# Iran Diabetes Research Roadmap (IDRR) Study; Mental Health in Diabetic Patients in Iran: A Review Article

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**Abstract**

**Background:** Diabetes has become a daunting health and medical challenge as well as a hefty economic burden for societies over the past decades. This study was designed to shed light on the overall trend of research across Iran regarding mental health status of diabetic patients.

**Method:** Search process of the present study is part of search strategy of Iran Diabetes Research Roadmap (IDRR) study. We performed a thorough search about Iran diabetes research output in national (Iranmedex, Magiran, and SID) and international (Pubmed, ISI and Scopus) databases up to 2015. After removing duplicates, 426documents were remained and categorized by subject category, methodology, WHO classification and NHMRC criteria.

**Results:** Most of obtained studies were concerned with quality of life, treatment, intervention, and behavioral disorders. Based on WHO categories, most studies revolved around epidemiology, causes and determinants of health-related outcomes. Methodological classification showed cross-sectional as the favored method of research. In the Australian classification system, most studies were clinical studies. The year 2010 and 2011 had the greatest spike during the study period.

**Conclusion:** Overall trend in publication rate of papers related to the mental health is relatively growing. However, the lack of priority setting is obvious and there is a pressing need for more in-depth evaluations, prioritization of study type and interventional studies based on the needs of patients suffering from diabetes.

**Keywords:** Diabetes, Mental health, Research roadmap, Iran

## Introduction

Patients with diabetes mellitus (DM) need psychological support throughout their life span from the time of diagnosis. This is due to strained coping with changed life routine right from the time of diagnosis of DM (1). An international survey, the Diabetes Attitudes, Wishes and Needs second study (DAWN2), included over 16000 individuals (comprising patients, family members, and healthcare providers) in 17 countries across four continents, reported that

the proportion of the people with DM who were likely to have depression and diabetes-related distress was 13.8% and 44.6%, respectively, with overall poor quality of life at 12.2%(2). Major depression was present in 71.8% of Iranian patients with type 1 and 2 diabetes (3).

Challenges associated with diabetes diagnosis include management of disease, diligence in maintaining a rigid diet and psychological issues for the individual and their interpersonal relationships (4,5). Stress, lack of social support and the negative response to diabetics, affects personal care and blood sugar control (6-10).

Psychological disorders are widespread among diabetic patients (11). Three of the major mental health issues common among diabetes patients are depression, anxiety and eating disorders (12).

Prevalence of clinical depression among diabetic patients is approximately 30% (13-17). In a study in Iran, depression was identified in more than 40% of diabetes patients that among them 23.7% had major depressive disorder (18,19). Studies regarding prevalence of depression in type I versus type II diabetes patients have yielded contradictory conclusions (14-20). Depression in diabetic patients can lead to lack of appetite, dysfunctional diets and rejection of insulin shots; issues that compromise control and treatment of diabetes (21).

Another psychological issue associated with diabetes is anxiety (22). One study estimated that about 14% of patients suffering from diabetes are prone to generalized anxiety disorder; twice this number suffers from clinical anxiety including panic and posttraumatic anxiety disorder. Three times this statistical finding show at least some sign of anxiety (23).Eating disorders such as psychopathological lack of appetite, Binge eating disorder (BED) and alcohol consumption are three times more common among patients with type I and type II diabetes than the control population (24-26).

Schizophrenia and other psychological disorders are a risk factor in the onset of diabetes, antipsychotic trials of intervention effectiveness (CATIE) showed that 11% of schizophrenic pa-tients who participated suffered from diabetes (27).

However, although diabetes has a close and established relationship to psychological health, there is insufficient information regarding its scope of psychological disorders resulting from this disease, the reciprocal acute and chronic symptoms that afflict these patients due to these disorders, or the possible treatment used to increase the psychological health of these patients. There are several studies done in the area of diabetic patients and psychological issues, the results are variable and at times contradictory. There is no organized platform to neither conduct nor analyze the obtained results. The present study has strived to perform a content analysis based on systemic review protocols in the area of mental health of diabetic patients. We searched and categorized mental health studies into subgroups, in order to give a general overview of studies done in Iran and analyze their results and identify research gaps to gain insight into future health care demands of patients with diabetes. This study was a part of Iran Diabetes Research Roadmap study to find the knowledge gap in the field of diabetes.

