HERBAL MEDICINE: AN ASSOCIATE OF POOR HEALTH-RELATED QUALITY OF LIFE AMONG HEPATITIS C PATIENTS

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ABSTRACT

The current study aimed at finding the association of Health-Related Quality of Life among Hepatitis C patients (dependent variable) with use of herbal medicine to cure Hepatitis C (independent variable). The study was conducted in three teaching Hospitals at Peshawar, Khyber Pakhtunkhwa. A sample size of 361 respondents were proportionally allocated to each Hospital and then selected through systematic sampling techniques. Data was collected on a three level Likert Scale interview schedule covering both the study variables. The association of independent variable (use of herbal medicine to cure disease) and dependent variable (Health-Related Quality of Life) were tested by using Chi-Square (x^2) statistics. The association of Health-Related Quality of Life found significant (P=0.007) with Hepatitis C patient did seek treatment from traditional practitioner ever before, patients have used herbal medicine to cure HCV (P=0.002), herbal medicines are inexpensiveness (P=0.002), patients were not accessed due to their geographical remoteness (P=0.002),patients were convinced by family (P=0.000),patients believe in herbal medicines (P=0.005) and patients exposed truth to physician regarding the use of herbal medicine to cure Hepatitis C (P=0.005). Strong check on herbal medicine stores and laboratories by the drug inspector were some of the recommendations in light of the study.

Keywords: Health-Related Quality of Life, Hepatitis C, Herbal Medicine

INTRODUCTION

Hepatitis C (HCV) is a viral infection and blood-borne disease which cause damage to normal functioning of liver. It is now one of the major health issues worldwide. It reduces the quality of sound health and significantly contributes to mortality and morbidity as well. The virus responsible for transfusion –associated non-A non-B Hepatitis was identified and later named with Hepatitis C (HCV) during 1989 (Department of Health, State of Western Australia, 2009). A normal liver performs around 500 functions and contributes 2% of the total weight to the average human being. It is of crucial importance i.e. it processes breath, converts substances into energy, builds immune response against disease, stores vitamins and sugars for later use, removes poison that react harmfully to health etc. Hepatitis C virus damages liver cells which then no more remain capable of execution of such vital functions. The immune response also is paralyzed to defend and create building block against virus (Effective Health Care Program, 2012).

HCV infection is slow and progressive. The virus of hepatitis C (HCV) attacks cells in the liver, causes liver inflammation, liver cirrhosis (replacement of liver cells by the scared cells) and hepatocellular carcinoma (liver cancer) which is one of the most well-familiar cancer and fifth worldwide route leading to mortality. Once person has cirrhosis, their liver is usually incapable of being cured by itself (Marinho & Barreira, 2013). HCV, in most cases is caused by drinking contaminated water, use of already used syringes/needles, direct blood-to-blood contact and children born to mother infected with HCV which is commonly known as Mother to Child Transmission (MTCT). Sharing one's personal items i.e. razors, toothbrushes are less probable in causing HCV. Likewise, exposure to sexual behavior is also rare considered, a contributor to HCV. Those who suffer from HCV (usually with acute Hepatitis C) experience quite strange symptoms including mild-flu, fatigue, fever, night sweats, abdominal pain, loss of appetite, diarrhea, jaundice, vomiting, muscular or joint pain, indigestion and headache etc. Patient of Chronic Hepatitis C (CHC) also experiences the same symptoms like acute HCV but it has some extra symptoms including depression, brain-fag, mood swings etc. (Franciscus, 2015). Chronic Hepatitis C shows nonspecific symptoms which make clinical diagnosis difficult to identify (El-Zanty & Way 2009; El-Khoby et al;

2000). Strauss and Teixeira (2006) added that complications due to hepatitis increases when the patients are unaware of their disease or its associated symptoms.

