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COMPARATIVE OCCURRENCES AND DANGER INFLUENCES OF SEVERAL DISTORTIONS A CROSSWISE STUDY

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Abstract:

Objectives: *The present study purposes to discover the mutual risk factors disposing to distortions and the comparative occurrences of several distortions.*

Methods*: This was a crosswise study in which the contributors were designated through non-possibility purposive selection method and the standards of assortment was being identified with any distortion either in current or previous. The study was led for 2 months i.e. from November to December 2017, at Services Hospital and General Hospital, Lahore. The Contributors were interrogated via survey which was interpreted into resident verbal by the investigators themselves. An example size of 171 was designed with help of WHO S. Size software. The statistics was collected and complied with the help of SPSS 17.*

Results: *Our consequences exposed that distortion was most normally connected with Breast in 65 (38%), colon in 17 (9.8%), uterus in 14 (8.18%) and lung and skin in 9 (5.27%) victims. The most usually pretentious age group was 31-60 years with 111 (64.92%) victims of our sample. The danger issues most normally met in the history of these victims were inactive smoking in 80 (46.77%), family history in 35 (20.46%), living in engineering area in 22 (12.86%), experience to industrial chemicals and waste in 16 (9.33%), extreme skin experience in 14 (8.1%) and experience to dangerous contaminations in 3 (1.76%) participants. In adding to these outcomes, bladder Ca was create to have a noteworthy connotation with chemical industry and 44.61 % of the Breast CA victims had positive domestic account.*

Conclusion: *The above consequences lead us to accomplish that more research is wanted in this zone for the appropriate leadership of populace concerning initial analysis of distortions. Additional investigates in travelling the important associations of precise risk influences to convinced distortions must be led, so that, the populace is conscious of the danger influences that need to be explored.*

Keywords: *Distortion, relative frequency, Tumor.*

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INTRODUCTION:

Tumor, is the word used when we denote to a sickness with cells that flourish absconding the normal control instruments of cell separation and also these cells can attack the neighboring matters. Though, this term growth is used otherwise with distortion, which in fact is the term when a tumor makes its secondary's to proliferate in tissues/ organs other than the primary organs by spreading through the blood or lymphatic systems.1. Worldwide, one of the recognized and important causes of transience and injury is tumor, as around 14 million new cases were described in a study led in 20122 and in 2015 around 8.80 million deaths were stated to be produced by tumor, transmission it the additional exuberant between the most mutual reasons of transience universal.

Some similar results have been produced by a study conducted at centers affiliated with at Services Hospital and showed the subsequent geographical distribution of tumor in Pakistan i.e. out of 6,587 malicious tumors Punjab 3,564 (54.12%), Khyber Pakhtunkhwa 1,526(23.18), Sindh 222(3.39%), F.A.T.A 242 (3.66), Baluchistan 119 (1.82), Federal Capital 65 (0.98) Gilgit-Baltistan 14(0.22) Azad Jammu & Kashmir 66(1.01) and Afghanistan 769 (11.68).5. Concerning the danger influences inclining the populace to growth of tumor, rising older, tobacco, sunlight, ionizing energy, certain substances and other materials, some worms and microbes, certain hormones, domestic history of tumor, Alcohol, Poor diet, lack of bodily movement, or being overweight.

In our research we aim to regulate the comparative occurrences of various distortions in the local area as there has been no study that delivers such a statistics concerning this locality and as well as to spread consciousness among people by significant the risk influences that appear to be linked with dissimilar distortions. The examination of risk factors leading to develop a distortion is also one of the purposes of our research. Complete our study we have also strained to find out any connotation among a precise danger influence and a detailed distortion. As we collect from the past studies that the tumor occurrence is growing every year, it is vital to create consciousness in communal to circumvent such danger influences and this strength help us conveying down the intensified stages of tumor occurrence and occurrence. Our research gives a photograph of the present state of tumor ordinariness in our stressed area and will help persons to take an initial notification of their circumstances that strength dispose them to grow a distortion in the close forthcoming.

MATERIALS AND METHODS:

The following study was approved by the institutional review board by presenting a research proposal before it was conducted and an ethical review statement was also shown to the review board where I mentioned that I will abide by the declaration of the World Medical Association (WMA) made at Helsinki (2008), regarding the ethical principles of medical research involving human subjects and Patient's health and safety would be our priority. This Cross-sectional study was conducted at Services Hospital and General Hospital, Lahore. These centers are claimed to be the largest centers in Pakistan dealing with diagnosis as well as treatment of various malignancies.

