Role of Primary Health Centre for Cancer Management and People Preference

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Abstract:- At present Cancer is found to be one of the largest deaths causing disease worldwide and its incidence is also growing. Government owned primary health center (PHC) is located all over the country to provide good health services to the public. These PHCs plays a vital role in fulfilling the basic health services for all the diseases by giving primary diagnosis and screening facility at nearby. In every PHC there is a special Non-Communicable Disease (NCD) staff nurse who exclusively concentrates the Non communicable disease patients; they provide services from screening till their palliative care. The services provided by the PHCs are not utilized by the people to its fullest due to some of the inconvenience faced by them. If these facilities are made better and the requirement of the public is met out, the resources will be used fully. Hence there is a need to enhance the role of PHC and to improve the facilities provided. This chapter aims to explore the role of Primary health center in prevention, early detection and cancer control measures.

Keywords:- Primary Health Center, People preference, cancer, early screening

I. INTRODUCTION

The PHCs in Tamil Nadu is having a good system for cancer management right from early screening till their palliative care. But the system is not utilized in the way as it is mapped for the welfare of the public. This is because the people expect a clean environment, lesser waiting time, adequate nurses and a good ambiance. They feel that private hospitals have these facilities and hence they prefer to go there. Also, people living in rural areas do not have knowledge about the PHC's cancer screening facility. This lack of awareness will cause more burden in people as they end with later stage discovery of the disease. It eventually leads to a higher level of mortality in the society. Therefore, there is a need to fulfill the facilities required by the people, so that they will make use of the services available at PHCs.

II. PRIMARY HEALTH CENTERS

India has a vast population with a wide range of people living. The more densely populated comes with more challenges in handling the life for meeting out the healthy wellbeing of the society. According to World Health Organization, Primary health care (PHC) handles the vast majority of a person's health requirements over the course of their life. This covers physical, emotional, and social well-being, and it is focused on individuals rather than diseases. PHC is a comprehensive approach to health that encompasses health promotion, illness prevention, treatment, rehabilitation, and palliative care (Primary

Health, Peer Reviewed Journals). In India, the National Health Mission (NHM) aims to provide universal access to fair, accessible, and high-quality health-care services that are accountable and responsive to people's needs (National Health mission, National Health Portal of India). Under the NHM, Primary Health Centre (PHC) is established to cover a population of 30,000 in rural areas and 20,000 in hilly, tribal and desert areas. The concept of Primary Health Centre (PHC) is introduced by the Bhore Committee in 1946. The Bhore Committee proposed the concept of Primary Health Centres (PHCs) in 1946. They proposed the concept of a PHC as a basic health unit to offer integrated curative and preventive health care to the rural population as near to the people as feasible, with an emphasis on preventive and promotive components of health care. In India, health planners see the Primary Health Centre (PHC) and its Sub-Centres (SCs) as the necessary infrastructure for providing health services to the rural population (Indian Public Health Standards).

The Central Council of Health, at its first meeting held in January 1953, had recommended the establishment of PHCs in community development blocks to provide comprehensive health care to the rural people. For more effective coverage, the 6th Five-Year Plan (1983-88) advocated reorganizing PHCs on the basis of one PHC for every 30,000 rural people in the plains and one PHC for every 20,000 population in mountainous, tribal, and desert areas (Indian Public Health Standards). A Sub-Health Centre is the most remote and initial point of interaction between the primary health care system and the community in the public sector (Uday W. Narlawar, 2018). The Minimum Needs Program (MNP) was implemented throughout the country during the first year of the Fifth Five-Year Plan (1974–78), with the goal of meeting certain fundamental needs and so raising people's living conditions. The goal in terms of rural health was to build one Sub-centre for a population of 5000 people in the plains and 3000 in tribal and mountainous areas, one Primary Health Centre (PHC) for 30000 population in plains and for a population of 120000 in the plains and 80000 in tribal and hilly areas, there is one Community Health Centre (CHC/Rural Hospital).