The complex web of diseases, its cost of treatment, complexities and social stigma combines to affect Quality of Life (QoL) of patients. The concept of QoL firstly came into the sight in medical science in 1970s. It is one of well-known and most commonly used term that encompasses an overall well-being, i.e. aspect of happiness, fully satisfied from life and tension free. In short it can also be expressed as physical, psychological and social well-being of a person. Health is the major determent of QoL with varying meanings across the globe. Good health ensures high life quality, whereas, poor health due to severe diseases, like HCV, may lead to poor Quality of Life (CDC, 2000). Economists and Statisticians see QoL in term of material prosperity, good and services one need to live happily, whereas, Sociologists and Psychologists very distinctively determine QoL as the level of satisfaction of individuals in relation to their social network or in social organization (Farquhar, 1995). Health-Related Quality of Life (HRQoL) pertains not merely to absence of disease or level of its severity or infirmity. It's complete condition of one's physical, psychological social well-being and also a contended state of being happy, healthy and prosperous (World Health Organization, 1997).

Healing through traditional practitioners i.e. Hakeem or Damghars by prescribing herbal medicine and rituals are common. Both rich and poor class seeks treatment from traditional practitioner. This is the cultural influence on patients. These practitioners are usually untrained and keep little knowledge about the herbal medicine they prescribe for curing the disease. Such practices are very harmful for patient's well-being when he or she seeks treatment from an untrained practitioner (Nadha et al; 2011).

By using traditional herbal medicine one can pose both pros and cons to QoL. Herbal medicine generally are preceded with minimal level of rigor or not goes through any industrial process as pharmaceutical medicine passes, are naturally plant-derived substances practicing within local or regional traditional healing centers (WHO, 2003). Almost 80% of African population use traditional herbal medicine (WHO, 2002; Willcox & Bodeker, 2004). These are defined by the cultural knowledge thus are socially constructed in nature (Crellin, 2002); In many of the developing countries the skills of traditional medicine and its treatment orally transmitted from generation to generation as a result it becomes hard to identify qualified traditional healers, thus patients' HRQoL is vulnerable (WHO, 2013). Primitive

people learned about such medicine by error and trial, by doing so they became able to distinguish useful plants with beneficial effects i.e. that were enhancing well-being (QoL) than those which were toxic and inactive. Early human recognized that human nature was totally depended on natural resources notably diversities of plants (Solecki, 1975). Herbal medicine has the capability of causing both positive outcomes and negative as well, it has been witnessed, some herbal drugs cause hepatotoxic events (toxic to the liver, i.e. often with chronic HCV cases) through traditional use, and similar the case with Chronic Hepatitis (CHC) with severe cirrhosis most often results in liver transplantation (Larrey and Faure, 2011; Shaw et al, 2012). Because of extreme poverty and limited access to pharmaceutical medicine, approximately 80% of the world population consider and use traditional medicine, especially in developing countries (mostly in rural area of these countries where access is denied to modern medicine) as their primary source of healthcare. It is an alarming gate for sound QoL if treatment received from an untrained professional or practitioner (Bodeker et al, 2005; Mukherjee, 2002; Farnsworth et al, 1985 & Bisset, 1994).

Severity of drugs-induced liver toxicity (by using herbal medicine to cure liver's health in excessive amount) can raise the mild dysfunction of liver to raised serum level of alanine amino transferase (ALT) alone by increase in bilirubin level (orange yellow pigment and excessive amounts in blood produce the yellow appearance usually observed in Jaundice: is one of the symptom of HCV) to jaundice and over hepatic failure that could lead to decreased HRQoL or liver transplantation or most often death too (Davyson et al, 2014). There is only a few universally effective available option for liver disease i.e. cirrhosis and Chronic Hepatitis C (CHC), herbal treatment is also undertaken to alleviate disorder related to liver in order to obtain perceived QoL (Rajartnam et al, 2014).

Traditional medicine i.e. herbal medicines to cure disease, is still prevail in this modern era. These practices are influenced by cultural heritage or transmission and that is what culture actually does and preserves the cultural influence toward health-related behavior. Physicians often restrain patients from herbal medicines and medicating disease by traditional methods by untrained professional. Traditional practitioner lacking knowledge that how to cure disease and could also reduce HRQoL, when patients blindly trust. The forced patients seek for alternative treatment than complementary, is because of, they are not economically well-off to buy medicine thus they prefer to get herbal medicine which is

available as inexpensive in market than pharmaceutical (Crellin, 2002). Traditional medicine has recognized the essential need to focus on QoL when cure of disease is not possible (Roberti di Sarsina, 2007). Many patients turn to traditional medicine, products and practices to get cure disease on the assumption that *"natural means safe"* which is not necessarily true and trustworthy, which is surely dangerous for patients' QoL and its standard (WHO, 2004).

