

Impact of Health Literacy on Medication Adherence in Patients with Renal Failure

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ABSTRACT

The present study aimed to investigate the impact of health literacy on medication adherence in patients with renal condition. It was hypothesized that there is likely to be a positive and predictive relationship between health literacy and medication adherence in patients with renal condition. A total sample of (N= 120) including 52 men & 68 women, with age range 20 - 70 years. Patients were taken from Govt. and Private Kidney Wards and Centers through purposive sampling technique. Data was collected by using All Aspects of Health Literacy (AAHLS) (Chinn & McCarthy, 2013) to assess health literacy and Medication Adherence Report Scale (MARS-5) Bäck, et al., 2012 to measure medication adherence. Pearson Product Moment correlation and regression analysis were conducted for data analysis. Findings revealed that health literacy was positively correlated with medication adherence, while health literacy was a positive and significant predictor of medication adherence. The present study has explored the importance of a new area of expertise for doctors and health professionals as it was supported from the findings that health literacy has a positive effect on health outcomes of patients and; the importance of health literacy for medication adherence.

Keywords: Health literacy, medication adherence, renal failure.

INTRODUCTION

Pakistan ranks eight numbers in kidney disease causing 20,000 deaths every year. Chronic kidney disease (CKD) is rapidly growing in Pakistan. In kidney diseases and renal conditions, adherence to medication is a key component of effective disease management (Burnieret al., 2015). The main goals of medication are to slow progression of the disease and monitor and correct disease associated complications and comorbidities while treating the underlying etiology (Ellis & Welch, 2016). Patients with ESRD are prescribed a regime of multi-pharmacological treatment often starting with antihypertensives and antidiabetics and subsequently phosphate binders, vitamin D preparations, calcimimetics, erythropoiesis stimulating agents and iron supplements (Mason, 2011); and as studies shows that burden of medication is one of well-known reason towards non-adherence to medication that effects achievement of patient's overall target and goals of improved health (Schmid, 2009).

The level of health literacy and medication adherence determines the health outcome of patients with chronic diseases like ESRD. The low level of health literacy increased risk for poor self-care,

medication non-adherence and negative health outcome, with inadequate health literacy had lower kidney knowledge lower adherence compared to those with adequate health literacy.

The term “adherence” used to describe patients’ patterns of following the prescribed medication orders extent to which patients take medications as prescribed by their health care providers (Osterberg, 2005). Health literacy refers to the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions is one of the patient-related factors of adherence (Molimard, & Le Gros, 2008). Level of literacy directly affects patients ability to not only act on health information but also to take more control of our health as individuals ‘adherence’, families ‘treatment of Hemodialysis’ and communities ‘measure to control diseases’.

Objectives

- 1) To investigate the relationship between health literacy and medication adherence among patients with Renal Condition.
- 2) To analyze the impact of health literacy on medication adherence.

MATERIALS AND METHODS

Design: A Correlation research design was adopted, in order to be able to determine relationship between health literacy and Medication adherence in patients with Renal Condition of End Stage Renal Disease (ESRD).

Population of the Study: The research population is made of all patients with renal condition of End Stage Renal Disease on Hemodialysis from respective wards of hospitals. The data was collected from both Govt. Wards and Private Centers of Kidney Disease and hospitals.

Sampling Technique: Purposive sampling technique was used to collect the data from patients on Hemodialysis. The sample size for present research power analysis was undertaken through G* Power 3.0 (Faul, Lang & Behner, 2007). It consisted of 120 patients with Renal Condition of End Stage Renal Disease on Hemodialysis. (N= 120), 52 men (n= 52) and 68 women (n= 68). The response rate found to be 85% as calculated by following the definition of American Association for Public Opinion Research.

Instrumentation:

In addition of demographic information sheet and medical information Sheet three instruments were used by researcher. 1) All Aspects of Health Literacy Scale (2013) developed by (Chinn & McCarthy, 2013) a self-reported scale consisted of 13 Items was designed to measure health literacy in primary health care settings, encompassing functional, communicative and critical health literacy and used to assess health literacy. 2) The Medication Adherence Report Scale (MARS-5) by Bäck, et al., 2012 was used to explore self-reported adherence. It is a 5-item scale developed in which the patient themselves can assess their non-adherent behaviors.

An authority letter explaining the purpose and nature of the study was taken from competent authority and request for the permission of data collection was taken. Before collection of data, permission was sought for the use of all instrumentation for research purpose and the scales were translated in Urdu with their permission following complete procedure of Tool Translation (forward translation and backward translation). Then patients were approached by going to purposively selected Govt. hospitals, wards and kidney centers. Administration of the hospitals was approached and they were informed about the purpose of researcher’s visit in their wards and permission was

sought. Before answering or distributing questionnaires, patient’s oral consent was taken due to their inability to sign on consent form attached with questionnaires during dialysis. Relevant briefing regarding research and details about questionnaire was orally delivered and queries of the patients were answered properly. Then questionnaires were distributed among the willing patients and they were informed about their right to withdraw from research at any point of time without any penalty if they want. Some patients respond orally to the questions asked by researcher. Questionnaires were filled in the presence of researchers. Patients took 15 to 20 mints to fill up questionnaire. They were assured about confidentiality of the responses. The data was analyzed with the help of using Statistical Package for social sciences (SPSS-21).

