Study of Cancer Incidence and Trend by Dual Cancer Registry in Nepal for 2013 –2016

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ABSTRACT: Hospital based cancer registry (HBCR) program was started since 2003 in coordination with seven major hospitals in the nation with the support of WHO Nepal. Five other hospitals were also included for the study since 2013. However, population based cancer registry (PBCR) was not started until 2013. To address the need of population based cancer registry, Cancer Prevention Control and Research Department of BPKMCH initiated the population based cancer registry in 2013. Both of hospital based and population based cancer registry are running parallels since 2013. The coverage of population based cancer registry was fifteen districts of three geographical region of Nepal with 25.88% out of total population of the country. Hospital based cancer registry covered twelve major hospitals of the nation known as hospital based national cancer registry in Nepal. The present retrospective analysis of cancer patients of all age group was conducted to assess the frequency of different types of cancer presenting from first January to last December for each years of 2013, 2014 and 2015. In this study cancer incidence of each years and each registry compared separately.

In the year of 2013, from hospital based incidence most common form of cancer for both sex was lung 13.2% followed by cervix uteri 9.5% and breast 8.6%. Whereas, in population based for both sex lung cancer 15.7% was leading cancer site followed by cervix uteri 11.0% and breast 7.6%.

In the year of 2014, hospital based leading topography of cancer for both sex was lung 13.7% followed by cervix uteri 9.4% and breast 9.4%. Whereas, in population based for both sex cancer of bronchus & lung 13.7% was leading site followed by cervix uteri 10.5% and breast 9.5%.

In the year of 2015, from hospital based registry bronchus & lung cancer 13.7% ranked as a first leading cancer site for both sex followed by cervix uteri 8.9% and breast 8.8%. Where as, in population based for both sex lung cancer 12.9% was topmost cancer site followed by cervix uteri 10.9% and breast 9.1%. The present data provide an update of the cancer burden of Nepal by double and parallel registry trend and frequency are relatively same.

In the year of 2016, from hospital based registry bronchus & lung cancer 13.2 ranked as a first leading cancer site for both sex followed by cervix uteri 9.0% and breast 8.9%. Whereas, in population based for both sex lung cancer 12.7% was topmost cancer site followed by cervix uteri 12.1% and breast .7%. The present data provide an update of the cancer burden of Nepal by double and parallel registry trend and frequency are relatively same.

The trend of cancer was seen to be increasing yearly during 2003 to 2016. Well organized awareness activities, HPV vaccination and screening programme was recommended to prevent and control the l cancer burden in Nepal.

KEYWORDS: Duel cancer registry, Hospital based, Incidence, Population based, Trend

I.INTRODUCTION

Cancer is an emerging public health problem in developing countries. The magnitude of the problem of cancer in terms of its large number, warrant s particular attention of policymakers to evolve national programs of the action to develop, implement, coordinate and also to evaluate the cancer control activities in individual countries (Gupta et al., 1993). Globally, about 1 in 6 deaths is due to cancer. Approximately 70% of deaths from cancer occur in low- and middleincome countries. (GLOBO CAN 2018). According to GLOBOCAN 2012, an estimated 14.1 million new cancer cases and 8.2 million cancer related deaths occurred. Compared with 12.7 million and 7.6 million, respectively in 2008 (Ferlay et al., 2012) The importance of cancer registry data for development of national cancer control programs has already been stressed in the context of South Asia (Bhurgri, 2004). In Nepal hospital based cancer registry program was started from 2003, with the support of WHO- Nepal in coordination with Seven hospitals of the nation. The programme expanded to cover 12 major hospitals in coordination with B.P. koirala Memorial Cancer Hospital Bharatpur, Chitwan. Population based cancer registry is a new to Nepalese cancer registry, We are not in a state of covering all the geographical region, province districts and population at the moment. so we decided to cover about 25.88% population and 15 districts representative of three geographical region of Nepal. To make data more homogeneous we selected district more or less in the central region of Nepal. This study includes data from fifteen districts of the country situated in Terai, hills and Himalaya. Therefore, outcome of this study can be used to infer an overall situation of cancer in Nepal.

