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A QUANTITATIVE ANALYSIS OF SOCIAL EFFECTS OF CANCER PATIENTS AND ITS IMPACTS ON QUALITY OF LIFE

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Abstract

Purpose of the study: The present study explores the social effects of cancer patients and their impacts on their quality of life (QoL).

Methodology: A cross-sectional based study was conducted in district Dir lower from a cancer patient (n=155). A structured questionnaire technique was used for data collection. Descriptive statistics and inferential statistics were carried out for both variables, i.e. dependent variable (QoL) and independent variable (Social effects of cancer patients).

Principal Findings: Among all 155 sampled respondents, 75.5% were male, having 42.6% had age group of 26-40 years, 79.9% were married, 47.1% were literate, and 32.3% were dependent on family members on economic terms. However, the perceptions of cancer patients with regards to social effects of Cancer majority 76.8% were proclaimed that social support decline cancer illness, 71% stated that religious doctrine gives spiritual healings, 70.3% dismantled that after cancer family supports us, 45.2% were reported that Cancer is a fatalistic disease, and 51.6% proclaimed that preference is given to male over a female concerning cancer disease respectively.

Applications of this study: Cancer affects social life, especially domestic affairs; however, this study was not primarily identified cancer diagnoses parameters due to the cross-sectional and perception nature of the study. A longitudinal follow-up study is the order of the day to determine whether there is any link between sociological and Cancer contexts.

Novelty/Originality of this study: This study is an attempt to insight into the sociological exploration of cancer patients effects through perceptional based research methodology/ Likert Scale procedure along with quantitative research design to measure the association between the aforementioned variable above with an amalgamation of an addition in the field of medical sociology.

Keywords: *Cancer, Social Support, Gender Discrimination, Chi-Square Test, Quality of Life (QoL).*

INTRODUCTION

The word 'Cancer' is derived from the Greek words *Karkinos* to explain carcinoma tumours by a Hippocrates physician (Chen, 2010). Cancer is a disease that occurs with the unstoppable increase and expansion of abnormal cells in a patient's body which further lead to death. The causes of Cancer are not clear yet especially in the cases of child patients. There are some identified reasons for cancer; likewise, using tobacco, over-weighting, hereditarily genetic alteration, hormones, and flawed immunity system of a body while such kinds of agents acting concurrently or in a cycle from to start or motivate the cancer escalation. Likewise, around the globe, cancer is the second prominent cause of death after the cardiovascular illness. In America, one-quarter of females and half ratio males are facing cancer problems in their lives. Now a day most cancer patients are survived for a long time due to the early recognition and care of cancer disease (American Cancer Society, 2018).

Cancer disease is old in the history of humanity and affecting people from all over the globe. Hippocrates physician was not the first person who discovered Cancer in the early Ancient Egypt manuscript (1600 B.C;), the proofs were found about human bone cancer. Ancient Egypt manuscript (1500 B.C;) is the earliest record in the history of humans about breast cancer. Further, there was no cure for cancer; except palliative cures (Sudhakar *et al.* 2009).

However, cancer; is the prominent cause of death, while 7.4 million people died due to cancer around the globe (13% death ratio). In 2004 death of people with a different type of cancer; likewise, 1.3 million patients were died due to lungs cancer, 803,00 deaths due to stomach cancer, 639,000 died due to the colorectal, liver (610,000 death), and 519,000 deaths were due to breast cancer (World Health Organization, 2010). In addition, cancer stigma can be more complex and even more unbearable than a disease itself and cancer treatments (Marlow and Wardle, 2014). Rejection and social isolation due to stigma result in less social support and lower levels of emotional well-being, and poorer outcomes in patient's health (Yilmaz et *al.*, 2017).

In some parts of Asia, Cancer is taboo. People have a wrong understanding of the cause of Cancer (Karbani *et al.*, 2011). Even with extensive information on all aspects of the disease and advanced medical technologies currently available, there are many harmful myths and images about Cancer. Cancer is one of the diseases associated with social stigma (Cho *et al*., 2013a; Yilmaz et *al*., 2017).