It has been found that the alternative medicines (herbal) prescribed by the traditional practitioner/Hakim or healer is dangerous for health (i.e. HRQoL) when provider does not know about the reaction of herbal medicine. It does not reflect that alternative treatment by prescribing herbal medicine by the practitioner for healing cancer or liver disease i.e. HCV, to patients, always reduce HRQoL but it can be useful when taken sagaciously. Interestingly, it has been also noted in several studies that many patients or their parents do not disclose to physician/doctor that they have taken herbal medicines once before, they actually fear of by revealing truth, doctor may show side effects of alternative treatment. But on the other side traditional practitioners and alternative experts themselves agree and recommend that patients or their parents of hepatitis infection notably HCV, should disclose the use of herbal therapies to their respective physicians, by doing so professionals can consult better and a level of sound QoL could be achieved (WHO, 2004).

MODEL OF HEALTH-RELATED QUALITY OF LIFE (HRQOL)

Ferrans et al (2005) model of HRQoL presents major five ordered domains of patients' outcomes, from biological function (presence of a disease) via symptoms, functional status of patients and general perceptions to overall Quality of Life (QoL). Similarly, characteristics of the individual's i.e. demographic and biological, characteristics of environment (represents social and physical factors. The below mentioned model illustrates that how different domains of QoL i.e. physical/biological, one's functional status, social well-being and one's personal or subjective views regarding his or her own QoL that how he or she rank well-being. Similarly, this model very clearly claims that QoL is not merely confined to physical well-being while it is spread to the boundaries of all those determinants which make complete well-being of a person from different dimensions.

Ferran, Zerwic, Wilbur and Larson have very wisely drawn the attention on the model to illustrate the QoL of in a much easier way. They made it possible that QoL to be measured very accurately from different facets while considering QoL as a subjective term.

The way the model expresses a logical sketch is very fabulous and pleasing for researchers where they are totally be able to foresee and anticipate QoL before getting ambiguous about its subjectivity. This model provides an understandable and comprehendible sense through the sequential chain order it gives. This was originally used by Wilson &Cleary in 1995, then the same model later revised by Ferrans along Zerwic, Wilbur and Larson in 2005 (Ibid).

THEORY

Culture has influence on the healing system, people seeking health care actually vary across countries and cultures, even in developed and modern country like United States, people may not expect or get treatment from the medical pharmacies i.e. hospitals with modern medicine, of cultural influence they have wide range of healing options, whether they seek modern or traditional healing system with herbal medicine, as their ancestors followed (Cockerham, 1998); Traditional medical system with herbal medicine expanded before evolution of western biomedicine (Leslie, 1976); However, today in this modern era of enlightenment, around the world there are two famously known tradition medical healing system: Traditional Chines medicine (Unschuld, 1985), and Hindu medicine. There is a revival of interest in cultural traditions today, that culture does to preserve and will continue to influence health-related behavior (Basham, 1976).

JUSTIFICATION

Development of a nation depends on productive involvement of its members in development endeavor. Such productive involvement on part of members in unequal as it vary from person to person and uneven as it vary on physical, social and psychological state of individuals during course of their life. Strong cultural base and profuse myths compel patients to opt for non-scientific cures from traditional practitioners by prescribing herbal medicine which may lead to chronic stage of HCV. By undertaking herbal medicine for the treatment of HCV has a strong influence on Health-Related Quality of Life (HRQoL) for patients with specific reference to their social, psychological and physical well-being. Patients with fatal disease need to be probed to report their outcomes and level of health satisfaction without proxy information to reach to valid results.

OBJECTIVE OF THE STUDY

- To ascertain the existing state of Health-Related Quality of Life (HRQoL) of HCV patients.
- To find out the association between use of herbal medicine to cure HCV and HRQoL among HCV patients.
- To suggest policy recommendations for the above study.