Estimation of Population Proportion with specified Relative Precision at confidence level 95% and anticipated population proportion of 90% with relative precision 5%. The minimum sample size was 171. The Non-probability purposive sampling technique was applied for choosing the participants. The duration of this study was of 2 months from November to December 2017. The sample size was estimated using WHO S-Size software by using formula of it also stated that all the procedures shall be explained to the subjects clearly and shall be kept sterile and painless and the confidentiality of the information shall be maintained.

Prior to data collection, permission was taken from administration of Services And General Hospital to interview their victims. Victims who fulfilled the inclusion criteria were interviewed. Inclusion criteria comprised of the victims with any diagnosed malignancy presenting in Services And General Hospital, Lahore, for follow up or booked for surgery. The Exclusion criteria was based on people who denied to participate in the study and people who have a tumor but it's not malignant. A total of 100 victims were recruited from Services Hospital and 71 victims from General Hospital depending on the preference of subjects willing to take the interview. The selection of study settings was based on authors' convenience where it was easy for author and subjects to interact and no discrimination among age or ethnic groups was sought.

For qualitative variables, frequency and percentage distribution tables were generated. For qualitative variables chi -square test and for quantitative variables t or z test was applied. P value of 0.05 was taken as significant. SPSS computer software version 17 was used for entry, compiling and analysis of data. For quantitative variables, mean and standard deviation was calculated.

After explaining the purpose of study to the participants, written informed consent was obtained from all the respondents and face to face interview was conducted and close ended questions were asked. A detailed semi structured questionnaire was devised by the researchers to collect data from the respondents. While interviewing the victims, questions were translated into local language by the researchers. The participants were asked about the presenting complain, the investigations and various treatment modes that they went through. All the data was collected by the researchers themselves. The questionnaire was developed in the light of previous researches that have marked some common risk factors and was also cross checked by our supervisor.

After this categorization we also sought if a specific factor is seen to occur more frequently in development of a certain organ malignancy or not. We categorized the risk factors into different groups e.g. use of recreational drugs including alcohol abuse and smoking, family history, exposure to any risk factor at workplace and many others. Finally, the study was concluded by making the commonest risk factors obvious to the readers and planning some new ideas to spread the awareness regarding early diagnosis or early screening of malignancies. All of this process led us to find out the most prevalent malignancies among the population and the most common risk factors that should be taken as an alarming sign for the near development of a malignancy. In addition to these some of the risk factors have proven to be significantly correlated to a specific malignancy as well.

RESULTS:

Table 1 shows that out of 171 victims, 65 are affected by the malignancy of breast which makes the largest proportion of the participants i.e. 38 % and out of these affected by the breast malignancy 3 (4.6%) were males whereas the remaining 62 victims (95.4%) were females. The results were compiled by putting the relative frequencies of various malignancies against the gender of the victims so that in addition to the relative frequencies we can also have an idea about the type of malignancy that is more common in one or the other gender.

The second most common reported malignancy came out to be of colon with a total of 17 victims (9.9%) including 12 men and 5 females. Many other organs were seen to be affected by malignancy with smaller Frequency. The next most common malignancy was reported with uterus affecting 14 (8.18%) victims out of the total sample.

Table. 1 organ affected by malignancy * sex of the patient Cross tabulation

		sex of the patient		Total
		a	b	
	BREAST	3	62	65
	COLON	12	5	17
	ESOPHAGUS	3	3	6
	FOLLICULAR DENDRITIC SARCOMA	1	0	1
	KIDNEY	1	0	1
	LARYNX	3	1	4
	LEUKEMIA	3	1	4
	LIPOSARCOMA	0	1	1
	LIVER	1	1	2
	ADRENAL GLAND	1	0	1
	BLADDER	2	1	3
	BONE	4	2	6
	BRAIN	2	0	2
	OVARY	0	3	3
	PANCREAS	1	0	1
	PHARYNX	3	0	3
	SARCOMA	1	0	1
	SKIN	5	4	9

	LUNG	7	2	9
	LYMPHOMA	1	2	3
	NEUROFIBROMA	1	0	1
	NEUROFIBROSARCOMA	1	0	1
	ORAL CAVITY	1	0	1
	URETHRA	0	1	1
	UTERUS	0	14	14
	STOMACH	1	1	2
	TESTES	2	0	2
	THYROID	5	2	7
Total		65	106	171

The relative frequencies of occurrence of each of the individual malignancies have been illustrated in the table 1.1. The next rank was occupied by the malignancies of lungs and skin equally with a total of 9 (5.26%) victims affected by each.

