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Treatment non-adherence: a challenge to health care systems

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Abstract

Health care systems are facing numerous challenges and one of them is treatment non-adherence among patients with chronic conditions. Treatment non-adherence among patients with chronic conditions is a complex issue. Research has documented that treatment non-adherence results in an additional utilization of health care facilities that leads to an additional burden on the health care system. There are many things the health care systems can do to enhance adherence and in turn better health outcomes like: identification of risk factors to chronic diseases, awareness of medication adherence and lifestyle modifications among patients with chronic conditions etc. These efforts will benefit the patients as well as health care systems. Research identifying the determinants of treatment non-adherence among patients with chronic conditions will add to the existing literature on non-adherence and will help in the development of specific intervention strategies by health care systems to reduce treatment non-adherence.

Key words: Treatment non-adherence, health care system, lifestyle.

Treatment non-adherence: a challenge to health care systems

Introduction

Health care systems face crucial problems due to excessive demand for health care services, shortage of health care facilities, professionals, drugs and lack of support from the patients. Past research has documented that the double burden of prevalence of chronic diseases (World Health Organization, 2005) and evidences of non-adherence are the major challenges globally faced by the health care systems.

According to Dictionary of Health Services Management, Chronic Diseases has been defined as, “Diseases which have one or more of the following characteristics; they are permanent, leave residual disability, are caused by nonreversible pathological alteration, require special training of the patient for rehabilitation, or may be expected to require a long period of supervision, observation or care” (as cited in World Health Organization, 2003, P3).

According to, World Health Organization 2002, chronic conditions include, “persistent communicable, non-communicable diseases, long term mental disorders, and ongoing physical/ structural impairment, and these are health problems that require ongoing management over a period of years or decades”.

Chronic diseases usually require long period or lifelong treatment involving medication and lifestyle modifications (WHO, 2003; WHO, 2002; Ontario's CDPM Framework, 2007; WHO, 2005). These diseases are emerging as a critical challenge to the health care systems in developing countries (Islam & Biswas, 2014) and are the leading cause of death throughout

the world (WHO, 2005). As per WHO, 2003 report, economic development is indirectly impacting on the health of the people. Less physical exertion, excessive physical weight, unhealthy living habits (Busse, Blumel, Scheller-Kreinsen, & Zentner) and unhealthy diet (WHO, 2003) are the leading causes of chronic diseases.

In the literature, along with non-adherence, the terms, 'low adherence' and 'poor adherence' have also been used. There is no formal definition of treatment non-adherence. In research treatment non-adherence has been operationalized in different ways based on the purposes of the studies. Lack of adherence to prescribed chronic disease treatment can be referred to as '*treatment non-adherence*'.

Non-adherence is a global issue of great importance (WHO, 2003). Non adherence affects three major constituents- patients, pharmaceutical manufactures and health care system (Frost and Sullivan White paper).

Objectives of the study

1. To review the existing literature on the area of treatment non-adherence among patients with chronic conditions as a challenge to the health care systems and
2. To identify the areas for further research

Treatment non-adherence is considered as a global secret health issue (NICE, 2009; (Horne, Weinman, Nick, Elliott, & Morgan, 2005). Treatment non-adherence is more complex as it not only includes medication non-adherence but also lifestyle modification non-adherence. Chronic patients' health behaviour may depend upon the disease and medication beliefs (Horne, 1997; (Mann, Ponieman, Leventhal, & Halm, 2009), necessities and concerns about the treatment ((Tibaldi, Clatworthy, Torchio, Argentero, Munizza, & Horne, 2009), self-efficacies (Bandura, 1991), and availability of resources to seek the treatment ((Hirth, Greer,

Albert, Young, & Piette, 2008). The individual behaviours and beliefs, health and seeking treatment can adversely affect health care utilization and adherence to medication (Wasti, Randall, Simkhada, & Teijlingen, 2011).

Measurement of non adherence is a challenging task to the health care providers. Despite the availability of various theoretical frameworks, methods and questionnaires to predict and evaluate patient health behaviour, it is still claimed that there is no 'gold standard' to measure adherence/ non-adherence (A Frost and Sullivan White Paper; Horne et al., 2005; [CITATION Shi10 \l 16393]. The health care provider has to select a suitable method of identifying the quantum of and determinants of treatment non-adherence among patients with chronic conditions.

As per WHO report, 2003, the burden of communicable and non-communicable diseases will exceed 65% of the burden of all diseases worldwide in 2020. In 2005, WHO had estimated that 60% of all deaths are due to chronic diseases and 80% of these deaths will occur in low and middle income countries (WHO, 2005). Stuckler (2008) has estimated that from 2002 to 2030, the mortality rates for chronic disease will rise by 22% in low and middle income countries and will affect the economic development in these countries. Nugent, 2008, points out that, the middle and low income population in developing countries, is most vulnerable to chronic diseases. It is estimated that, In India by 2030, slightly less than 75% of all deaths will be due to chronic diseases [CITATION Pat11 \l 16393],and there will be 100 million, type 2 diabetic patients by 2040 (Gill and Taylor, 2013). In America, almost 133 million people live with at least one chronic disease and 1.7 million people die each year with chronic diseases (Braithwaite, Shirchorshidian, Jones, & Johnsrud, 2013). These estimates indicate that prevalence of chronic diseases is rising and these diseases are the leading cause of death throughout the world (WHO, 2005).

