Original Article

A comparison of substance dependence treatment information system in America, England, and Iran

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ABSTRACT

Context: Addiction, as a social problem, is a phenomenon that causes structural changes in cultural, social, political, and economic system in society. Prevention of this problem means decrease of risk factors and increase of protective factors; and recognition of these factors is possible with the help of update, accurate, and complete information in information systems. **Aims:** The aim of this study was to compare substance dependence treatment information system (SDTIS) in America, England, and Iran. **Materials and Methods:** This research was an applied and comparison-descriptive study, in which SDTIS was compared in America, England, and Iran. These countries were chosen based on available information on the Internet and also on the development of these countries in the health information management field. Information resources included library resources, electronic resources, and expert people (Health Information Management, Medical Records Education, Psychologist, Psychiatrist, and Medical Informatics). The data collection tool was the data raw form, whose reliability was proved by expert people. **Statistical Analysis Used:** Findings were analyzed by theory and descriptive method. **Results:** America and England had the SDTIS. Their systems had special characteristics such as goals, scope, special method for collecting, processing, reporting, quality and validity control, and confidentiality principles. However, there was no such system in Iran and the present situation in Iran has many differences with similar situations in the studied countries. **Conclusion:** Presence of an information system in the substance dependence treatment field helps to prevent, control, and treat addicted people. Hence, we try to submit a suitable model for implementing this system.

Key words: Information system, psychoactive substances, substance dependence treatment, substance dependence

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INTRODUCTION

Addiction and substance abuse as a social problem is a phenomenon that spoils the society's ability in organizing and keeping the present order, and causes structural changes in cultural, social, political, and economic system in society.[1] The first step in fighting with prevention and control of a social phenomenon is accurate and complete recognition of the phenomenon, so that suitable planning is possible.[2] When we want to make decision about a problem, not only do we have to collect comprehensive analytic and statistical information, we also have to make necessary information accessible quickly.[3] In contrast, secure and reliable healthcare depends on access and use of accurate, reliable, timely, related,

legible, and complete information.[4] In addiction field, too, prevention means using procedures that lead to reduction of addicts. Prevention includes procedures for decrease in risk factors and increase protective factors. Therefore, complete recognition of these factors in every area will be possible with the help of update, accurate, and complete information.[3]

The information system is society key for all nations and policy makers. Also, reporting and using of information counts as an important social indicator; and developing of this indicator means national development in every country. The aim of information system is informing others, so that it gives suitable information to users based on their needs and quickly. Moreover, these systems can provide a level of service that was not possible in the past. The substance abuse information system is also a system that collects, analyzes, and reports data on substance abuse. In fact, it is one of the best identifying bodies for substance users, assessing and evaluating substance abuse consequences. Substance abuse information systems have special methods for taking reliable and correct information about substance users. This kind of information is collected at the time of patients' admission to hospital, addicts quarantine or treatment, and in order to inform physicians. Information systems have clear definitions of people whose abuse was reported.[2] The aim of this study was to compare the substance dependence treatment information system (SDTIS) in America, England, and Iran.

MATERIALS AND METHODS

This research was an applied and comparison-descriptive study, in which SDTIS was compared in America, England, and Iran. These countries were chosen based on available information on the Internet and also on the development of these countries in the health information management field. Information resources included library resources (books, magazines, and related articles), electronic resources, and expert people (Health Information Management, Medical Records Education, Psychologist, Psychiatrist, and Medical Informatics) around the world. The data collection tool was the data raw form, whose reliability was proved by expert people. This form was actually a checklist that was adjusted based on the information system characteristics. The findings were analyzed by theory and descriptive method. Information was compared in five general parts: Scope; data; collecting, analyzing, and reporting process; information quality control and validation; and confidentiality and principles.