A sub-centre serves as a point of contact for the community at large, delivering all basic health care services. Sub-centres, Primary Health Centres, Community Health Centres, Sub- Divisional/Sub-District Hospitals, and District Hospitals make up the bottom rung of a referral pyramid of health services (Indian Public Health Standards). The purpose of Health Sub- centre goal is to prevent and promote health, but it also provides basic curative treatment (Priyadarsini Suresh, 2018). PHCs are the cornerstone of

rural health services, serving as a first point of contact for the ill and those who are referred directly or indirectly from Sub-Centres for curative, preventative, and promotive health care. It serves as a referral unit for six Sub-Centres, referring cases to Community Health Centres (30-bed hospitals) and higher-order public hospitals at sub-district and district levels. There are six indoor beds for patients. (Indian Public Health Standards). Community Health Centres (CHCs), which make up the First Referral Units (FRUs), and Sub-district and District Hospitals make up the secondary level of health care. The CHCs were created to offer referral health care for cases that came from Primary Health Centres as well as cases that came to the centre directly in need of expert treatment (Pandve HT, 2015). Under each CHC, typically 4 PHCs are included, serving around 80,000 people in tribal/hilly/desert areas and 1,20,000 people in plain areas. CHC is a 30-bed hospital that specialises in Medicine, Obstetrics and Gynaecology, Surgery, Paediatrics, Dental and AYUSH (Indian Public Health Standards).

III. THREE TIER HEALTH CARE DELIVERY IN TAMIL NADU

Primary care covers a population range between 3000-5000 in Health Sub Centres (HSC) and population range between 20,000-30,000 in Primary Health Centres (PHC). The Secondary Care covers a population range between 80,000-120,000 in Community Health Centres (CHC) and District Hospitals covering population in the entire district. The Tertiary Care includes Speciality Hospitals, Regional and Central Institutions/Medical Colleges.

IV. CANCER BURDEN

Cancer is an uncontrollable growth of abnormal cells in any organ or tissue of the body. In the world, cancer is the second leading cause of death which accounts for about 9.6 million deaths in 2018. The most common types of cancer in Men are lung, prostate, colorectal, stomach, oral and liver cancer. For women breast, cervical, colorectal, lung and thyroid cancer are the most common types of cancer. According to WHO, Globally the burden for cancer continues to grow tremendously on physical, emotional and economic conditions for individuals, families and health systems. Many health care systems in low- and middle-income countries are insufficient to cope with this burden, and a huge percentage of cancer patients worldwide lack access to timely, high-quality diagnosis and treatment. Survival rates for many forms of cancer are increasing in nations with strong health systems owing to early detection, quality treatment and survivorship care.

The role of Primary Health Centre in cancer management plays an important part in screening and diagnosing cancer at an early stage. Non-Communicable Diseases or NCDs presently causes more death rate than all other causes combined, and deaths from NCDs are expected to rise from 38 million in 2012 to 52 million by 2030. About 82 % of mortality rate are caused due to these four major NCDs namely Cardiovascular Diseases, Cancer, Chronic Respiratory Diseases and Diabetes. In 2018, India ranked

third among countries in the world, with an estimated cancer burden of 1.2 million new patients, and second with 7.85 lakh cancer- related fatalities. The age-standardized rates per lakh population were 89.4 and 61.4, respectively (GLOBOCAN, 2018). The registration of new cancer occurrences through Population Based Cancer Registries (PBCR) has been practiced in the state for the past 35 years in which Madras Metropolitan Tumor Registry (MMTR) from 1982 covers 4.8 million population entirely (urban) residing within the metropolitan limits of Chennai city, and Dindigul Ambilikkai Cancer Registry (DACR) from 2003 covers 2.2 million population (predominantly rural) residing in the district of Dindigul. In Tamil Nadu, the Cancer occurrence incidence rate for one lakh of population is 84.2 out of that, 74.5 is male and 93.8 is female. The cumulative risk of cancer occurrence in one's life span of 0 – 74 years of age was one-in-12 among women and one-in- eleven among men. The crude incidence rate of cancer in Coimbatore district during the year 2016 is 84.9 for male and 95.5 for female per one lakh population (Implementation of Cancer Prevention and Control Policy for state, 2020)

V. METHODS

In this research descriptive way of studying the characteristic of the population is carried out. The population taken for the study is based on the census of Coimbatore district in 2011 which is segmented according to their respective taluks. Taluks covering Coimbatore North, Coimbatore South, Mettupalayam, Pollachi, Sulur and Valparai. To a total population of 34,58,045 people the confined sample size is taken. The sample size is selected using stratified sampling method, in which the population is segmented into taluks and again the samples are selected using random sampling method.