## Methods

In this study, all publications of Iranian authors about diabetes research on mental health in national and international journals up to 2015 were reviewed. Search process of the present study is part of search strategy of Iran Diabetes Research Roadmap (IDRR) study. Comprehensive search was performed in international databases including PubMed, Web of Science and Scopus as well as national databases including SID, IranMedex, and Magiran as described in the study protocol (28). The keywords used for English database search were "Diabetes mellitus" and "Iran*" in the author affiliations according to each database instructions. For search in national databases equivalent Farsi keywords were used. However, the search strategy has been described in detail in the protocol study.

Total number of obtained papers was categorized into eleven groups according to the study topic (28). In each group, all papers (after adjusting for duplicates) were classified based on the study design, subject category, WHO classification (29) and Australian National Health and Medical Research Council (NHMRC) criteria (30). WHO criteria for research classify the studies to know whether research meets health needs and improve health outcomes or not. NHMRC criteria are applied for definition of research area.

However, unrelated topics, letter to the editors, meeting abstracts, news, as well as studies on foreign population and studies of Iranian authors with foreign affiliation were excluded.

After screening according to the mentioned method, 426 were found to be related to mental health and they were classified as described above by subject category (psycho-specific subgroups), methodology, WHO classification and NHMRC criteria.

The data were analyzed by descriptive statistic and results were depicted by appropriate graphs.

## Results

Four hundred twenty-six studies to be included in this systematic search were published up to 2015. They were classified based on subject area, WHO categories, Methodology of studies, Australian classification system and year of publication.

### Publication Trend
The trend of publications was increasing until 2013 except for small drops in some years (Fig. 1). However, this curve experienced a negative trend in 2014. There was a large spike in studies during 2010, 2011, 2012 and 2013 and there is a drastic drop in the number of studies during 2014.
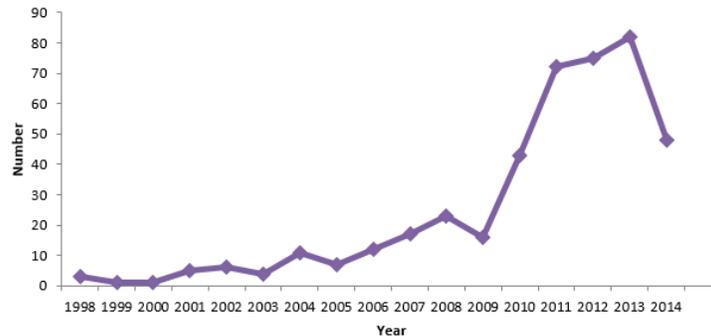


**Fig. 1:** Trend of mental health publications in diabetes during the study period

### WHO and NHMRC classification
Regarding WHO classification 81.69% of obtained studies were about causes and determinants of health-related outcomes and subject of 11.5% of studies was about interventions and solutions. According to NHMRC classification, 91.82% of studies were dedicated to clinical research,7% to basic research and 0.46% to public health.

### Methodological classification
Regarding methodology of studies, the most common methodology of studies was cross-

sectional followed by case-control and randomized clinical trial (RCT) (Fig. 2).

### Subject Area classification
The most common subject area in Iranian studies about mental health of patients with diabetes was quality of life, treatment, and intervention and mood disorders, respectively (Fig. 3).