Coverage of Hospital Based Cancer Registry
Figure 1: Coverage of hospital based cancer registry
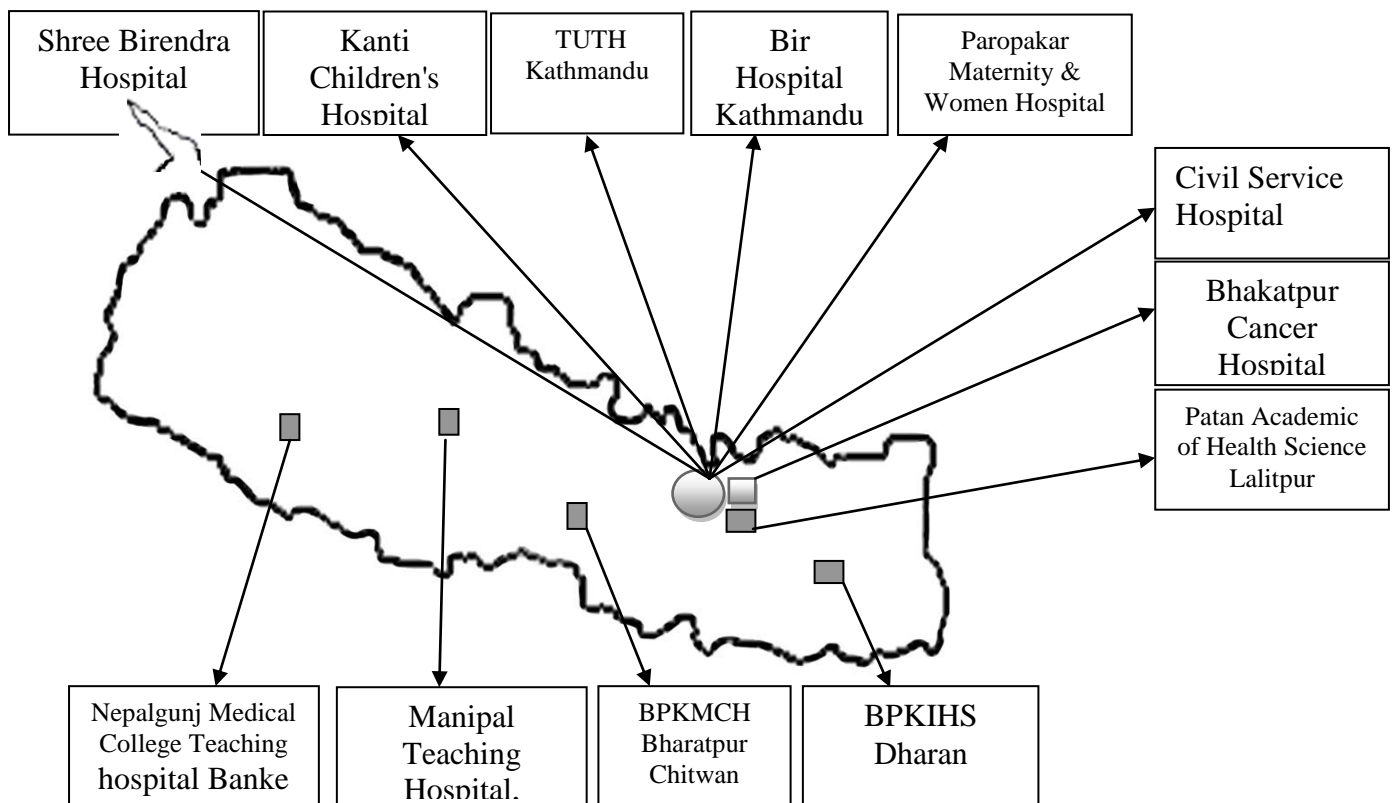
Coverage of PBCR - 3 Geographical Region, and 15 District
Figure 2: Coverage of PBCR, 3 region, 15 districts

Population Based Cancer Registry, Three Geographical areas and Fifteen Districts
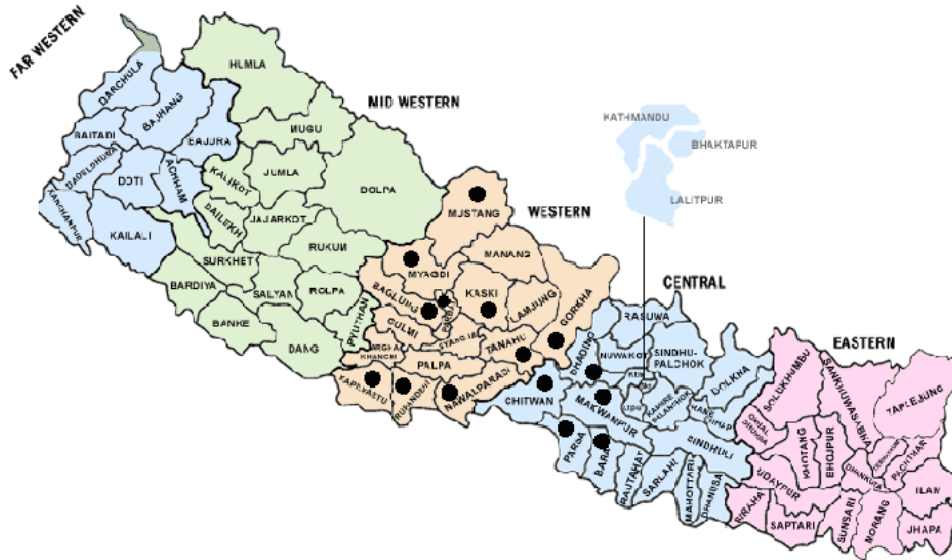
II. MATERIALS AND METHODS

In this retrospective analysis, the information of all age groups were collected from both hospital based and population based cancer registry program. Informations include name, age, sex, topography, marital status, religion, educational, occupation, and district were collected and recorded from the major diagnosis procedures i.e.

histopathological, haematological and radiological as well as therapeutical procedures of cancers between 1st January to 31th December, separately by each years of 2013, 14, 15 & 16. Collected data were coded according to ICD O 3rd and ICD-10 published by IARC/WHO and proceeds for analysis using SPSS 19.0 version.