A. Sample Size
The sample size taken for the study is 387 respondents who are the representation of the population in this study.The target population of the study are the residents of Coimbatore district. According to census 2011, Coimbatore district has 34,58,045 people in its population. This study stratified the population based on its taluks covering Coimbatore North, Coimbatore South, Mettupalayam, Pollachi, Sulur and Valparai.

B. Data Collection
Data collection was initiated through pilot study with10 percent of the sample size and analyzed for their reliability (n=50). Samples are generated by collection of contact details of respective people in each taluk. And then followed by randomly sending the online survey forms to each of them. Similarly, the process is repeated in meeting respondents personally on each taluk. Data were collected using two type of questionnaire format, in which one focus on personal interviews with doctors & nurses for deeper understanding of PHC Cancer Management. Second questionnaire includes demographic information about the respondents, and the constructs covered in the study were gathered using Likert five-point scaling and services provided in PHCs were framed using dichotomous questions

were collected from general public. To the proportion of each taluk and their respective population, samples were collected. Data collected from online and hard copy are decoded according to the numeric form for statistical analysis. The statistical software used for the analysis is IBM SPSS to undergo chi-square test and percentage analysis in the study. To the base of interpretation, all obtained data were analyzed. Questionnaires are made available in two languages which include Tamil (regional language) and English for the participants to choose from. As a part of this study, the researcher visited and interviewed Doctors and NCD staff nurses of Primary Health Centers located within Coimbatore district. i) Government Primary Health Center, Vagarayampalayam, Sulur Taluk, ii) Upgraded Primary Health Center, Somanur, Sulur Taluk, iii) Government Primary Health Center, Pogalur, Annur Taluk, iv) Government Primary Health Center, Mookanur, Annur Taluk, v) Government Primary Health Center, Karamadai, Mettupalayam Taluk were visited to understand the current practices involved in managing Cancer patients at PHCs.

VI. RESULT

From the data collected using questionnaire one by interviewing with Nurses and Doctors of various Primary Health Centers, it is understood that the treatment for cancer disease at a PHC includes right from screening of malignancy till palliative care. The Primary Health Centers screens every person visiting, who are above 18 years of age. The persons who were suspected are referred to the secondary care/district hospitals for further confirmation. If the disease is confirmed for the person, they will be monitored and guided by the NCD staff nurse of PHCs. Post confirmation of the diagnosis, these patients will be continuously followed up by the respective NCD staff nurses till their palliative care.

A special NCD Staff nurse is appointed exclusively for screening of cancer at every PHC. These services come under the Government's National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS). Tamil Nadu government as a part of NPCDCS has initiated a scheme called Amma Arokiya Thittam (AAT) to undergo Annual Wellness Check-up. In line with this scheme, NCD staff nurses will maintain a separate register to enter the patient details who attend the Annual Wellness Check-up at PHC.