## Discussion

Out of 426 psychology-related articles evaluated in this study, a large number had dealt with quali-

ty of life.This could be due to a number of reasons such as accessibility of short and useful questionnaire, easy execution, hot international topic of research and the dramatic decrease of this factor in today's life. However, most studies have compared the social status and quality of life and very little have dealt with ways to improve quality of life while such studies are more important rather than to evaluate and compare quality of life with other psychological issues.
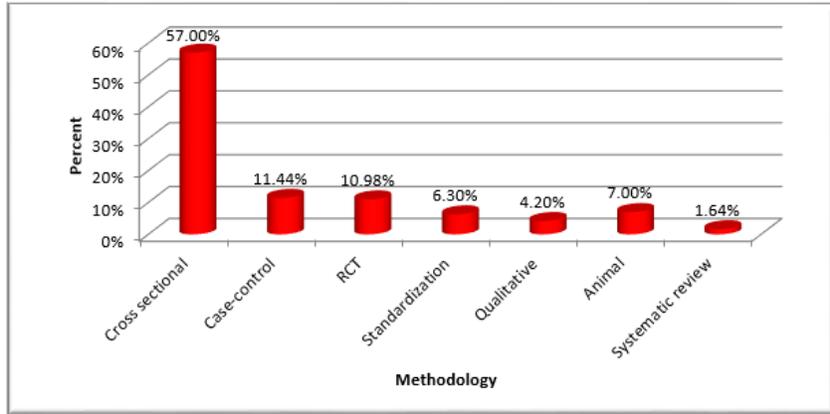


**Fig.2:** Classification of studies based on methodological categories
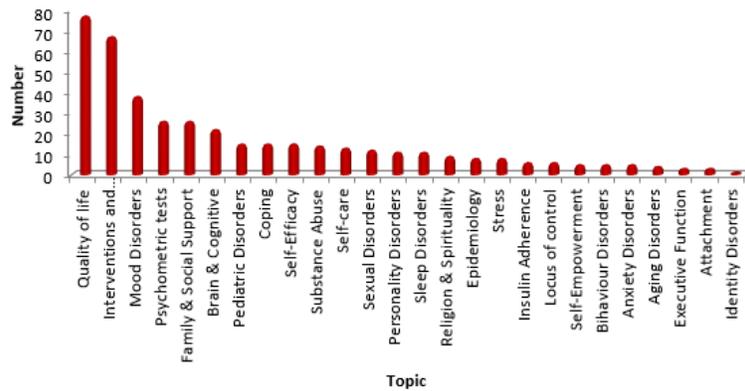


**Fig.3:** Categorizing the studies according to the main subject area

In evaluating classification of articles based on type of study, we will first focus on WHO categories. Most of these studies are centered on prevalence and incidences, which are simple tasks. The more pressing matters that need to be addressed and tackled are evaluation of interventional treatments, comparison of two or more treatments methods, undertaking pilot projects focused on improving treatment methods and most importantly helping patients who struggle with psychological issues.

We encountered similar issues when analyzing classification of articles based on method of study. Most notably studies are focused primarily on cross-sectional studies, the easiest method of producing a publication.

For studies categorized based on Australian method of classification, most works are clinical studies where patient population is compared to a control population, and thus evaluation is simple. However, this procedure gives us little insight into the specific struggles of patients or the se-

verity of the psychological issues they deal with compared to other. Therefore, find the more effective treatment options for diabetic patients are difficult.

Finally, we looked at studies based on year of publication. A higher number of published works is seen during 2004, 2007, 2008 and 2013. However, 2010 and 2011 has the greatest number of psychology studies in the area of diabetes. This could be due to an increase in the number of graduates in this area during these years that translated into more articles from their thesis work.

However, although there is an increase during 2010 and 2011, during the years 2005, 2009 and 2014 we see a fall in the number of published work. This could be due to political shifts every 4 year. We suggest that based on the drastic decrease in publications in the last 3 months of 2014, researchers re-evaluate the publication trend in this year and gain a more in-depth understanding of the matter.

We propose health- related research specialists evaluate proposals in the areas of mental health and identify the more pressing matters of research, especially based on the amount of work done on the specific topics. This way they can prioritize research that is more important and less tackled and decreases the number of proposals on repetitive work that do not yield useful resources.

However, there is no similar study that analyzed compares of characteristics of articles about mental health in diabetes.

## Conclusion

This study showed that future research should be more focused on cohorts and systematic reviews as well as studies about self-care and self-empowerment.

## Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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