MATERIALS AND METHODS

The study was carried out in three teaching hospitals namely Lady Reading Hospital, Khyber Teaching Hospital and Hayatabad Medical Complex located in Peshawar City, Khyber Pakhtunkhwa, Pakistan. The research study was a "Cross Sectional" study on the basis of its time horizon. A pilot survey was conducted to estimate the number of HCV patients admitted/visited these hospitals on monthly basis. Total population of potential respondents infected with HCV came out to be 5580. For a population size of 5580 a sample size of 361 suffices as per criterion devised by Sekaran (2003). To ascertain a firm grip of the researcher and ensure better quality of research through reliable data regarding study variables, the respondents were selected by using systematic sampling technique, where first respondent was randomly selected and the following were chosen by a skip interval of 16.Skip interval (k) was identified for each stratum by using following formula

$$\text{K= Skip Interval} = \frac{\text{Population Size}}{\text{Sample Size}}$$

A conceptual framework was devised comprising of two study variables i.e. Health related quality of life (HRQoL) (Dependent Variable) and use of herbal medicine to cure HCV (Independent Variable) (Table 1). For the measurement of study variables the attitudinal statements were pooled from the existing literature and three Level Likert Scales were constituted for each study variable (15 attitudinal statements including statements for physical, psychological, economic and social well-being, for measurement of HRQoL and 9 attitudinal statements indicative of use of herbal medicine to cure HCV).

The respondents were interviewed by the researcher himself keeping in view APA standard of ethics. Cronbatch's Alpha test was carried out to test the internal consistency of items measuring HRQoL. Alpha value for said scale came out to be 7.6 which is within the admissible limits (Sekarn, 2003). The dependent variable (Health-Related Quality of Life among Hepatitis C Patients) was indexed to get summary result for HRQoL for each patient. A patient was ranked as having good quality of life if he/she responded positive attitude on

more than 10 attitudinal statements on HRQoL. Those that responded positively on 6-10 attitudinal statements related to HRQoL were ranked as fair on the scale and the rest were having poor quality of life as they responded negatively on more than 10 attitudinal statements on HRQoL. The indexed dependent variable (Health-Related Quality of Life among Hepatitis C Patients) was cross tabulated with independent variable (use of herbal medicine to cure HCV) to measure the association among study variables. Chi-Square (x^2) Statistics was used at 95% confidence interval to test the strength of association of variables at Bi-Variate Level. Statistical procedure outlined by Tai (1978) was adopted to calculate the value of Chi-Square (x^2) Statistics through the formula as below

$$\chi^2 = \sum_{i=1}^{r}\sum_{j=1}^{c}\frac{(O_{ij} - e_{ij})^2}{e_{ij}}$$

□2 = Chi-Square
Oij = Observed frequencies in ith row and jth column
eij = expected frequencies corresponding to ith row and jth column
r = number of rows
c = number of columns
df = (r-1) (c-1) (Tai, 1978)

Table 1. ***Conceptual framework.***

Independent variable	Dependent variable
Use of Herbal Medicine to Cure HCV	Health-Related Quality of Life among Hepatitis C Patients

RESULTS AND DISCUSSIONS

Frequency and percentage distribution of respondents' regarding their feelings of use of herbal medicine to cure HCV

The results indicate that, majority of the respondents 70.6% led treatment from traditional practitioner to get disease cured, while, the remaining 29.4% did not seek treatment from traditional practitioner ever before. Moreover, 72.6% used herbal medicine to cure disease from whom they were suffering for a long time and 27.4% did not use these medicines. Use of herbal medicine has its cultural roots, therefor this treatment is preferred. It is believed that herbal medicine does not have any side effects and it is effective in curing

diseases. These findings of the study are supported by Nadha et al. (2011) who depicted that people often seek treatment from traditional practitioners and use herbal medicine to get rid of disease.