Treatment non-adherence is a multifaceted problem affecting all stakeholders of the health care industry. As per ABC (2012) report, non-adherence can occur at initiation stage of treatment, implementation of the regimen stage or early discontinuation of the treatment. There is a substantial evidence of treatment non-adherence. In the reviews, it was found that poor compliance ranged from 30% to 50% among all patients (Vermeire, Hearnshaw, Van Royen, & Denekens, 2001) and the rates of non-adherence to oral medication ranged from 3-80% [CITATION Sch09 \l 16393]. Adherence to long term therapy in developed countries is 50% and still less in developing countries (WHO, 2003). This indirectly points out to the seriousness of non-adherence to long term therapy throughout the world. A Meta analysis of 569 research studies indicated that the average non adherence rate was 24.8% [CITATION DiM041 \l 16393]. Research has documented various rates of treatment non-adherence across diseases: 25% (HIV) (Horne, Buick, Fisher, Leake, Cooper, & Weinman, 2004); 63% (cancer) (Kondryn, Edmondson, Jonathan, & Tim OB, 2011); 48.5% (hypertension) (Lemstra & Alsabbagh, 2014); 50% (hypertension) (Evans, Eurich, Remillard, Shevchuk, & Blackburn, 2012); 66.9% (unipolar depression) (Banerjee and Varma, 2013); 53% (diabetes) (Ahmad, Ramli, Islahudin, & Paraidathathu, 2013); 83.8% (Tuberculosis and HIV) (Naidoo, Peltzer, Louw, Matseke, Mchunu, & Tutshana, 2013); 54.2% (hypertension) (Al-Ramahi Rowa, 2014) and 24% (multiple sclerosis) (Syed, Rog, Parkes, & Shepherd, 2014).

The available evidence indicates that during the last decade (2004-2014), prevalence of treatment non-adherence has been reported across diseases and the rates of non-adherence varying between 15%-84%, were explained by various predictors.

Treatment non-adherence, for patients, is a major cause of treatment failure, increased health care cost (NICE Report, 2009; WHO, 2003), unnecessary disease progression and complications, reduced functional abilities, low quality of life and even death (NCPIE, 2007, WHO, 2003; American Pharmacist Association, 2013), and for the health care providers, it

leads to additional utilization of health care facilities, extra workload, excessive use of health care resources and increase in the financial burden (A Frost and Sullivan White Paper). As reported in Frost and Sullivan White Paper, as per one study, annual direct cost of non-adherence to US health care system is \$100 billion and indirect costs exceed \$1.5 billion in lost patients earnings and \$50 billion in lost productivity. Drug Trend Report, 2011, states that elimination of non-adherence related cost of \$ 317.4 billion can cover the health care cost for 44.8 millions of Americans.

Given the potential health and other related consequences of treatment non-adherence, if this issue is addressed efficiently and effectively, it will significantly benefit the society at large (WHO, 2003). In a nationwide survey of diabetes patients, it was found that the improvement in adherence leads to reduction in hospitalizations, emergency department visits and a saving of US \$ 4.7 billion annually (Jha, Aubert, Yao, Teagarden, & Epstein, 2012).

It is essential to explore the underlying determinants of non-adherence, if a patient chooses to disregard treatment guidelines. Despite the knowledge of positive association between adherence and health outcome, patients are non-adherent. There is no particular single reason attributable to non-adherence but a combination of many factors. The treatment benefits could be sought, only when patient is adherent. Physician's lack of knowledge and patient's lack of awareness account for about 70% of non-adherence (Furthauer, Maria, & Andreas, 2013). Healthcare systems' efforts will not suffice to achieve desired objectives, but patient's involvement in his treatment is also required. Since treatment non-adherence is creating the health related problems to the patient and financial implications to all the stakeholders of the health care industry (NICE, 2009), it cannot be ignored.

The WHO (2003) has identified that non-adherence is occurring not only due patient related factors but also the health system/ health care team related factors. The health care service

delivery demands high level of involvement of the patients as well as the health care professionals. The reciprocity between health care providers and the patients is crucial for reducing treatment non-adherence and in turn reduce the burden on health care systems.

Conclusions

Worldwide prevalence of treatment non-adherence among patients with chronic conditions is the challenging task to the health care providers and a cause of concern to all the stakeholders of health care industry. As reported by WHO (2003), health care system has the potential to affect patient's adherent behaviour. Higher the adherence, lesser is the burden on health care systems. The measures to be taken by the health care systems to reduce non-adherence among patients with chronic conditions are:

- Provision of appropriate, efficient and effective health care services
- Identification of risk factors to prevent and control chronic diseases
- Promotion of adherent behavior among patients to get better health outcomes
- Awareness about benefits of medication adherence and lifestyle modifications among patients
- Personal counseling relation to dangers of non-adherence
- Use of appropriate methods of measuring non-adherence and
- Development and implementation of various interventions to reduce treatment non-adherence.

These efforts will benefit the patients as well as health care systems.

Areas for further research

The research findings leave a scope for further research. There is still a need to gain a deeper insight into the determinants of treatment non-adherence among patients with chronic conditions. Shifting the focus of behavioural change research to the chronic patients' living and health care utilization based research, may assist to predict chronic patient's non-adherent behaviour and to reduce the burden of the health care systems. Longitudinal

empirical studies on patient non-adherence and health care systems, based in Asian countries may contribute to the existing knowledge on treatment non-adherence.

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