Table 1. Total cases by duel registry-for 2013

Sex	PBCR		HBCR	
	#	%	#	%
Male	1113	45.1	4011	46.0
Female	1356	54.9	4718	54.0
Total	2469	100.0	8729	100

Table 2. Total cases by duel registry for 2014

Sex	PBCR		HBCR	
	#	%	#	%
Male	1088	41.5	4014	44.4
Female	1532	58.5	5022	55.6
Total	2620	100.0	9036	100.0

Table 3. Total cases by dual registry for 2015

Sex	PBCR		HBCR	
	#	%	#	%
Male	1271	43.1	4483	46.1
Female	1679	56.9	5235	53.9
Total	2950	100	9718	100

Table 4. Total cases by dual registry for 2016

Sex	PBCR		HBCR	
	#	%	#	%
Male	1366	44.0	4697	46.4
Female	1738	56.0	5420	53.6
Total	3104	100	10117	100

Table 5. Comparison of most prevalent cancer cases from duel registry for both sex - 2013

ICD-10	Topography	Population based		Hospital based		Topography	ICD-10
		#	%	#	%		
C34	Bronchus & lung	390	15.7	1156	13.2	Bronchus & lung	C 34
C53	Cervix uteri	272	11.0	832	9.5	Cervix uteri	C 53
C50	Breast	188	7.6	752	8.6	Breast	C 50
C16	Stomach	138	5.5	527	6.0	Stomach	C 16
C56	Ovary	106	4.2	366	4.2	Larynx	C 32
C32	Larynx	94	3.8	350	4.0	Ovary	C 56
C67	Bladder	93	3.7	335	3.8	Bladder	C 67
C71	Brain	70	2.8	253	2.9	Gall bladder	C 23
C22	Liver	64	2.5	231	2.7	Liver	C 22
C23	Gall bladder	62	2.4	221	2.6	Rectum	C 20
**	Other cancer	992	40.7	3706	42.5	Other cancers	**
Total		2469	100.0	8729	100.0		Total

Table 6. Comparison of most prevalent cancer cases from duel registry for both sex – 2014

ICD-10	Topography	Population based		Hospital based		Topography	ICD-10
		#	%	#	%		
C34	Bronchus and lung	361	13.7	1241	13.7	Bronchus & lung	C 34
C53	Cervix uteri	277	10.5	852	9.4	Cervix uteri	C 53
C50	Breast	249	9.6	848	9.4	Breast	C 50
C16	Stomach	144	5.4	528	5.8	Stomach	C 16
C56	Ovary	123	4.6	359	4.0	Larynx	C 32
C23	Gall bladder	110	4.2	350	3.9	Ovary	C 56
C20	Rectum	86	3.3	320	3.5	Gall bladder	C 23
C32	Larynx	85	3.2	273	3.0	Rectum	C 20
C67	Bladder	76	2.9	238	2.6	Liver	C 22
C71	Brain	73	2.7	202	2.2	Brain	C 71
**	Other cancers	1036	39.9	3825	42.5	Other cancers	**
Total		2620	100.0	9036	100.0		Total

Table 7. Comparison of most prevalent cancer cases from duel registry - 2015

ICD-10	Topography	Population based		Hospital based		Topography	ICD-10
		#	%	#	%		
C34	Bronchus and lung	381	12.9	1334	13.7	Bronchus and lung	C34
C53	Cervix uteri	323	10.9	868	8.9	Cervix uteri	C53
C50	Breast	267	9.1	856	8.8	Breast	C50
C16	Stomach	169	5.7	519	5.3	Stomach	C16
C56	Ovary	125	4.2	365	3.8	Ovary	C56
C32	Larynx	99	3.4	360	3.7	Larynx	C32
C71	Brain	96	3.3	338	3.5	Gall bladder	C23
C23	Gall bladder	92	3.1	281	2.9	Leukemia/lymphoid	C91
C67	Bladder	81	2.7	270	2.8	Rectum	C20
C20	Rectum	75	2.5	245	2.5	Brain	C71
**	Other cancers	1242	42.2	4282	44.1	Other cancers	**
Total		2950	100.0	9718	100.0		Total

Table 8. Comparison of most prevalent cancer cases from duel registry - 2016

ICD-10	Topography	Population based		Hospital based		Topography	ICD-10
		#	%	#	%		
C34	Bronchus and lung	396	12.7	1342	13.2	Bronchus and lung	C34
C53	Cervix uteri	377	12.1	912	9.0	Cervix uteri	C53
C50	Breast	272	8.7	904	8.9	Breast	C50
C16	Stomach	162	5.2	499	4.9	Stomach	C16
C56	Ovary	127	4.0	392	3.8	Ovary	C56
C71	Brain	123	3.9	387	3.8	Gall bladder	C67
C23	Gall bladder	110	3.5	313	3.0	Leukemia/lymphoid	C91
C91	Leukemia/Lymphoid	103	3.3	289	2.8	Larynx	C32
C32	Larynx	87	2.8	279	2.7	Brain	C71
C67	Bladder	83	2.6	259	2.5	Rectum	C20
**	Other cancers	1264	41.2	4541	45.4	Other cancers	**
Total	1)	3104	100.0	10117	100.0	2)	Total

Table 9. Collected data for most prevalent cancers in PBCR for both sex - 2013

S.N.	ICD-10	Topography	#	%
1	C34	Bronchus and lung	390	15.7
2	C53	Cervix uteri	272	11.0
3	C50	Breast	188	7.6
4	C16	Stomach	138	5.5
5	C56	Ovary	106	4.2
6	C32	Larynx	94	3.8
7	C67	Bladder	93	3.7
8	C71	Brain	70	2.8
9	C22	Liver	64	2.5
10	C23	Gall bladder	62	2.4
11	**	Other cancers	992	40.7
Total			2469	100.0