The people with the age above 60 years of age made the second most common group of age affected by malignancies with 32 (18.71%) participants out of 171. The second table (2) was compiled by taking the age of the victims who presented with malignancy against the organ of malignancy with the intention to explore any relationship between the age and the development of any specific or a malignancy generally. Our results have shown that people within the age group of 31-60 years with 111 victims (64.91%) out of 171 belonging to this age group. Thus, we can suspect the increasing age to be a factor predisposing a person to malignancy. The separate analysis of the age group most affected by a specific malignancy has also been portrayed in table 2. The people with the age group of 16- 30 years made third most common for having malignancy with 24 (14.03%) and the least affected group was the one with age below 15 years comprising of only 4 (2.34%) victims out of the sample of 171 participants.

Table 2 :organ affected by malignancy * Age of patient Crosstabulation

organ affected by malignancy		Age of patient				Total
		a	b	c	d	
	BREAST	0	8	50	7	65
	COLON	0	1	10	6	17
	ESOPHAGUS	0	0	5	1	6
	FOLLICULAR DENDRITIC SARCOMA	0	1	0	0	1
	ADRENAL GLAND	0	0	1	0	1
	BLADDER	0	0	3	0	3
	BONE	1	2	2	1	6
	BRAIN	0	0	2	0	2
	LIVER	0	1	1	0	2
	LUNG	0	0	5	4	9
	LYMPHOMA	1	2	0	0	3
	NEUROFIBROMA	0	0	1	0	1
	NEUROFIBROSARCOMA	0	0	1	0	1
	KIDNEY	0	0	1	0	1
	LARYNX	1	0	2	1	4
	LEUKEMIA	1	0	3	0	4
	LIPOSARCOMA	0	0	0	1	1
	SKIN	0	2	6	1	9
	STOMACH	0	0	1	1	2
	TESTES	0	1	1	0	2

	THYROID	0	2	4	1	7
	URETHRA	0	0	0	1	1
	UTERUS	0	3	7	4	14
	ORAL CAVITY	0	0	1	0	1
	OVARY	0	1	1	1	3
	PANCREAS	0	0	1	0	1
	PHARYNX	0	0	1	2	3
	SARCOMA	0	0	1	0	1
Total		4	24	111	32	171

Where **a = <15 years b= 16-30 years c= 31-60 years d= >60 years**

Our results have shown smoking tobacco passively to be the most commonly encountered among those factors. Table 3 has revealed some interesting results regarding the risk factors predispose a person to malignancy. To our surprise, a good deal of participants had a history of living in an industrial area who developed a malignancy i.e. 22 (12.86 %) participants. Excessive exposure to sun, exposure to industrial chemicals and exposure to radioactive radiations were present as a risk factor in history of 14(8.1%), 16(9.31%) and 3(1.75%) participants with diagnosed malignancy. Out of a total sample of 171 there were 80 (46.78%) participants who had a positive history of smoking tobacco. This number was higher than those participants who smoked themselves which was only 44 (25.73%). The next common risk factor was having a positive family history for a certain tumor with 35 (20.46 %) out of 171 in this sample.

Table 3: Common Risk Factors for Malignancies

Organ OF malignancy	**Family History**	**History of passive Smoking**	**People living in Industrial Area**	**Sun Exposure**	**Industrial Exposure**	**Exposure to Radiations**
FOLLICULAR DENDRITIC Sarcoma	1	1	0	0	0	0
KIDNEY	0	1	0	0	0	0
LARYNX	0	1	1	1	0	0
LEUKEMIA	1	1	1	2	0	0
LIPOSARCOMA	0	1	0	0	0	0
LIVER	0	1	2	0	2	0
LUNG	2	6	0	0	1	0
LYMPHOMA	0	1	0	0	0	0
NEUROFIBROMA	0	0	0	0	1	0
NEUROFIBROSARCOMA	0	0	1	1	1	0
ORAL CAVITY	0	0	0	0	0	0
OVARY	2	1	0	0	0	0
PANCREAS	0	0	0	0	0	0
PHARYNX	1	1	2	0	1	0
SARCOMA	0	1	0	0	0	0
SKIN	0	6	0	3	0	0
STOMACH	0	1	0	1	0	0
TESTES	0	1	1	0	0	0
THYROID	2	3	1	0	1	1
URETHRA	1	1	0	0	0	0
UTERUS	3	6	1	1	1	0

ADRENAL GLAND	0	1	1	0	0	0
BLADDER	0	3	0	1	1	1
BONE	1	2	2	0	0	0
BRAIN	0	2	0	0	0	0
BREAST	13	29	7	3	5	1
COLON	8	8	1	1	1	0
ESOPHAGUS	0	1	1	0	1	0
TOTAL	35/171 (20.46%)	80/171 (46.7%)	22/171 (12.86%)	14/171 (8.1%)	16/171 (9.35%)	3/171 (1.75%)
% In Gender	**M**=14(8.1%) **F**=21(12.2%)	**M**=31(18.12) **F**=49(28.65%)	**M**=13(7.6) **F**=9(5.26%)	**M**=8(4.67%) **F**=6(3.5%)	**M**=9(5.2%) **F**=7 (4.0%)	**M**=2(1.2%) **F**=1 (0.6%)

