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Digitalized Data in Effective Management of Diabetes: A Structured Survey of Family Physicians in Islamabad / Rawalpindi, Pakistan

Shehzad Anwar Khan[1]

ABSTRACT

A small-scale questionnaire-based, cross-sectional study was conducted to gauge knowledge, attitudes, and practices regarding use of digitalized data to manage patients with diabetes in ten family physicians working as freelance consultants in Rawalpindi / Islamabad. The Study was done in collaboration with University of Cumbria United Kingdom (UK) for a period of six months. The total sample size comprised of ten respondents. The data was consolidated and analyzed using Microsoft Excel. Analysis was descriptive in nature. A vast majority of respondents (80%) replied that they were aware of the importance of digitalized data while one (10%) said that they were not aware and one (10%) responded that they were somewhat aware. It is imperative that the health system be improved in Pakistan scientifically through use of digitalized data in clinical medicine.

Keywords: Diabetes, Data Management, Digitalized Data

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INTRODUCTION

Pakistan is a low-income Country, with a Gross Domestic Product (GDP) of $ 304 billion based on the statistics of 2017[1]. Recent trends of inflation have made things worse; signifying the fact that the County has lesser resources. When it comes to data management, in most cases, information is recorded and stored in form of papers and files; making it almost impossible to get a holistic view. On the contrary, evolution of digitalized world has made information management a phenomenal entity when it comes to healthcare provision. Based on these facts, a questionnaire-based study was conducted to gauge the knowledge, attitudes, and practices of primary healthcare providers in managing chronic illnesses, specifically diabetes. The manuscript pertains to discussion on three dimensions i.e., health systems, diabetes, and data management.

Diabetes is a chronic illness showcasing disorders in glucose metabolism[2]. Its epidemiology is complex. Globally, the prevalence of diabetes has increased two-fold over the past twenty years[3]. This is partly due to youngsters getting the illness because of an `epigenetic mechanism` and other factors including sedentary lifestyles.

It is imperative that data of the pre-diabetics and diabetics be managed smartly and efficiently. The field of digitalization and data mining has become the language for the modern world. An article on Science Direct is an eye-opener[4]. It is an advanced attempt to combine biomedical sciences and data management in classifying diabetes based on simulations and algorithms. Science has become so advanced that HbA1C once thought of as a gold standard for diagnosis is fast becoming obsolete. The prime aim of the paper is to gauge and assess family physicians on their abilities and will to manage diabetes on modern patterns of healthcare delivery.

METHODOLOGY

The subject manuscript is formulated on a questionnaire-based study conducted to assess knowledge, attitudes, and practices of a sample of ten family physicians working as freelance consultants in the twin cities of Rawalpindi and Islamabad. The study was part of a research project conducted for a master`s degree in international healthcare management at University of Cumbria, United Kingdom. It was conducted for a period of six months. The study was cross-sectional and the cohort of ten respondents (n = 10) was formulated through a simple random sampling technique. The questionnaire comprised of Knowledge, Attitude and Practice (KAP) indicators. The data was analyzed descriptively using Excel 2016.

Inclusion criteria consisted of family physicians, residents of Islamabad/Rawalpindi and those dealing with diabetes patients. Exclusion criteria comprised of doctors with experience of less than five years, those who were not clinicians and those who had did not deal with at least fifty patients in a day.

As mentioned, statistical was done through Excel 2016. The

1. General Physician at Rawalpindi/ Islamabad

Correspondence:
Shehzad Anwar Khan
General Physician at Rawalpindi / Islamabad
Email: schezadkhan@gmail.com

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analysis was descriptive in nature on different indicators like knowledge of doctors on digital management of data, common practices related to the management and their practices. For the purpose of this manuscript only the component of awareness was picked up for discussion.

RESULTS

In response to a question whether the respondents knew that effective data management could revolutionize the way diabetes was addressed in the Country and whether it was a practical solution to the problem (Figure); eighty percent (n=8) shared that they were aware of the developments made globally, ten percent (n=1) said that they were somewhat aware while ten percent (n=1) answered that they did not have any idea about it.

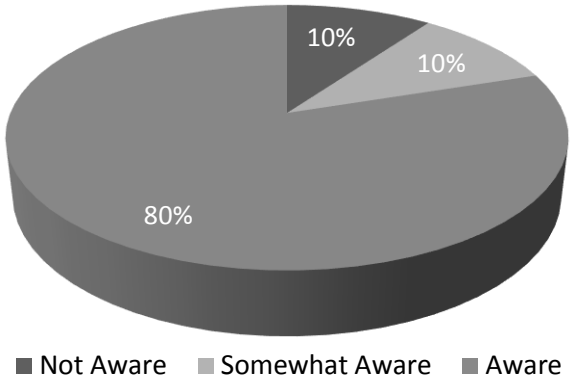

Figure 1: Awareness on Importance of Digital Data

DISCUSSION

It is evident here that the family physicians in Pakistan are aware of the needed interventions which would help in management of chronic illnesses. But given the socio-economic status of the Country it seems quite a challenging task. Science has reached a point where it has established that diabetes also has significant detrimental effects on the limbic system and can lead to dementia[5]. To tackle the menace, this disease must be approached through strengthening of the health sector. In the context, it is pertinent here to differentiate between `health system support` and `health system strengthening` which are two distinct entities. An article published in 2012, makes a strong case on the concept[6]. Health system support is a short-term endeavor, while strengthening a health system means sustainable investments over a period of years or decades. This differentiation is also pertinent when it comes to managing chronic illnesses. But many argue that such demarcation may be academic only, as studied by Center of Disease Control (CDC) at USA, which relates health systems strengthening to a strong public health investment[7]. Peter and his colleagues, make a case that if investment, in terms of resources, time and money is made in six core public health domains, benefits would be substantial. Amongst the six pillars mentioned is `informed decision making through storage and application of data.

The domains of medical science and information management have created synergies that are revolutionizing the global healthcare industry. Subrahmanya and his colleagues establish in their article that data in any form is very interesting for the scientists[8]. Different studies have concluded that there is initial evidence of technology-based information management helping in tackling diabetes efficiently. One significant contribution based on a case control study saw better HbA1C levels for patients that were managed with the help of IT gadgets as compared to those who were managed in traditional ways[9]. Given the fact that the prevalence of diabetes Type 2 is on the rise in Pakistan and the Country needs to take up the issue proactively[10]; whether family physicians in Pakistan are willing and skillful enough to adapt in an efficient manner is a key question.

CONCLUSION

The study concludes that most primary healthcare physicians agree, that, for the sake of continuity of effective treatment of diabetes; they need to manage data efficiently and one best method is to maintain information digitally. Most doctors understand the need but are constrained by lack of time, unavailability of resources and poor socio-economic status of their patients.

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