Table 11. Collected data for most prevalent cancers in PBCR for female - 2013

S.N.	ICD-10	Topography	#	%
1	C53	Cervix uteri	272	20.1
2	C50	Breast	184	13.6
3	C34	Bronchus and lung	175	12.9
4	C56	Ovary	105	7.7
5	C71	Brain	37	2.7
6	C23	Gall bladder	37	2.7
7	C32	Larynx	35	2.5
8	C67	Bladder	35	2.5
9	C20	Rectum	28	2.0
10	C15	Esophagus	26	1.9
11	**	Other cancer	422	31.4
Total			1356	100.0

Table 12. Collected data for most prevalent cancers in PBCR for both sex - 2014

S.N.	ICD-10	Topography	#	%
1	C34	Bronchus and lung	361	13.7
2	C53	Cervix uteri	277	10.5
3	C50	Breast	249	9.6
4	C16	Stomach	144	5.4
5	C56	Ovary	123	4.6
6	C23	Gall bladder	110	4.2
7	C20	Rectum	86	3.3
8	C32	Larynx	85	3.2
9	C67	Bladder	76	2.9
10	C71	Brain	73	2.7
11	**	Other cancers	1036	39.9
Total			2620	100.0

Table 13. Collected data for most prevalent cancers in PBCR for male - 2014

S.N.	ICD-10	Topography	#	%
1	C34	Bronchus and lung	180	16.7
2	C16	Stomach	81	7.4
3	C32	Larynx	58	5.4
4	C67	Bladder	55	5.0
5	C71	Brain	39	3.5
6	C20	Rectum	39	3.5
7	C22	Liver	38	3.4
8	C61	Prostate gland	37	3.4
9	**	Unspecified Colon	35	3.2
10	C18	Colon	34	3.1
11	**	Other cancer	492	45.4
Total	Total		1088	100.0

Table 14. Collected data for most prevalent cancers in PBCR for female - 2014

S.N.	ICD-10	Topography	#	%
1	C53	Cervix uteri	277	18.2
2	C50	Breast	238	15.6
3	C34	Bronchus and lung	181	11.8
4	C56	Ovary	123	8.0
5	C23	Gall bladder	80	5.2
6	C20	Stomach	63	4.1
7	C71	Rectum	47	3.0
8	C32	Thyroid	37	2.4
9	C22	Brain	34	2.2
10	C27	Larynx	27	1.7
11	--	Other cancers	425	27.8
Total			1532	100.0

Table 15. Collected data   for most prevalent cancers in PBCR for both sex - 2015

SN	ICD-10	Topography	#	%
1	C34	Bronchus and lung	381	12.9
2	C53	Cervix uteri	323	10.9
3	C50	Breast	267	9.1
4	C16	Stomach	169	5.7
5	C56	Ovary	125	4.2
6	C32	Larynx	99	3.4
7	C71	Brain	96	3.3
8	C23	Gall bladder	92	3.1
9	C67	Bladder	81	2.7
10	C20	Rectum	75	2.5
11	**	Other cancers	1242	42.2
	Total		2950	100.0

Table 16. Collected data   for most prevalent cancers in PBCR for male - 2015

SN	ICD-10	Topography	#	%
1	C34	Bronchus and lung	198	15.6
2	C16	Stomach	84	6.6
3	C32	Larynx	62	4.9
4	C67	Bladder	59	4.6
5	C71	Brain	51	4.0
6	C20	Rectum	42	3.3
7	C22	Liver and intrahepatic bile duct	42	3.3
8	C91	Leukemia/lymphoid	41	3.2
9	C02	Other and unspecified parts of tongue	39	3.1
10	C15	Esophagus	36	2.8
11	**	Other cancers	617	48.5
	Total		1271	100.0

Table 17. Collected data   for most prevalent cancers in PBCR for female - 2015

SN	ICD-10	Topography	#	%
1	C53	Cervix uteri	323	19.2
2	C50	Breast	264	15.7
3	C34	Bronchus and lung	183	10.9
4	C56	Ovary	125	7.4
5	C16	Stomach	85	5.1
6	C23	Gall bladder	64	3.8
7	C71	Brain	45	2.7
8	C73	Thyroid gland	38	2.3
9	C32	Larynx	37	2.2
10	C20	Rectum	33	2.0
11	**	Other cancers	482	28.7
	Total		1679	100.0

Table 18. Collected data   for most prevalent cancers in PBCR for both sex - 2016

SN	ICD-10	Topography	#	%
1	C34	Bronchus and lung	396	12.75
2	C53	Cervix uteri	377	12.14
3	C50	Breast	272	8.76
4	C16	Stomach	162	5.21
5	C56	Ovary	127	4.09
6	C71	Brain	123	3.96
7	C23	Gall bladder	110	3.54
8	C91	Leukemia/lymphoid	103	3.31
9	C32	Larynx	87	2.80
10	C67	Bladder	83	2.67
11	**	Other cancers	1264	40.72
Total			3104	100.00

Table 19. Collected data   for most prevalent cancers in PBCR for male - 2016

SN	ICD-10	Topography	#	%
1	C34	Bronchus and lung	225	16.47
2	C16	Stomach	85	6.22
3	C71	Brain	82	6.00
4	C32	Larynx	68	4.97
5	C91	Leukemia/lymphoid	65	4.75
6	C67	Bladder	60	4.39
7	C02	Other and unspecified parts of tongue	47	3.44
8	C06	Other and unspecified parts of mouth	45	3.29