Moreover, stereotypical and negative attitudes towards Cancer make people less likely to disclose Cancer to neighbours (Badihian *et al*., 2017; Yilmaz *et al*., 2017). Patients sometimes feel, as soon as cancer; is detected, others avoid them along with fear of being stigmatized impede disclosure of being cancer diagnosis generally (Marlow and Wardle, 2014) while in the study area particularly. In addition to the above, fear of stigma and social judgment, or the attribution of the causes of the disease to individual behaviours can lead to deprivation, fear of rejection from other's favour, avoidance of communication with others, and the feeling of distinctness, worthlessness, confusion, blame and worsening of disability, deficiency, and depression (Tang *et al*., 2015; Zamani and Farahani, 2012; Yilmaz et *al*., 2017; Mazhariazad *et al*., 2010; Cho *et al*., 2013b).

Despite the above social effects, there is so many others technique which is prevailed since long in the societal dynamics about spiritual involvement among cancer patients has been the focus of considerable research activity over the past two decades. These beliefs and practices represent an essential resource for many patients as they seek to cope with the burdens of illness (Balboni, *et al.* 2007; Silvestri, *et al.* 2003; Feher and Maly, 1999). There are some indications that spiritual involvement may be associated with socially, clinically, and psychologically had meaningful outcomes, including indices of physical, mental, and social health, but findings have been mixed and the quality of research uneven (Hatzenbuehler et al., 2013; Sherman, *et al*., 2007; Schreiber and Brockopp, 2012).

Social support may mark the acceptance of cancer addition maintenance over the accessibility of everyday assistance attaining and presence activities, or as perceived for additional continuing fitness situations, over the formation of an expressively caring condition which motivates fitness activities and handling observance (Magai C, *et al*., 2007; DiMatteo MR, 2004; Arora NK, *et al*., 2007).

However, the presence of the continuation attention schedules did not assurance energetic sharing inpatient entered care. Observed public livelihood might too accelerate alive connection in preceding precaution; i.e. concluded build up their own-effectiveness for sharing in decision-making (Qian and Yuan, 2012). Basics expertise is essential for the own-managing of on-going diseases (McCorkle R, *et al*., 2011).

Therefore, observed social support force disturbs fitness and alteration for enduring cancer survivors by own-effectiveness, and eventually involvement in treatment-related conclusion. Women are finding other barriers to descript the women's locality (Robb, *et al*., 2009).

Furthermore, due to tension and frustration patients are enabled to visit other relatives and colleagues even they can't interact with their family as well having no good relations with wife/husband, such kind of emotional and social break down decreasing emotional and social support for cancer survivors. Social support can be known as care of the patient from the time of diagnosing to the end of treatment or the end of life (Centers for Disease Control and Prevention 2013).

The measurements of social support having different methods, likewise together with the perspective of accessibilities and availabilities of supportive actions and finding structural agents like social relations and integration (Uchino, 2009; Umberson *et al*., 2010).

In India, qualitative research was conducted regarding social stigma related to cancer. According to the respondents, cancer is a social stigma in the perspective of people because they think it is an outcome of sin. A family does not accept a person who suffers from cancer even in a large portion of society (Gupta, *et al*., 2015).

According to qualitative research, in India, strict cultural norms and value is a prominent block to the curing of cancer (Broom and Doron, 2012). In Thailand, a qualitative study was conducted, which shows females suffer from breast cancer facing alone and separation due to social stigma. Such kind attitudes and perceptions lead to a lack of social support in cancer patients (Suwankhong and Liamputtong, 2016). While people's perspective about breast cancer is the result of bad characters in women (Dey, *et al*., 2016).