Patient details are entered in Health Management Information System (HMIS) web portal by using NCD Staff Nurse User ID. The staff nurse will collect and update the ration card & Aadhaar card details during registration in order to avoid duplication and create a comprehensive Electronic Health Record (EHR) for the individual beneficiary. Monitoring of patients at an equal interval by the staff nurse to ensure their current progressive health conditions. The data collected by the NCD staff nurse will be submitted every month to the NCD District Health Officer for review.
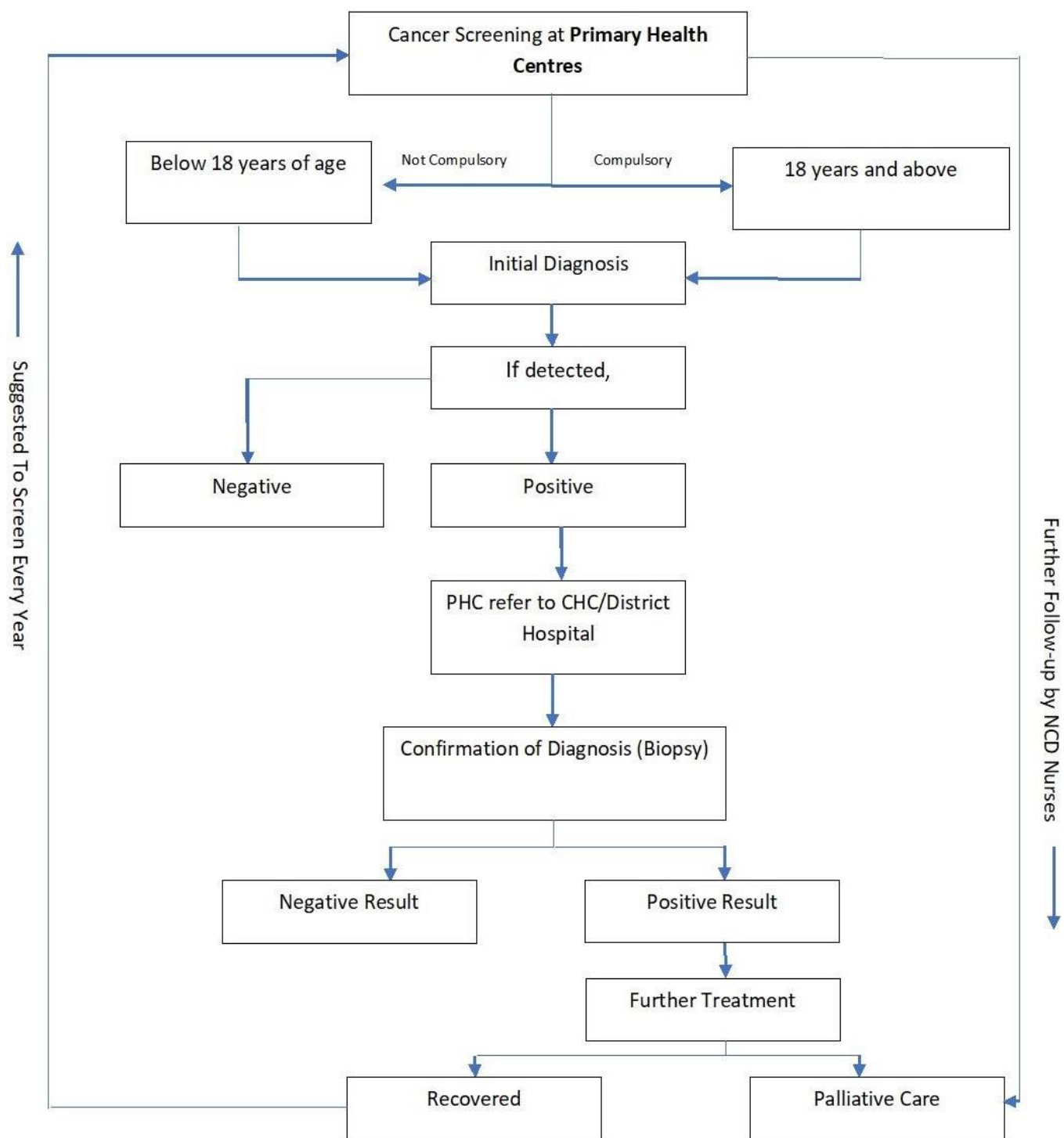
Fig. 1: Current method adopted by Primary Health Centre in Cancer Management

An enhancement training will be given to the NCD staff nurses for every six months. The following flowchart explains the current method adopted by primary health centers in cancer management.

(n=387)

Profile	Frequency (%)
Location	
Mettupalayam	29 (7.5)
Sulur	36 (9.3)
Coimbatore North	71 (18.3)
Coimbatore South	178 (46.0)
Pollachi	65 (16.8)
Valparai	8 (2.1)
Gender	
Male	203 (52.5)
Female	184 (47.5)
Age	
Below 18	6 (2)
18-24	116 (30)
25-34	163 42)
35-44	64 (17)
45-54	21 (5)
55-64	11 (3)
65 and above	6 (2)
Marital Status	
Married	250 (65)
Single	137 (35)
Qualification	
School and below	30 (8)
Undergraduate	152 (39)
Post graduate and above	186 (48)
Others	19 (5)
Occupation	
Government employee	42 (11)
Private employee	124 (32)
Business	32 (8)
Professional	58 (15)
Others	131 (34)
Family Income	
Less than 10,000	42 (11)
11,000-20,000	97 (25)
21,000-30,000	69 (18)
31,000-40,000	43 (11)
41,000-50,000	34 (9)
51,000 and above	67 (17)
No income	35 (9)
Family Members	
2 Members	31 (8)
3-4 Members	280 (72.4)
5-7 Members	73 (18.9)
8 and above	3 (0.8)