We got only 1 oral tumor and that 1 patient had history of smoking, alcohol intake and eating "Pan". These were some interesting statistics that are not much prevalent but significantly related with a specific malignancy.In this context we found that 1 out of 3 (33.33%) people with bladder tumor had a history of being working in a chemical industry, 29 out of 65 (44.61%) of the victims with breast tumor had a positive family history. 29 (44.61%) out of 65 victims with breast tumor had history of passive smoking. In addition to the above-mentioned risk factors, through our collected data, we were able to get some interesting figures related to some specific risk factors in being predisposing factor to a specific malignancy.

DISCUSSION:

It has been shown very clearly in our study that breast malignancy is by far the most common type of malignancy in this locality and it is almost exclusive in the female gender. The prevalence of malignancy is increasing every year at a good pace. This calls for an effort to make the people aware of this medical condition and its consequences if not detected and treated at time.

7 however, unlike our study which shows breast tumor to be the most common malignancy among our population , and lung tumor to be at fourth rank , the report on latest tumor data published by WHO in 2017 reveals lung tumor to be the most prevalent as well as the leading cause of death in both males and females. This is supported by the results of American Tumor society report published in 2013, which states breast tumor to the most frequent malignancy to be diagnosed in women and the second most common cause of their death after lung tumor. We can expect the discrepancy in our result due to the same reason that mostly the lung tumor goes to death without even being diagnosed and making the breast tumor to be the commonest in the sample. Yet, this report claims breast tumor to be the most frequent malignancy to be diagnosed.

Since much awareness has been created among females for its prevalence, it has increased in its diagnosing percentage. Colorectal carcinoma is ranked the second most common tumor in our results; however, it is ranked second most common in females and third in the men in the annual report prepared by the agency of WHO in 2017. The referenced study has also mentioned Colorectal CA to be diagnosed commonly through screening process. These are pretty much the statistics as depicted by our results. Colorectal carcinoma is much more prevalent in the males according to our study and this goes in accordance with a study conducted in 2018 in UK.

This tumor has come into notice largely after the emergence of PAP smear that has helped a lot in the screening of cervical tumor. It is quite possible that the previous low numbers of this malignancy were merely due to lack of diagnosis. Uterus has occupied the position of third most common tumor in our study , however it has been not documented as a member of most common tumor group previously but the statistics change rapidly and it might be emerging and it has been well documented that the cervical tumor went completely undiagnosed in the past due to lack of awareness and few taboos Lung tumor has been declared as the first and second most common tumor in males and females and the leading cause of death in both genders as per the report published by WHO in 2018. A study conducted in India in 2018 has also declared PAP smear to be very useful tool in screening for early cervical tumors.10. Next come the Skin and Lung tumor that were diagnosed in equal number of the participants out of the sample.

There is much more room for researches to come in this regard. However, the list of most common

malignancies according to our study is pretty much similar to the one published by WHO in 2017. A little difference from our result can be due to a number of reasons including lack of early diagnosis, early death, environmental change, increase in diagnostic modalities for other tumor etc. and many more. Our results when compiled revealed that it is mostly the older population being affected by malignancies. Thus, our results are in accordance with the previous data and the new results shown need to be explored further for public awareness especially regarding the most common tumor both by incidence and mortality rate. This gathers the fact the older you grow the higher are the chances for developing malignancies. The age group with the range of 31-60 was illustrated to have the highest prevalence of tumor. The little difference in our study f or the age group above 60 years not being the most frequent with malignancy is probably due to the lack of palliative care in our country and an early death of the tumor victims and thus decreasing a lower prevalence among this group. These results are also supported by the reports issued yearly by WHO which report above 60 and 65 years of age to be the most vulnerable group. Many previous studies have declared smoking a well-known risk factor for developing malignancy12 and so is the case with our report that has shown even passive smoking is a great deal of a risk factor for predisposing to malignancies. Oral tumor, as we found, showed strong association (p value <0.5) has also been associated with pan eating previously in a study.13 However, it is quite prominent in ours as well as previous studies that old is a risk factor itself for developing carcinoma.

CONCLUSION:

Our study has brought on face the most common malignancies in our locality as well as the possible risk factors that might have been the underlying cause. The rate of tumor has been escalating every year for the last few decades. The most common malignancies must be explored through further research work to establish all the possible risk factors and the methods that may help reduce the escalating numbers of these malignancies. In short, the population needs education about how to avoid these risk factors and how to predict an early diagnosis of a malignancy.

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