9	C95	Leukemia unspecified	45	3.29
10	C85	NHL	41	3.00
11	**	Other cancers	603	44.14
	Total		1366	100.00

Table 20. Collected data   for most prevalent cancers in PBCR for female - 2016

SN	ICD-10	Topography	#	%
1	C53	Cervix uteri	377	21.69
2	C50	Breast	266	15.3
3	C34	Bronchus and lung	171	9.83
4	C56	Ovary	127	7.30
5	C16	Stomach	77	4.43
6	C23	Gall bladder	73	4.20
7	C73	Thyroid gland	43	2.47
8	C71	Brain	41	2.35
9	C91	Leukemia/lymphoid	38	2.18
10	C22	Liver and intrahepatic bile duct	31	1.78
11	**	Other cancers	494	28.42
			1738	100.00

Table 21. Collected data   for most prevalent cancers in HBCR for both sex - 2013

SN	ICD-10	Topography	#	%
1	C 34	Bronchus & lung	1156	13.2
2	C 53	Cervix uteri	832	9.5
3	C 50	Breast	752	8.6
4	C 16	Stomach	527	6.0
5	C 32	Larynx	366	4.2
6	C 56	Ovary	350	4.0
7	C 67	Bladder	335	3.8
8	C 23	Gall bladder	253	2.9
9	C 22	Liver	231	2.7
10	C 20	Rectum	221	2.6
11	--	Other cancers	3706	42.5
Total	Total		8729	100.0

Table 22. Collected data for most prevalent cancers in HBCR for male - 2013

SN	ICD-10	Topography	#	%
1	C 34	Bronchus & lung	664	16.6
2	C 16	Stomach	312	7.8
3	C 32	Larynx	250	6.3
4	C 67	Bladder	238	5.9
5	C 06	Other & unspecified parts of mouth	136	3.4
6	C 22	Liver	121	3.0
7	C 71	Brain	118	2.9
8	C 20	Rectum	111	2.8
9	C 85	NHL	109	2.7
10	C 02	Other & unspecified parts of tongue	107	2.7
11	--	Other cancers	1845	45.9
		Total	4011	100.0

Table 23. Collected data for most prevalent cancers in HBCR for female - 2013

SN	ICD-10	Topography	#	%
1	C 53	Cervix uteri	832	17.6
2	C 50	Breast	728	15.4
3	C 34	Bronchus & lung	492	10.4
4	C 56	Ovary	350	7.4
5	C 16	Stomach	215	4.6
6	C 23	Gall bladder	161	3.4
7	C 73	Thyroid	126	2.7
8	C 32	Larynx	116	2.5
9	C 20	Rectum	110	2.3
10	C 22	Liver	110	2.3
11	--	Other cancers	1478	31.4
		Total	4718	100.0

Table 24. Collected data for most prevalent cancers in HBCR for both sex - 2014

SN	ICD-10	Topography	#	%
1	C 34	Bronchus & lung	1241	13.7
2	C 53	Cervix uteri	852	9.4
3	C 50	Breast	848	9.4
4	C 16	Stomach	528	5.8
5	C 32	Larynx	359	4.0

6	C 56	Ovary	350	3.9
7	C 23	Gall bladder	320	3.5
8	C 20	Rectum	273	3.0
9	C 22	Liver	238	2.6
10	C 71	Brain	202	2.2
11	**	Other cancers	3825	42.5
	Total		9036	100.0

Table 25. Collected Data for Prevalent Cancers in the Twelve Hospitals – Male

SN	ICD-10	Topography	#	%
1	C 34	Bronchus & lung	692	17.2
2	C 16	Stomach	305	7.6
3	C 32	Larynx	247	6.2
4	C 67	Bladder	150	3.7
5	C 20	Rectum	139	3.5
6	C 02	Other & unspecified parts of tongue	134	3.3
7	C 22	Liver	130	3.2
8	C 06	Other & unspecified parts of mouth	124	3.1
9	C 71	Brain	119	3.0
10	C 15	Esophagus	117	2.9
11	**	Other cancers	1857	46.3
	Total		4014	100.0

Table 26. Collected data   for most prevalent cancers in HBCR for female - 2014

SN	ICD-10	Topography	#	%
1	C 53	Cervix uteri	852	17.0
2	C 50	Breast	826	16.4
3	C 34	Bronchus & lung	549	10.9
4	C 56	Ovary	350	7.0
5	C 16	Stomach	223	4.4
6	C 23	Gall bladder	220	4.4
7	C 73	Thyroid	145	2.9
8	C 20	Rectum	134	2.7
9	C 32	Larynx	112	2.2
10	C 22	Liver	108	2.2
11	**	Other cancers	1503	29.9
	Total		5022	100.0

Table 27. Collected data   for most prevalent cancers in HBCR for both - **2015**

SN	ICD-10	Topography	#	%
1	1	Bronchus and lung	1334	13.7
2	2	Cervix uteri	868	8.9
3	3	Breast	856	8.8
4	4	Stomach	519	5.3
5	5	Ovary	365	3.8
6	6	Larynx	360	3.7
7	7	Gall bladder	338	3.5
8	8	Leukemia/lymphoid	281	2.9
9	9	Rectum	270	2.8
10	10	Brain	245	2.5
11	**	Other cancers	4282	44.1
	Total		9718	100.0