RESULTS

The results showed that all scales of present study are internally consistent as alpha coefficient of all scales are above .70. As, All aspect of Health Literacy Scale had a chronbach’s alpha of .76, Medication Adherence Report Scale had a chronbach’s alpha of .72. The results of Correlation in Table 1.1 indicated that health literacy had a positive relationship with both medication adherences which revealed that better and higher level of health literacy leads to more satisfied and improved medication adherent behavior.

Table 1.1
Correlations among Health Literacy and Medication Adherence (N= 120)

Variables	2
1) Health Literacy	.76**
2) Medication Adherence	

*p< .05, **p< .01, ***p < .001.

Table 1.2
Linear Regression Analysis for Health Literacy as a Predictor of Medication Adherence (N=120)

Predictor	Medication Adherence	
	ΔR^2	B
Health Literacy	.58	.76***

Note: * p < .05, ** p < .01, *** p < .001.

Results in Table 1.1 and 1.2 indicated that health literacy was a significant and positive predictor of medication adherence. The overall model explained 58% variance in medication adherence, $F(1, 117) = 161.7$. $p = .000$ ($p < .001$).

Hence, hypotheses were approved in this case but the hypothesis of health literacy as predictor of medication adherence was supported.

DISCUSSION

This study shows that health literacy was significantly positively associated with medication adherence. These findings are consistent with previous literature indicated as a study of Baker et al. (1998) examined producing vigorous effectiveness on improving health practices and health outcomes through an increase in health literacy among adult patients with chronic disease (Ishaq et

al., 2022; Ishaq&Rafique 2022). The results indicated that inadequate health literacy skills of older adults caused higher rate non-adherence to their medical regimens in various chronic diseases. The research outcomes were persistent with a hypothesis, showing that health literacy was predictor of medication adherence as indicated in results. The previous literature also support this hypothesis and findings against this hypothesis as larger proportion of adult and adult patient can be expected to have higher health literacy according to current time demands other factors like social support and communication with physician overlaps effect of health literacy in their health related behavior like medication adherence. A study by Simpson (2006) revealed that while conducting a comparative study on older population and adults for health literacy as predictor of medication adherence. The results of prediction were not significant as when patients had maximum level of education they did not met criteria of present level of health literacy due to variation in time demands. Results revealed that older age was not significant for health literacy to predict medication adherence. Patients with poor health literacy have a complex array of communication difficulties, which may affect health outcomes (Ishaq& Sultan, 2020; Sultan et al., 2021). Such patients reported worse health status and have less understanding about their medical conditions and treatment and medication; they have increased chances of further complications with combination of multiple diseases. This emphasizes the importance of focus on the effect of poor health literacy on patients' ability to communicate their history and physicians' ability to solicit information, as well as identifying the most-effective techniques to educate patients to increase their health promoting behavior and medication adherence. These will then lead to better integration of treatment in daily life and hence a better quality of life for patients and their families. The results of the present study are, thus, consistent with previous studies.

IMPLICATIONS

The current research is helpful to understand the importance of health literacy for a better disease management and treatment goals by patients. It emphasizes the importance of health literacy for medication adherence, this emphasizes the importance of health care department struggle for further interventions and measures taken by doctors for patients improvement in aspects of understanding, knowledge, preventive measures and other details (cause, consequences, time duration) for better health outcomes in future. Results of this study can help health professional and explores need to educate patients and caregivers about importance of complete medication adherence, use and side effects of medicines, susceptibility of future illness due to non-adherence and benefits of treatment and follow up of treatment and medication in patients with ESRD and can help patients understanding importance of effective communication and understanding including trust worthy relationship with doctors and health professionals for a better treatment benefit and management with disease. Moreover, Health psychologists can work with health care professional (doctors and physicians) for the counseling and management of patients psychological issues, social issues, symptom management, health literacy and another illness related aspects and their consequences in daily life, they can play role for an improved health related quality of life of patients with chronic disease because they are concerned about patients issues like health literacy, illness perceptions, communication with doctor, decreased negative consequences of illness, helping them to effectively manage symptoms and continue with daily life responsibilities including management of psychological consequences of their disease.

CONCLUSION

The objective of present study was to assess the relationship between health literacy and medication adherence in patients with renal condition. Study revealed that the patients having high level of health literacy leads to improved medication adherence in patients with renal condition than those of having low level of health literacy and poor relationship with physicians. It has been found logical according to self-regulatory theory which suggested that self-knowledge and self-understanding is likely to have a significant relationship with adherence towards medication. The present study was also found coherent with previous studies(Sultan et al., 2022).

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