Other therapeutic protocols are related to guidance or training schools, for example in the French school where clinicians are immersed, mainly because of language sharing and the availability of documents. in French. Clinicians sometimes make choices about treatments based on the range of drugs presented by laboratory representatives that prevent them from making choices in a wider assortment given the availability of a multitude of drugs and in all therapeutic classes. The behavior of the clinician or his choice of certain drugs is also dictated by the cost of drugs.

Therapeutic consensuses are established by learned societies and revised according to the evolution of research in the fields of diagnosis and medicine. The role of learned societies is to protect the specialty or subspecialty, to establish diagnostic and therapeutic protocols through consensus conferences<sup>10</sup> in order to facilitate referral to diagnosis and therapeutic prescription by clinicians.

Consensus Conference aims to identify within the community concerned the points of agreement and divergence related to a health intervention, whether it is a diagnostic procedure, a therapeutic strategy or aspects related to a health intervention, the organization of the health system. It generates and disseminates information that can change inappropriate practices in order to improve the quality of care. This approach is based on the meeting of a jury called to synthesize the scientific bases presented publicly by experts relating to predefined questions.

### III- The possible contributions of DIABIR

- 1- The possible prevention of type 2 diabetes (T2D) and its complications (early detection): screening concerns healthy subjects. The goal of screening is to look for a disease or dysfunction at the infra-clinical stage (before the appearance of clinical signs). Screening tests can be carried out on the population basin that a health sector can cater for 100,000 people which requires considerable resources or target specific categories of population for the research of diseases such as T2D in persons with beyond forty-five years.
- 2- The DIABIR network of health professionals includes medical and paramedical health professionals: this said, this group of health professionals is likely to overcome the shortcomings that arise from the simple doctor-patient relationship that seems reductive in terms of care performance. Indeed, this group aims to improve the management of patients in the health sector of Birtraria and especially to facilitate the detection of type 2 diabetes. Therefore the coordination of the actions of each other results in a better efficiency of care and a reduction in health costs.
- **3-** Consideration of different specialties within the DIABIR network: in particular cardiology, ophthalmology and neurology, reflects the great concern of the network's collaborators regarding diabetes and its complications<sup>11</sup>. Indeed, the composition of the network is multidisciplinary since it involves many health professionals: general practitioners, diabetologists-endocrinologists, internists, cardiologists, other specialists, dentists, pharmacists, biologists, paramedics ..., practicing in the "sector". health "of Birtraria. Added to this, the possibility of integration of professionals private health centers with the aim of harmonizing the management of diabetes. However, despite improved services to patients, the increasing flow of people with diabetes limits the optimization of care.
- **4- The enrichment of the supply of care:** this is closely linked with the point developed above since the composition of the network is multidisciplinary that is to say that there are opportunities for all diabetics in the health sector Birtraria have easy access to the various services available.

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 $<sup>^{11}\,</sup>$  Aissa Boudiba and Safia Mimouni-Zerguini Improving diabetes prevention and care in Algeria «Healthcare» June 2008 | Volume 53 | Number 2

- 5- Make therapeutic education accessible to as many patients as possible: by offering all diabetic patients access to the network. The adhesion of the patients is free, but formalized by the signature of a charter of adhesion of the patient, to be completed and signed by the patient and his doctor. Patients will then benefit from the various therapeutic education services offered within the network.
- **6- Optimization and harmonization of training of health actors:** carers can use the internal protocols and standards developed within the network and participate in some specific training.
- **7- The establishment of a hospital information system (HIS):** the latter must be accessible to all members of the network. This SIH is based on the medical record of the patient. Therefore, the HIS thus created will make accessible to all the caregivers of the same patient his shared medical record.
- **8- Evaluation of medical practices:** the patient file is a storage tool. It allows to store information about the patient, his medical history, medical problems encountered, medical decisions taken and the results of these decisions thus completing the memory of the doctor. The content of the file is interesting because any memorized element is a potential act of communication. Individually considered, the patient's file becomes a tool of care facilitating the follow-up of the patient and the decision making. Used collectively<sup>12</sup>, it can be used to support the evaluation of the medical activity and the carrying out of clinical research, epidemiological research or hospital management.

# Conclusion

The creation of the DIABIR network remains an unfinished experience. However, this is at odds with the classic pattern of care that appears irreducible yet the results are mixed. Although this DIABIR network creation experience has not been prolonged over time, the fact remains that it has shaken up all the practices that are in vogue and still exist in the traditional system of care set up by Public powers. The latter must make sure to multiply this type of experience by accompanying it by means of all kinds, be they financial or otherwise, while introducing the elements developed within these networks to have them transposed to conventional care systems.

<sup>&</sup>lt;sup>12</sup> Djidjeli amel & Boumedfa mohamed Akram "the shared patient file of the DIABIR network", computer science master's thesis, university of science and technology, faculty of electronics and informatics, Algiers, 2011.

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