Table 28. Collected data   for most prevalent cancers in HBCR for male - **2015**

SN	ICD-10	Topography	#	%
1	C34	Bronchus and lung	760	17.0
2	C16	Stomach	292	6.5
3	C32	Larynx	254	5.7
4	C91	Leukemia/lymphoid	182	4.1
5	C67	Bladder	159	3.5
6	C20	Rectum	150	3.3
7	C71	Brain	137	3.1
8	C85	NHL	137	3.1
9	C18	Colon	124	2.8
10	C22	Liver and intrahepatic bile duct	123	2.7
11	**	Other cancers	2165	48.2
Total			4483	100.0

Table 29. Collected data   for most prevalent cancers in HBCR for female - **2015**

SN	ICD-10	Topography	#	%
1	C53	Cervix uteri	868	16.6
2	C50	Breast	838	16.0
3	C34	Bronchus and lung	574	11.0
4	C56	Ovary	365	7.0
5	C23	Gall bladder	235	4.5
6	C16	Stomach	227	4.3
7	C73	Thyroid gland	143	2.7
8	C20	Rectum	120	2.3
9	C71	Brain	108	2.1
10	C32	Larynx	106	2.0
11	**	Larynx	1651	31.5
	Total		5235	100.0

Table 30. Collected data for most prevalent cancers in HBCR for both - 2016

SN	ICD-10	Topography	#	%
		Collected data for most prevalent cancers in HBCR for both - 2016		
1	C34	Bronchus and lung	1342	13.26
2	C53	Cervix uteri	912	9.01
3	C50	Breast	904	8.93
4	C16	Stomach	499	4.93
5	C56	Ovary	392	3.87
6	C23	Gall bladder	387	3.82
7	C91	Leukemia/lymphoid	313	3.09
8	C32	Larynx	289	2.85
9	C71	Brain	279	2.75
10	C20	Rectum	259	2.56
11	**	Otheersr cancer	4541	44.88
Total			10117	100.00

Table 31. Collected data for most prevalent cancers in HBCR for male - 2016

SN	ICD-10	Topography	#	%
1	C34	Bronchus and lung	798	16.98
2	C16	Stomach	284	6.04
3	C32	Larynx	223	4.74
4	C91	Leukemia/lymphoid	213	4.50
5	C67	Bladder	198	4.21
6	C71	Brain	174	3.70
7	C20	Rectum	150	3.19
8	C85	NHL	141	3.00
9	C02	Other and unspecified parts of tongue	139	2.95
10	C22	Liver and intrahepatic bile duct	136	2.89
11	**	Other cancers	2241	47.71
Total			4697	100.00

Table 32. Collected data for most prevalent cancers in HBCR for female - 2016

SN	ICD-10	Topography	#	%
1	C53	Cervix uteri	912	16.02
2	C50	Breast	874	16.12
3	C34	Bronchus and lung	544	10.03
4	C56	Ovary	392	7.23
5	C23	Gall bladder	269	4.96
6	C16	Stomach	215	3.96
7	C73	Thyroid gland	174	3.21

8	C22	Liver and intrahepatic bile duct	118	2.17
9	C20	Rectum	109	2.01
10	C71	Brain	105	1.93
11		Other cancers	1708	31.51
			5420	100.00

Figure 1

Treand of Lung Cancer : HBCR (2003-2016)

Figure 2

Trend of Cervix Cancer : HBCR (2003-2016)

Figure 3

Trend of Breast Cancer : HBCR (2003-2016)

Figure 4

Trend of Stomach Cancer : HBCR (2003-2016)

Figure 5

Trend of Overy Cancer : HBCR (2003 - 2016)

Figure 6

Trend of bronchus and lung cancer : PBCR (2013-2016)

Figure 7

Trend of Cervixcal Cancer : PBCR (2013-2016)