Table 1: Demographic profile of respondents

According to census 2011, Location of the respondents based on their Taluk were collected and analyzed. In which, Coimbatore South shows higher responses of 46 percent as per population. And Valparai having low population among all other taluks shows lower responses. Coimbatore North and Pollachi shows similar response rate. Coimbatore district population is sub grouped based on their taluk according to 2011 census reports. There is a less Significant

difference prevailing among male and female. In Gender, 53 percent are Male and 47 percent arefemale. Therefore, there is almost equal responses registered irrespective of gender. Age of the respondents clearly explains the respondents' preferences over each segment. Age 25-34 shows greater involvement in responding to the survey.18-24 shows moderate level of responses.18 – 34 age contributes more for the survey. Respondents' marital status also determines

their decision towards choosing health services to their families.65 percent of the respondents are married and 35 percent are unmarried. Educational Qualification of the respondents influences the interest towards hospital selection. About 48 percent of respondents were from post graduate and above. 39 percent are Undergraduate. Schooling and below are registered as 8 percent for respondents educational qualification. Private employees' contribution towards survey is about 32 percent. And others who includes students contributed to about 34 percent. Occupation weighs more on family's preference for

choosing health services. Family income of the respondents whose income range is of 11,000 – 20,000 responded to about 25 percent, which is greater than all other responses. The responses from income range of 21,000-30,000 showed 18 percent of their involvement. 41,000 – 50,000 is the least count registered by respondents. Respondents having 3-4 members in a family showed 72 percent of interest towards the survey. It clearly shows that most of them are nuclear families, while 20 percentage of population are living as joint family.
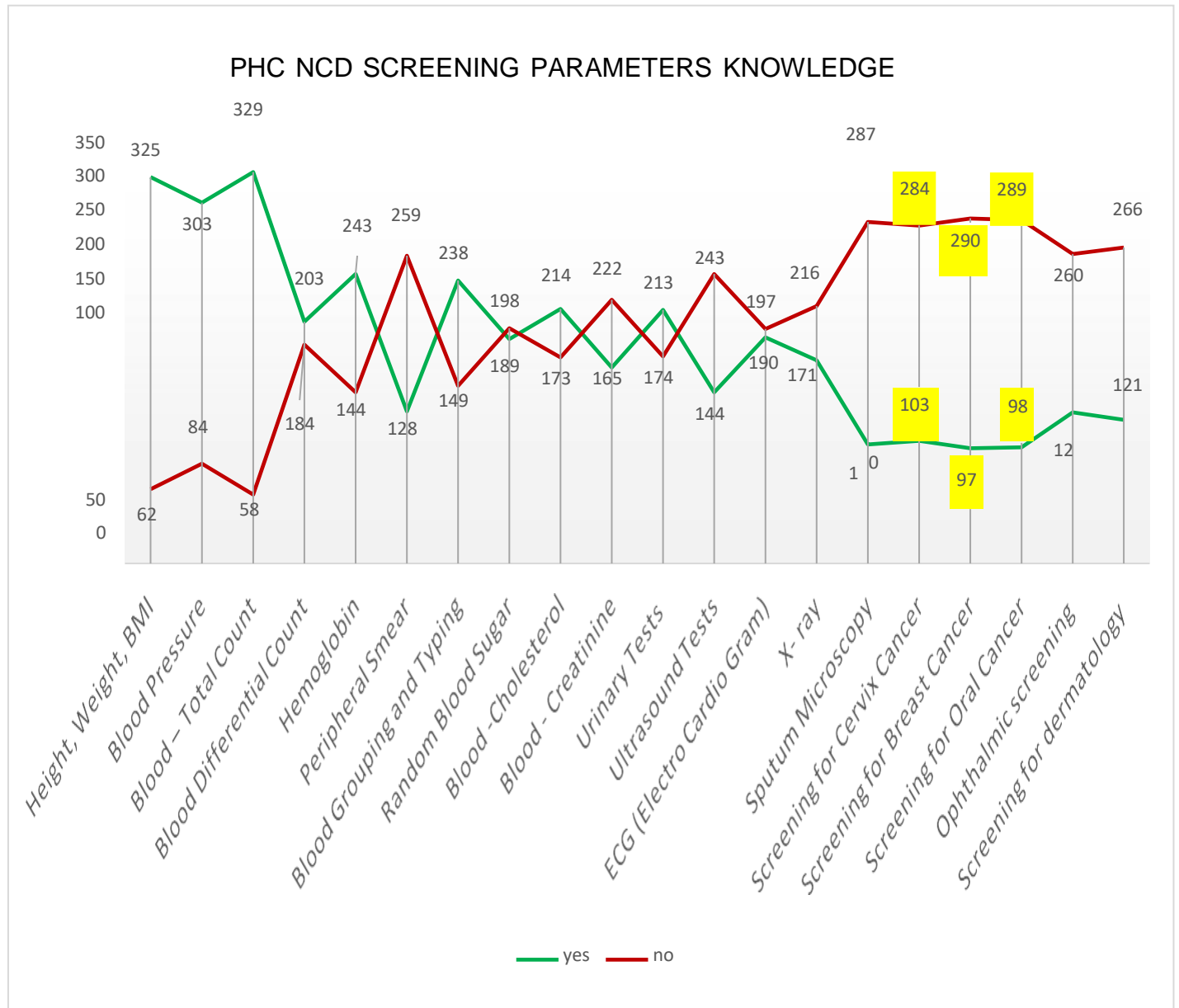