Furthermore, 72.6% respondents used herbal medicine as it cost less than allopathic medicine whereas, 27.4% negated this statement. Similarly, due to geographical remoteness and having no smooth access to quality medical centers they prefer to be treatment local practitioner while, 27.4% of the respondents contradicted from this statement. Physical and economic inaccessibility to quality medicine constrained the people, especially those from remote part of country, to use herbal medicine. These findings of the study are supported by the inferences of Jiwani & Gul (2011) that poor people residing in remote areas are more inclined to use traditional medicine. However, majority of 64.3% of the respondents were convinced by their family members to use herbal medicine whereas, 35.7% used herbal medicine of their own. On the other hand 64.5% respondents strongly believed on the use of herbal medicine while 35.5% did not trust on the use of herbal medicine. Furthermore, majority of 91.4% respondents found herbal medicine ineffective in curing HCV and 8.6% found it effective in curing HCV.

Moreover, 89.5% respondents had the opinions that they will never recommend herbal medicine to other HCV patients, while 10.5% recommended use of herbal medicine to HCV patient. From these findings it is clear that family and relatives are major motivational forces that compel for use of traditional medicines. These herbal medicines are effective in minor diseases like cough and flu. However, these medicines were seldom effective in curing complex diseases. The users of herbal medicine, therefore, did not recommend use of these medicines for cure of HCV. These findings are supported by the report of WHO (2003) and work of Crellin (2002) that because of cultural influences and advices of elders. The patients firmly believed in herbal medicine without knowing its actual efficiency. The patients do not recommend herbal medicine to others when they failed to cure disease.

Table 2. Frequency and Percentage Distribution of Respondents' Regarding their Feelings of use of Herbal Medicine to Cure HCV

S.No	Attributes	Yes	No	Uncertain	Total
1	You did seek treatment from traditional practitioner (Hakeem) ever before	255(70.6)	106(29.4)	00	361(100)
2	You have used herbal medicine to cure disease	262(72.6)	99(27.4)	00	361(100)
3	You used herbal medicine because it costs low than pharmaceutical medicine	262(72.6)	99(27.4)	00	361(100)
4	Of your geographical remoteness you are constrained to use traditional medicine	262(72.6)	99(27.4)	00	361(100)
5	You were convinced by family member to use herbal medicine	232(64.3)	129(35.7)	00	361(100)
6	You believe in herbal medicine to cure disease	233(64.5)	128(35.5)	00	361(100)
7	Herbal medicine were effective in curing HCV	31(8.6)	330(91.4)	00	361(100)
8	You recommend use of herbal medicine for HCV patients	38(10.5)	323(89.5)	00	361(100)
9	You did expose the truth to your physician when used herbal medicine	107(29.6)	254(70.4)	00	361(100)

*****Values in the table present frequency while values in the parenthesis represent percentages proportion of the respondents.

Association Between use of Herbal Medicine to cure HCV and Health-Related Quality of Life (HRQoL)

A significant association (P=0.007) was found between Health-Related Quality of Life and patients who did seek treatment from traditional practitioner ever before. Similarly, significant association (P=0.002) was found between Health-Related Quality of Life and patients who used herbal medicine to get cure disease. Moreover, significant association (P=0.002) was found between Health-Related Quality of Life and use of herbal medicine because of its affordability. A significant association (P=0.002) was found between Health-Related Quality of Life and using herbal medicines due to geographical inaccessibility to hospitals. On the basis of above results it could be depicted that inexpensiveness of herbal medicine people prefer it and because of geographical aloofness they highly value herbal medicine as alternative over pharmaceutical, therefore use of herbal medicine is more common in poor traditional people that are remotely located. These results are supported by the inferences of Jiwani & Gul (2011) found that having cheap nature in price and lacking an

easy access to settled regions they cannot cash on the services of professional physicians at medical centers. Nadha et al. (2011) illustrated that many patients seek treatment from traditional practitioner and they also used herbal medicine for the purpose of curing diseasing.