Cancer controller policies indicate three aims: reduced cancer incidence reduced cancer mortality, and improve quality of life of cancer patients. A strategy to address these goals should include a proper collection of cancer data while providing training, support, and infrastructure to local networks of cancer registries and conduct advocacy for them (Bryant *et al*., 2012). Cancer registration is an important component of cancer surveillance and is essential to a unified, scientific, and public health approach to cancer prevention and control (NPCR, 2015) Taking the above literature, the present study is designed to highlight the social effect of cancer; among patients in District Dir Lower and give a policy framework at macro and micro level to health sectors concerned.

METHODOLOGY

The present study was cross-sectional which was conducted in District Dir Lower KPK Pakistan. As the pilot survey, which was initially conducted from Jan 14, 2019, to Feb1, 2019, The case history, which is registered during this period within 15 working days, reported the ratio of a cancer patient is determined the daily ratio basis was 8-9 in *Agha khan Clinical Laboratory* and *Shaukat Khanum Laboratory* the balance exists from 6-8 each day respectively. The average, which was taken from Agha khan laboratory, is 135 in 15 working days, while from *Shukat Khanum Laboratory*, the average cases were registered as 120. To sum both the laboratories reports of cancer patients, the moderate cases (cancer patients) were stood at 255, which resulted in a sample size of 155 was selected as per Sekeran criteria (Sekera, 2003). Furthermore; the sample size was proportionally allocated as shown in table 1 by using the formula given by (Chauadry, 1996) Moreover, a dependent variable *"Quality of Life"* was cross-tabulated and indexed with the independent variable *"Social effects of a cancer patient"* by using of Chi-Square test statistics (Tai, 1978).

ni= (Ni/N) x n

Where; n = Total sample size required for researcher. N = Total population in study area. Ni = Total population in each union council & ni = Sample size required for each union council.

Table 1: Proportional allocation of sample size distribution

S. No	Laboratory	Total Patients	Sample Size (n)
1	Agha Khan	135	135/255*155= 82
2	Shukat khanum	120	120/255*155= 72
	Total	**255**	**155**

RESULTS AND DISCUSSIONS

Results

Keeping in view the demographic sketch of the respondent's majority (n=155, 75.5%) of the respondents were interviewed as male based on gender identity, (n=155, 42.6%) had their age group 26-40 years, followed (n=155, 72.9%) were married, (n=155, 52.9%) were illiterate, (n=155, 32.3%) were dependent on family members on economic terms and (n=155, 52.9%) of the respondents were financing the cancer treatment cost by different NGOs/Organizations and donors respectively.

In addition, with regards to the perceptions of social effects of cancer patients in a qualitative manner with the persistence of frequency and percentage distribution, the results of attributes (questions) were; among all (n=155, 100%) majority of the respondents (n=119, 76.8%) stated that social support from family members might decline cancer illness, (n=110, 71.0%) thought that religious doctrine gives us spiritual healing, (n=110, 71.0%) disclosed that Unawareness of cancer symptoms affects our health condition, and (n=109,70.3%) of the respondents proclaimed that family supports us after Cancer. Additionally, (n=109,70.3%) of the respondents declared that we disclosed our illness to family members and friends, (n=80, 51.6%) of the respondents stated that preference is given to male over female in cancer treatment, (n=70, 45.2%) of the interviewed that cancer; is fatalistic. furthermore, a majority (n=109, 70.3%) of the responses negated that, we are not decision-makers in domestic affairs after cancer, (n=80, 51.9%) negated the statement that Cancer is a social cause, and (n=111,71.6%) negated the idea regarding living in a room separately from family members due to negative labelling of Cancer respectively. (See table 4)

In the end, the chi-square test was used to ascertain the association between the social effects of cancer patients (independent variable) and QoL (dependent variable). A highly significant association (p=0.000) was found between QoL and separate variable statements, i.e. social support from family decline illness (p=0.000); religious doctrine gives us spiritual healing(p=0.000); Unawareness of cancer symptoms affects our health condition(p=0.000); family supports us after Cancer (p=0.000); we disclosed our illness to family members and friends; preference is given to male over female in cancer treatment cancer; is a fatalistic(p=0.000); we are not decision-makers in domestic affairs after cancer; cancer is a social cause(p=0.000), and living a room separately from family members due to negative labelling of Cancer (p=0.000). (See table 5)