Fig. 2: PHC - NCD screening parameters knowledge among people

The above mentioned are the basic Non-Communicable Diseases (NCD) service parameters available at Primary Health Centre (PHC). From the figure 1.1 it is inferred that, the respondent's awareness level is higher for parameters such as Body Mass Index, Blood Pressure, Blood Total Count, Blood Differential Count, Hemoglobin, Blood Grouping and Typing, Random Blood Sugar, Blood Cholesterol and Urinary Test. While there is a

lack of awareness regarding the availability of services such as Peripheral smear, blood creatinine, Ultrasound, Electro Cardio Gram, X-ray, Sputum Microscopy, Ophthalmic screening and Dermatological screening. Among all these parameters, Screening for Cervical, Breast and Oral Cancer have very low awareness when compared to other NCD services provided by PHCs. There is an immediate need to educate people about the available tests for cancer early

screening so as to lower the mortality rate. Knowledge of people regarding NCD parameters differs for each service offered at PHCs. In which Height, Weight, Body mass index, Blood pressure, Blood sugar, Blood cholesterol and Urinary tests shows a greater awareness among the respondents. Whereas parameters such as screening for Ultrasound test, Screening for Cervical cancer, Screening for Breast cancer, Screening for Oral cancer shows lower awareness.

			n=387
People Preference on PHCs	*Response*	*Frequency*	*Percentage*
Did the ambience inside the PHC is welcoming to you?	Strongly disagree	24	6.2
	Disagree	64	16.5
	Neutral	152	39.3
	Agree	93	24.0
	Strongly agree	54	14.0
Do you think the infrastructure of a PHC is similar to that of a local private hospital?	Strongly disagree	44	11.4
	Disagree	87	22.5
	Neutral	134	34.6
	Agree	87	22.5
	Strongly agree	35	9.0
Is cleanliness in PHC is similar to that of a private hospital?	Strongly disagree	58	15.0
	Disagree	90	23.3
	Neutral	132	34.1
	Agree	75	19.4
	Strongly agree	32	8.3
Does the distance of your nearby PHC is easily accessible to you than a private hospital?	Strongly disagree	29	7.5
	Disagree	47	12.1
	Neutral	115	29.7
	Agree	112	28.9
	Strongly agree	84	21.7
Do you feel that your nearby PHC is having adequate space for undergoing treatments?	Strongly disagree	45	11.6
	Disagree	88	22.7
	Neutral	120	31.0
	Agree	85	22.0
	Strongly agree	49	12.7