A highly significant association (P=0.000) was found between Health-Related Quality of Life and those who were convinced by family to use herbal medicines. Similarly, significant association (P=0.005) was found between Health-Related Quality of Life and those who believe in herbal medicine to cure disease. Similarly, significant association (P=0.005) was found between Health-Related Quality of Life and patients who did expose the truth to their concerned physician about the use of herbal medicine. Use of herbal medicines has its strong cultural roots. Amid social pressure the patient is constrained to use herbal medicines. This result is supported by WHO (2003) reveals patients are convinced by family to use herbal medicine and they have great degree of trust in these medicines and there is also influence of their culture upon them. Bodeker et al. (2005) illustrated that patients who did seek treatment from traditional practitioners or ill-skilled physicians ever before often do not reveal truth to medical physician and they hide the truth of using herbal medicine. On the other hand non-significant association (P=0.193) was found that Health-Related Quality of Life and recommendation of herbal medicine to HCV patient. These results are against Solecki (1975) findings that reveals patients are convinced by family to use herbal medicine and they have great degree of trust in these medicines and there is also influence of their culture upon them.

Table 3.Association between use of herbal medicine to cure HCV and Health-Related Quality of Life (HRQoL) N= 361

Use of herbal medicine	**Feeling**	**Health-Related Quality of Life among HCV Patients**			**Total**	**Chi-Square (P-Value)**
		Good	**Fair**	**Poor**		
You did seek treatment from traditional practitioner ever before	**Yes**	37(82.2)	17(50.0)	201(71.3)	255(70.6)	$\chi 2$=9.949 (0.007)
	No	8(17.8)	17(50.0)	81(28.7)	106(29.4)	

You have used herbal medicine to cure disease	**Yes**	38(84.4)	17(50.0)	207(73.4)	262(72.6)	$\chi2$=11.989 (0.002)
	No	7(15.6)	17(50.0)	75(26.6)	99(27.4)	
You used herbal medicine because it costs very cheap and inexpensive than pharmaceutical medicine	**Yes**	38(84.4)	17(50.0)	207(73.4)	262(72.6)	$\chi2$=11.989 (0.002)
	No	7(15.6)	17(50.0)	75(26.6)	99(27.4)	
Of your geographical remoteness you are not easily accessed to medical center that is why you did seek treatment from practitioner	**Yes**	38(84.4)	17(50.0)	207(73.4)	262(72.6)	$\chi2$=11.989 (0.002)
	No	7(15.6)	17(50.0)	75(26.6)	99(27.4)	
You were convinced by family to use herbal medicine	**Yes**	36(80.0)	12(35.3)	184(65.2)	232(64.3)	$\chi2$=17.397 (0.000)
	No	9(20.0)	22(64.7)	98(34.8)	129(35.7)	
You believe in herbal medicine to cure disease	**Yes**	37(82.2)	16(47.1)	180(63.8)	233(64.5)	$\chi2$=10.750 (0.005)
	No	8(17.8)	18(52.9)	102(36.2)	128(35.5)	
Herbal medicine were effective in curing HCV	**Yes**	6(13.3)	1(2.9)	24(8.5)	31(8.6)	$\chi2$=2.674 (0.263)
	No	39(86.7)	33(97.1)	258(91.5)	330(91.4)	
You recommend use of herbal medicine for HCV patients	**Yes**	7(15.6)	1(2.9)	30(10.6)	38(10.5)	$\chi2$=3.289 (0.193)
	No	38(84.4)	33(97.1)	252(89.4)	323(89.5)	

You did expose the truth to your physician when used herbal medicine	**Yes**	13(28.9)	2(5.9)	92(32.6)	107(29.6)	$\chi 2=10.418$ (0.005)
	No	32(71.1)	32(94.1)	190(67.4)	254(70.4)	

CONCLUSIONS AND RECOMMENADTIONS

It is concluded from the study that traditional herbal medicines have strong cultural roots. There is a general psychological acceptability for use of traditional medicines. There medicines are effective in curing minor diseases, however, are ineffective in curing complexities of HCV and there for lead to poor quality of life in HCV patients. Due to cultural influence treatment with herbal medicine is regarded of great importance in areas where traditional values prevails with high degree. Herbal medicine is preferred because is it inexpensive and affordable. Remote communities from settle area undertake traditional herbal medicine due to their geographical inaccessibleness to standard hospitals for quality treatment. These medicines are not been through any pharmaceutical and scientific process thus could lead to poor quality of life among HCV patients.

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