Figure 8

Trend of Breast Cancer : PBCR (2013-2016)
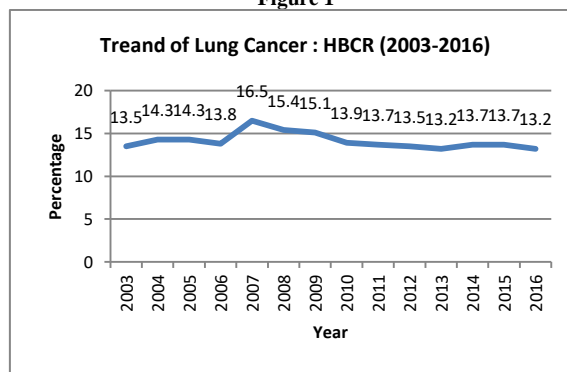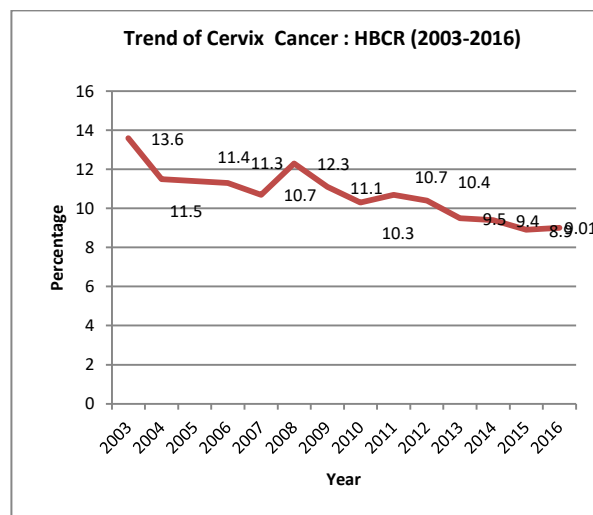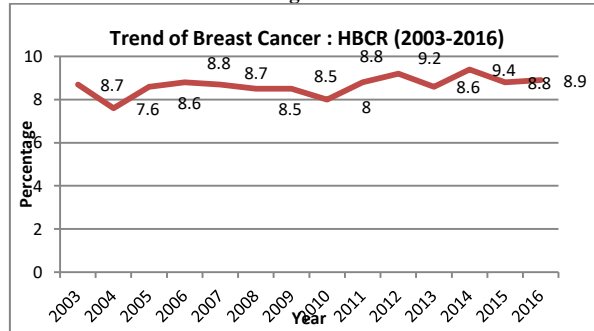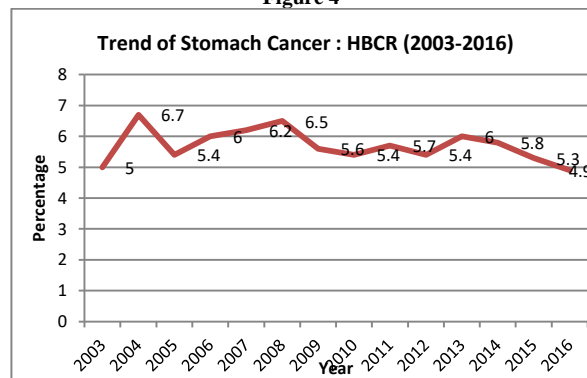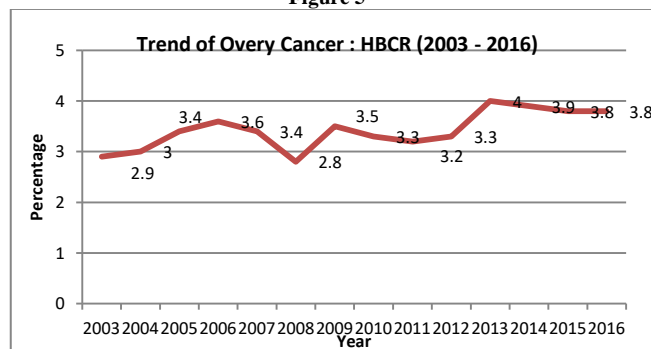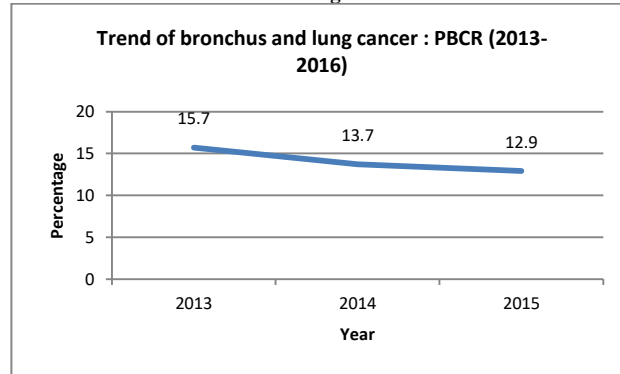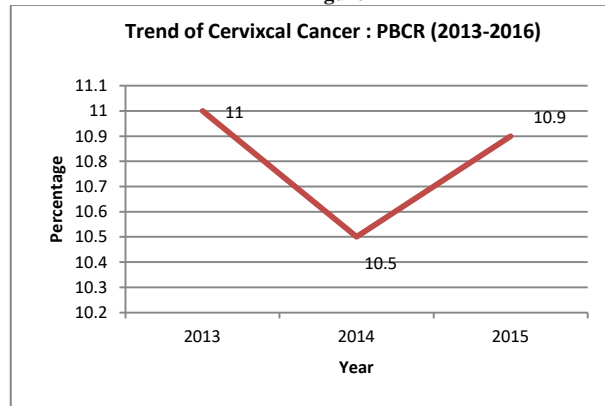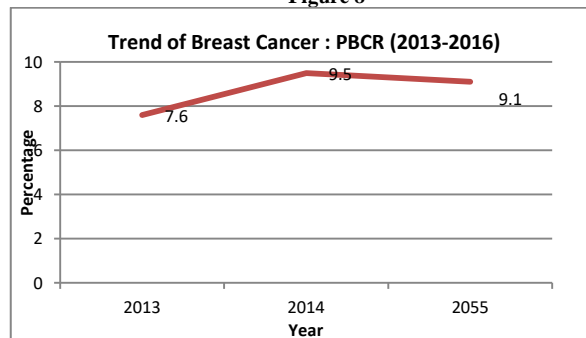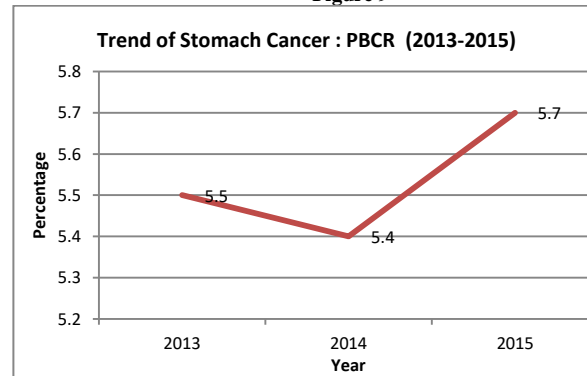
Figure 9