Table 2: People preference on Primary Health Centers

From the table it is inferred that, 14 percent of the respondents strongly agree that the ambience inside a Primary Health Center is good. While 24 percent agreed that the ambience is welcoming to them. 39 percent respondents have no idea regarding the PHC environment. About 17 percent disagree with the content. Adding to that about 6 percent of respondents strongly disagree with the existing ambience inside a PHC. Similarity of the infrastructure in a PHC to that of a local private hospital by which 23 percent of respondents agrees that both PHC and local private hospital are similar, whereas 11 percent strongly disagree with the infrastructure similarity. And 35 percent of the respondence have no idea about the same. For cleanliness, about 19 percent agrees that the cleanliness is good in PHCs than that of a private hospital. While 34 percent don't find any difference or they don't notice such differences. 23 percent disagree with cleanliness of a PHC as they feel that PHC are not clean to their expectation. When the respondents are

questioned regarding the PHC locality and its accessibility for treatments, about 29 percent agreed with PHCs are near to them and 30 percent were not sure about the PHCs distance. 12 percent don't feel that the distance of a private hospital more accessible than PHC. The adequate space for a PHC to undergo treatments results with 22 percent of agreeableness. And 31 percent were neutral about their opinion towards space. 23 percent disagree with the adequate space for undergoing treatments at PHC.

VII. DISCUSSION

From this study, it is understood that people don't have enough knowledge regarding the services rendered by Primary Health Centers. In addition, people do not have enough knowledge on cancer and its crucial impact. Due to lack of knowledge, the disease is diagnosed only at its later stage. This leads to increase in morbidity and results in higher mortality rate. In spite of Government providing all the facilities at PHCs for free, people are spending more by taking medical services at private sectors. The same scenario is followed by people for cancer and its related treatments. In particular with cancer disease, right from screening till palliative care the cost incurred for undergoing such treatments at private hospitals were unaffordable for most of the families. While Primary Health Centres & Government hospitals provide same and even better services at free of cost. Hence people have to be educated about the available Government health facilities in-order to utilize them for their own benefit. The Department of Health and Family Welfare of Government of Tamil Nadu, is having an effective medical service facility to ensure the wellness of the public. Implementation of cancer prevention and control policy by Tamil Nadu Government for the people is working efficiently, but the awareness among the people regarding those services is lagging. Due to which the services are not fully utilized. And people perception towards Government medical services were not satisfactory because of longer waiting time, unappealing infrastructure of hospitals, unhygienic environment. There is an urgent need to ensure the right proportion of medical staff to be available at all PHCs according to the population of the respective area. Renovation of hospital buildings is necessary, so that people can get the same aesthetic view as that of a private hospital. Proper disposal of medical waste on daily basis is required in order to avoid dumping of these wastes within the PHC's campus. This will eradicate health related issues caused by biomedical wastes.

VIII. CONCLUSION

Primary Health Centres plays a vital role in diagnosing cancer at its early stage. The Department of Health and Family Welfare of Government of Tamil Nadu provides state of the art facility in managing health services throughout the state. Primary Health Centres are located throughout the city based on their respective population. The introduction of Amma ArokiyaThittam (AAT) for treating Non-Communicable Diseases is a great benefit to people of Tamil Nadu. The screening facilities available at PHCs for early detection of cancer help in reduction of morbidity and mortality rate. NCD staff nurse available at PHC make sure that the patients are referred for further treatments at District Government Hospital. However, people's awareness towards cancer and its screening tends to be less due to their inadequate exposure about the disease. The hesitation and the fear factor set back many of them from undergoing screening for cancer. Majority of people have not visited PHC and hence they don't know the services provided by the PHC. External aspects such as infrastructure, waiting time and ambiance are the major reasons for people not visiting PHCs. This research is mainly focused to create awareness among people regarding the services provided by PHCs for initial screening and diagnosis of cancer, also suggest enhancing the facilities of PHCs at Coimbatore District of Tamil Nadu. This research has taken a speck of geographical area in Tamil Nadu. Therefore, further researchers can be developed in various geographical areas in Tamil Nadu as well as in India. Also, future studies can be concentrated on comparative study of treatment of cancer at Government Hospitals to that of Private Hospitals. Further studies can be made specifically on the problems faced by NCD staff nurses in handling patients. Comparative research can be carried out on the difficulties faced by public in Urban and Rural areas for cancer treatments. Extended comparative research on the impact of lifestyle changes with regard to susceptibility to cancer at young age.

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