Discussions

The present study was focused on investigating the social effects of cancer patients and their QoL, along with seeing whether there is any sort of association between them. After cross-tabulation and indexation of QoL (dependent variable) with Social effects of cancer patients attributes (independent variable) for finding out the association is highly significant, significant, and non-significant value. The outcomes, i.e. QoL, are a highly effective association with social support from family decline our cancer illness (p=0.000). This statement is also supported by the work of (Mgai C et al., 2007; DiMatteo 2004; Arora NK et al.,2007) stated that social support of family members could enhance/improve psychological conditions of the cancer patients particularly. Social support is an interpersonal resource linked to better short- and long-term psychological outcomes in cancer patients and survivors. Most attention has been focused on social support as a facilitating factor in the coping process (Filazoglu and Griva k 2008) have also; the same findings and reported that social support was positively related to better QoL in Turkish cancer patients.

In addition, a highly significant association (P=0.000) was found between QoL and cancer patients still a decision making in domestic affairs. Self-efficacy for decision-making has been positively associated with survivors, sense of control, asking providers questions actual participation in treatment-related decisions, and health-related quality of life. Thus, perceived social support might affect health and adjustment in long-term cancer survivors via self-efficacy for, and ultimately participation in, treatment-related decision-making as witnessed by (Arora NK et al. 2007; Heckman JE et al., 2011 & Maly RC, et al., 2004).

Furthermore, a highly significant (P=0.000) relationship was found between QoL and religious doctrine that gives spiritual healing to a cancer patient. Beliefs and practices represent an essential resource for many patients as they seek to cope with the burdens of illness. Religious/Spiritual involvement may be associated with clinically meaningful outcomes, including manifestations of physical, mental, and social health, as supported by (Balboni TA et al., 2007; Silvestri GA et al., 2003; Feher S, Maly RC 1999).

The study further revealed that unawareness; of cancer symptoms affects our health condition had a highly significant association with QoL (P=0.000). This statement is supported by (Parker PA et al., 2003) stated that greater educational attainment is often linked to better psychological adjustment in cancer survivors. More educated individuals might extract more information from their care providers, be more likely to seek information, or better understand the information provided to them. Communication might also foster appropriate expectations regarding long-term recovery.

A highly significant association (P=0.000) was found between QoL and cancer patients who believed that Cancer is fatalistic. Cultural factors detrimental to the participant's quality of life included being fatalistic, a belief where all events are considered to be predetermined and therefore inevitable. Most female cancer patients tended to think that they were "bewitched", and this led them to feel isolated and fearful. In these cases, women may be reluctant to seek timely healthcare, as supported by (Risch et al., 2015).

Moreover, cancer patients living in a room separately from family members due to the negatively labelling of Cancer had a highly significant level of association with QoL (P=0.000). This statement is also supported by (Helgeson VS, Cohen S 2001 and Feher S, Maly RC, 1999), which states that social support is an interpersonal resource that has been linked to better short and long-term psychological outcomes in cancer patients and survivors.

Table 2: Demographic Profile of Respondents

Characteristics		**No. of respondents (%)**
Gender	Male	117(75.5)
	Female	38(24.5)
Age	Below 10	2(1.3)
	11-25	38(24.5)
	26-40	66(42.6)
	Above 41	49(31.6)
Marital Status	Married	113(72.9)
	Unmarried	42(27.1)
Educational Status	Literate	73(47.1)
	Illiterate	82(52.9)
Economic Status	Jobless	32(20.6)
	On job	40(25.8)
	Self-employed	18(11.6)
	Dependents	50(32.3)
	Retired	15(9.7)
Financing of Cancer Cost	Self-financed	73(47.1)
	Sponsored (NGOs/Organization/donors)	82(52.9)