Figure 10
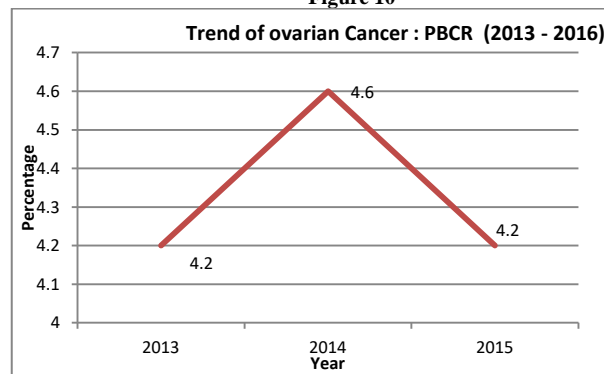
III. RESULTS

During the study period, net 37,600 cases were recorded by 12 member hospitals of HBCR and 11143 were from different institutions of 15 districts and summarized in Table. Over the four years period from 1st January to December 31st in parallel registry of each calendar years, the most frequent form of cancer for both sexes was bronchus & lung followed by cervix uteri and breast. Among the female cases cervix uteri cancer was the most frequent, followed by breast. Similarly, bronchus & lung cancer was the most common cancer among males, followed by stomach

DISCUSSION

This study was undertaken at BP Koirala memorial cancer hospital, Bharatpur, Chitwan, Nepal, Which is only national cancer institute of the nation, using secondary data of hospital based and population based cancer registry 2013-2016.
In this study,bronchus & lung cancer generally predominating in males, presumably because of smoking habits, and latter in females (Curado et al., 2007., Moor at al., 2010., Forman et al., 2012). A survey in rural communities of Nepal bt Pandey et al. (1988) showed that in the 20+ years age group 85.4% of men and 62.4% of women were tobacco users. The prevalence of smoke less tobacco use, as well as smoking, is high, particularly among males and disadvantaged groups (Sinha at al.., 2012). More recently, it was documented that older women are also very likely to smoke, especially those with a lower socioeconomic status (Pandey and Lin, 2013). An inverse association was observed between education and lung cancer risk also observed higher the lung cancer risk among unmarried personality and lower risk in the individuals who lived in the central region compared to the west (Hashibe et al., 2011). Awareness of lung cancer by tobacco use and other risk factors varied with socioeconomic status amongst residents of Pokhara, Despite their awareness of smoking as a risk factor for lung cancer, most of them still continue to smoke (Chawla et al., 2010). Furthermore, even medical student perceptions about the cause of lung cancer may be influenced by their

smoking behavior and there was little knowledge of public health measures for smoking control (Khatiwada et al., 2012).

In this study cancer of cervix uteri was the second leading cancer site for both sex and top cancer topography for female. Among females cancer of cervix uteri is a common cancer site for developing countries but in developed countries breast cancer ranked as a leading cancer. (Curado et al.,2007; Moore et al., 2010; Forman et al ., 2012). There is an urgent need for a reinvigorated and tailored approach to cervix cancer prevention among the educated youth in India, Nepal and Srilanka (joy et al., 2011). From this data we have found a significant increase in cancer of cervix uteri in the future, suggesting the need for more focus and resource allocation on cervical cancer screening and treatment (Sathin et al., 2013). Self- collected sampling methods should be the subject of additional research in Nepal for screening HR-HPV, associated with pre-cancer lesions and cancer, in women rural communities with limited access to health services (Johnson et al ., 2014). In the context of limited screening services in Nepal, the efforts should be to reduce the diagnostic delay especially patient and health care provider delay for early detection and reduction of mortality rate of cervical cancer (Gyenwali et al., 2014). Risk factors for cancer of cervix uteri like early age a marriage, and early age at first birth, multiparity, poor genital hygiene and infection with HPV virus infection are common in Nepal. Health education programs which are effective not only in increasing knowledge about cervical cancer and pap smear test but also effective in positively changing attitude towards the test should be organized to increase pap smear coverage (Ranabhat et al., 2014).

Breast cancer was the third most common cancer for both sex and second leading cancer site in female for 2015. Cancer of breast proved to have overtaken cervical cancer in terms of incidence, as in the majority of countries of Asia (Curado et al., 2007; Moore et al., 2010; Forman et al., 2012). The fact that young Nepalese women account for over one quarter of all female breast cancers, many being diagnosed at an advanced stage (Sharma et al., 2005; Thapa et al., 2013) is of particular importance. The level of awareness of breast cancer, including knowledge of warning signs and BSE (breast self examination), is sub-optimal among Nepalese women (Sathian et al., 2014). Low knowledge on breast cancer, risk factors and screening practice among female groups (shrestha, 2012). Community interventions have been a focus in Bangladesh (Ansink et al., 2008) and Kolkaata (Basu et al., 2006) and deserve emphasis in the Nepali context. In both breast and cervical cancer cases compliance with both screening guidelines and subsequent referral and treatment are necessary (Dinshaw et al., 2007a;2007b). It Should be noted that BSE has been validated in the Nepalese setting (Tara et al., 2008).

In conclusion, cancer of bronchus & lung was ranked as a top leading cancer site for both sex followed by cervix uteri and breast for both registry system for 2013-2015.

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