RESULTS

In America, Substance Abuse and Mental Health Services Administration (SAMHSA) is responsible for Drug and Alcohol Services Information System (DASIS). This system, which started to work in 1992, consists of three parts: Treatment Episode Data Set (TEDS), Inventory of Substance Abuse Treatment Services (I-SATS), and National Survey of Substance Abuse Treatment Services (N-SSATS). TEDS is about substance abuse treatment events (admission and discharge), which are being collected by states routinely and in order to monitor substance abuse treatment systems. This data set has two separated but linkable subsets that are: Admission data set and discharge data set. The TEDS admission data set includes collecting information at the beginning of a treatment episode and has three subsets too: System Data Set (SDS), Minimum Data Set (MDS), and Supplementary Data Set (SuDS). TEDS discharge data set includes collecting information at the end of a treatment episode, plus extra selected information on admission, in order to make a relationship between admission and discharge records. Overall, DASIS goals are: Reating data about substance abuse treatment for researchers; comparing admitted peoples' characteristics for substance abuse treatment; supporting management goals; performance measurement of substance abuse treatment program.[5]

In England National Drug Treatment Monitoring System (NDTMS), with the responsibility of the National Treatment Agency for Substance Misuse (NTA), collects, collates, and analyzes information about people who are in treatment episode; and according to them, it creates varied statistical and administrative reports.[6] NDTMS data set consists of two subsets: Core data set for young people (under 18) and core data set for adults (over 18).[7] This national system started to work in 2001.[8] Its goals for young people are providing measurements to support the National Health Services (NHS) outcomes framework as appropriate, providing measurements NTA for Key Performance Indicators (KPIs) relating to young people and supporting development of the young people's substance misuse treatment system, regionally, nationally, and locally.[7] And for adults are: Providing measurements to support the upcoming public health outcomes framework, and providing measurements to support the upcoming public health outcomes framework.[9]

In Iran, responsible organizations for collecting substance dependence data are welfare organization, drug control headquarters, treatment department of medical science university, and prisons department. It is notable that information related to Iran is collected by the presence of the researcher in the mentioned organizations and speaking with custodians. The comparison of all SDTIS characteristics in selected countries is shown in Table 1.

DISCUSSION

In this study, the findings of the SDTIS review are based on general characteristics: Scope; data collection; collecting, analyzing, and reporting process; information quality control and validation; and confidentiality and principles. However, selected axes in the Zohoor *et al.*[17] study was structured, data elements, registration criteria, information gathering process, classification, and control mechanism.[17] They introduced their proposed system in another study titled "suggesting a national trauma registry system for Iran" based on seven axes: Structure, data elements, information gathering process, main goals, registration criteria, classification system, and