Table 4: Frequency and percentage distribution regarding on social effect of Cancer on patients

Questions	**Yes**	**No**	**Uncertain**
Do you believe that social support may decline your illness	119(76.8)	14(9.0)	22(14.2)
Do you believe that religious doctrine gives you spiritual healing	110(71.0)	10(6.5)	35(22.6)
Unawareness of cancer symptoms affects your health condition	110(71.0)	15(9.7)	30(19.4)
Does your family support after your Cancer	109(70.3)	32(20.6)	14(9.0)
Have you disclosed your illness to family members and friends	109(70.3)	36(23.2)	10(6.5)
Do you think preference is given to males over females in cancer treatment	80(51.6)	50(32.3)	25(16.1)
Do you believe that Cancer is fatalistic?	70(45.2)	44(28.4)	41(26.5)
Do you still a decision-maker in familial affairs	36(23.2)	109(70.3	10(6.5)
Do you believe that Cancer is a social cause	20(12.9)	80(51.9)	55(35.5)
Are you living in a room separately from family members due to negative labelling of Cancer	11(7.1)	111(71.6	3(21.3)

- ❖ Values in the table represent frequency and in parenthesis represent the percentage of the respondents.

Table 4: Association between Social effects of Cancer and Quality of life through the application of chi-square test

Independent Variable attributes	Indexed Dependent variable (Quality of Life)	Chi-square test, I.e. P-Value and x^2 Value (Association)
Social support may decline your illness	QoL	x^2=163.982 p= 0.000
Religious doctrine gives you spiritual healing	QoL	x^2=115.007 p= 0.000
Unawareness of cancer symptoms affects your health condition	QoL	x^2=137.990 p= 0.000
Does your family support after your Cancer	QoL	x^2=129.694 p= 0.000
Have you disclosed your illness to family members and friends	QoL	x^2=112.935 p= 0.000
Preference is given to male over female in cancer treatment	QoL	x^2=242.062 p= 0.000
Do you believe that cancer is fatalistic?	QoL	x^2=204.382 p= 0.000
Do you still a decision-maker in familial affairs	QoL	x^2=118..951 p= 0.000
Do you believe that Cancer is a social cause	QoL	x^2=96.824 p= 0.000
Are you living in a room separately from family members due to negative labelling of Cancer	QoL	x^2=116.050 p= 0.000

CONCLUSIONS

The current study entitled a quantitative analysis of social effects of cancer patients and its impacts on quality of life was conducted in district Dir lower to explore the social impact of Cancer among patients based on a cross-sectional study design. The study showed that based on the study findings with regards to social impacts of Cancer it was concluded that Cancer is a social causative factor, family support socially cancer patient, preference was given to males over females in terms of access to treatment, Unawareness with regards to cancer treatment affect the social well being of the patient and cancer patient was living their life in a separated condition. Cancer affects the quality of social life generally while domestic affairs mainly. Long term follow-up research studies were the order of the day to disclosed the association between sociological cause and Cancer along with enabling as a source of awareness; as well as will remove the negative statements of people towards cancer patients were put forward some of the researchers in the light of present study.

LIMITATION AND STUDY FORWARD

The current study was limited to one district of the province of Pakistan with the collaboration of a small sample size taken to explore to sociological causes of cancer patients only. However, a longitudinal study is required with an amalgamation of numerous Cancer that affects the patient quality of life in the order of the day, namely psychological, political, educational, and religious institutions.

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AUTHORS CONTRIBUTION

Rehan is the Principal author of this article designed this article and proofreading. Dr. Intikhab Alam is the principal supervisor and was responsible for developing the statistical application of the whole process. Younas Khan assisted the team of data collection with the collaboration of article writing and correspondence. Dr. Fazal Hanan is an external supervisor who contributed a great deal and an existing research proofreading. Habib Ur Rahman helped during data collection respectively.

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