Table 1: Comparison of SDTIS characteristics

Comparison criteria	America	England	Iran
Scope of activities	Programs that receive public funds[5]	A wide range of settings, including primary and secondary care within the NHA, voluntary sector agencies and the criminal justice sector[10]	Buprenorphine maintenance treatment (BMT), methadone maintenance treatment (MMT), treatment with opium syrup, and detoxification
Scope for clients	Patients who receive public-funded programs[5]	All misuses receiving specialist drug treatment services[11]	Patients who receive BMT, MMT, treatment with opium syrup, and detoxification
Scope for agencies	All of the agencies that have public-funded programs[5]	All treatment centers that provide structured care for substance dependents[12]	All state and private agencies, therapeutic centers, camps, drop in centers, and shelters
Data collection	States submits the data file using the State TEDS Submission System (STSS) or on Diskette, CD, or by electronic transmission[5]	It is collected by clinical and administrative staff working in organizations treating individuals for problematic substance misuse[10] And then is sent to the national drug evidence center, university of Manchester (NDEC)[13]	Data are sent in 3-months forms and electronic or attached to a letter
Data set	This data set has two separated but linkable subsets that are: Admission data set and discharge data set[5]	IT consists of two subsets: Core data set for young people (under 18) and core data set for adults (over 18)[7]	They are in the standard format of every organization
Data processing	It is done automatically[5]	It is done by NDEC and automatic[13]	It is done by using a computer
Information reporting	Reports are usually: Fatal and warning errors in TEDS submission-grouped by reason; fatal and warning errors in TEDS submission-grouped by field; submission processing results summary-admissions; and fatal and warning errors in TEDS submission[5,14]	NDEC sends processed data to NTA[13] Reporting of the data is provided back to the public as national statistics (ONS), commissioners, performance managers, and national, regional and local government.[10] Moreover, NTA provides a report of the agency's activities every month[11]	Processed information is sent in 3, 6, 9, 12 months forms to the ministry of health or drug control headquarters chief
Data quality and validation	Submitting feedback to states for receiving confirmation, and help them in order to recognize and solve the data problems[5]	NDEC check that the number of records in each file matches that advised by the appropriate NTA report. And perform exploratory data analyses on the postexclusion SPSS data file to check that the data are fit for their purpose[15]	Random checking by university inspectors, direct supervising by resident experts, giving feedback to agencies, data comparing with previous statistics
Information security and confidentiality principles	Using a username and password or encryption methods, keeping CDs and diskettes in locked rooms, destroying CDs and diskettes after processing, maintaining TEDS database on a secure server with ID and password access limited to SAMHSA and Contractor staff[5]	All providers should routinely and explicitly explain their confidentiality and information sharing policy in relation to NDTMS with clients. Clients entering treatment should sign a confidentiality agreement as part of the care planning process. This statement should also identify what information will be reported to NDTMS[10,11,16]	Sending data without patients' names and national code
Information release and access principles	—	Under the Freedom of Information Act, requests for information other than for attribution data may be made to the NTA. Requests for attributable data may be made to the NTA and are governed by the Data Protection Act. An NDTMS record is considered to be attributable data, even though full names are not recorded[10,11,16]	Access is limited to allow organizations, under special condition, and summarized

contd...

Table 1: Contd...

Comparison criteria	America	England	Iran
Information using and treatment consent principles	—	All treatment agencies should have clear policies on consent to treatment. After being informed of related policies, patient can complete informed consent form[10,11,16]	All patients are required to fill in a consent and commitment forms

SDTIS = Substance dependence treatment information system, BMT = Buprenorphine maintenance treatment, MMT = Methadone maintenance treatment, STSS = State TEDS submission system, TEDS = Treatment episode data set, NDEC = National drug evidence center, NTA = National treatment agency, ONS = Office for National statistics, CDs = Client data system, NDTMS = National drug treatment monitoring system

quality control mechanism.[18] Moreover, Jahanbakhsh in her research suggested seven axes for her proposed model. They are goals; equipment and seating, types of data and their gathering process, data analysis, information dissemination method, diabetes patients summon and following method and criteria.[19]

Masoori and Ebadi-Fardazar studied structure, types of data, acceptance criteria for disease registry, data gathering process, data analysis, information dissemination methods, classification of disease, data quality control methods, data privacy policies and instructions in national system of notifiable infectious diseases care in America, Australia, and Iran.[20] However, Lotfnezhadafshar and other teammates in their article titled "comparative study of the mental health registry system of the United Kingdom, Malaysia and Iran" studied goals, structure, data elements, information gathering techniques, registration criteria, present classification of national registration of mental health of the United Kingdom, Malaysia, and Iran.[21]

In the proposed model of all of the said systems, data collection process and data elements are the most important issues in the researchers' opinion. Keyvanara *et al.* believed that the basic goal of all of the registries is collecting data from health records and making them available for users. And collected data in these systems provide the possibility of comparison, analyze, and study on patient groups.[22] Other important issues in these studies, which are located on the second level are: Data analysis, information dissemination method, and data quality control ways, it is important to say that these axes are considered as main characteristics of the SDTIS in this study.

CONCLUSIONS

The SDTIS is a system that collects analyses and reports information about substance dependence treatment. This system, by giving suitable information to users based on their different needs, can help treatment personnel in substance dependence treatment and care quality improving and surveying; managers in planning related to prevention, control, and treatment of this problem; and finally researchers in doing different researches. According to lack of such system in our country, policy makers in related organizations such as the ministry of health should do the necessary procedures to implement this system. We hope our research is useful in

utilizing the developed countries' experiments in this field and is able to use introduced systems as an appropriate model.

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