

## II. REVIEW OF LITERATURE

The review of literature pertaining to the study on “**Analysis of the Risk factors and Interventions to Promote Better Quality of Life among Women with Cervical Cancer at Selected Hospitals, Chhattisgarh**” discussed under the following headings:

- A. Healthy women - Need of the hour.
- B. Epidemiology of cervical cancer.
- C. Identification of risk factors of cervical cancer.
- D. Quality of life of women with cervical cancer.
- E. Interventions to promote better Quality of Life among women with cervical cancer.

### **A. HEALTHY WOMEN -NEED OF THE HOUR**

Beyond any suspicion, the importance of women in the society is well known today. Women have proved that they are not inferior related to gender with their ambitions, intelligence and strength. Their influence in all areas unconditionally has been proven by them so that they can always be a full member of the society apart from being a tool for bringing up children.

The growth of women is a course of action that indicates the development, the level of progress, development and progressive difference transforming to anticipated greater stage of quality of life. They have a dependent position in regard to the association gender wise, and hence they are forced to face various discriminations and disparities in the day to day social life. So, women are treated in a distinctive manner in the process of their development and this grows into a chief issue in strategies. This guides the women in strengthening their capabilities and incapacitate the obstacles faced by them due to their gender.

Due to significant development of the women economically, there is enough encouragement for them and this has increased their level of confidence.

Regards to social development the women are aware about the different communal problems in the society with an increased knowledge. Nowadays, women are able to move

freely away from their homes on commercial or communal needs and they have no limitations on their freedom. Women take part actively in various decisive factors among the family and they are able to fight for their privileges from government, society and family. They also are able to communicate well with the people in the society and are also able to negotiate on any issues related to their development. (Seema, 2013).

Politically women are active leading to political empowerment. There is an increased level of participation of women in the self-governance locally. The voting percentage of women has increased remarkably. The representatives are recently additionally profound about issues in politics and their influence that has on them. In every process of election and politics each and every representative are participating. (Annual Report 2007-2008. Programmes for Women) (Seema, 2013).

Women should be guaranteed of a very high life quality all through their lives. They should be able to enjoy a very high level of health standard at par to that of men. Like men women get influenced by most of the issues related to their fitness complaints and the only difference is due to the physical structure and inheritances women are facing them in a quite contrary situation because of the other sex characters creation. To name a few, which have a very poor influence on their well-being are, poverty, hostility due to gender discrimination and issues related to this, reduced level of freedom in dealing with important issues in life, particularly related to child bearing and sexual life. It is very much important to have a good physical condition to lead fruitful and enjoyable life of pride. To control all the phases of a women's health, particularly issues related to their fecundity, suitable health is very much essential and it is vital to their authorization and autonomy. (World Medical Association, 2019).

The health of women is in evolution and, even though some features of it are improvised markedly in the recent years but yet there are some major needs that are not fulfilled. Ageing of population and revolutions in the social elements of health have increased the cohabitation of disease problems in regard to nutrition, infections, reproduction and the evolving prevalence of prolonged and non-communicable diseases (NCDs). Concurrently, worldwide primacies in regard to the health of women have been shifting on its own from a limited focus to the larger framework and to the encircling perception, which establishes on a life-course methodology. This broad vision integrates health issues that influence women outside their age of reproduction and those that they

distribute with men, but with indices and outcomes that affect women disparity due to genetic, social elements and other gender related. (Langer et al., 2015).

The well-being of women is not an inert area, but a repeatedly growing subject that must expect and concentrate the next critical problem, to see if it is in major prevention, diagnostic programs, screening capacities or choices of treatment. The time when a women's health has gained appreciation as a subject, its opportunity have repeatedly been elucidated and described. As a health specialist it is stressed on the deterrence and assessment, identification and action. These ideologies replicate a methodology to health of women that is, by requirement, several disciplines and dedicated to the suitable investigation of women all over their life span. (Goldman et al., 2017)

Karuppanan (2016) conducted a study to experience women's ill-health, and to further study whether this is sufficiently discovered in a socio-cultural setting from a gender point of view. In India, initially the exposure to illness is high due to various situations that are preponderant in the community other than the rising issue of women's health. Here in this instance the gender has an important part. Second point is due to the strong cultural system norms and poor background economically, the women are subjected to ill health. Third point is, in a relative setting the poor health of women increases but there are differences which continue to stay among class and caste groups. By using gender as a classification, these issues were surveyed to find out the differences in health among various communal groups, but not in the setting of the shifting the model of gender affairs among the communal arrangement and group.

Women have developed tremendously nowadays in all fields such as, education, sports, economics, politics etc. To achieve their goals in all these fields successfully, it is of paramount importance that health of women needs to be addressed in a timely and in a right manner.

## **B. EPIDEMIOLOGY OF CERVICAL CANCER**

Health of women is committed to expediting protection of wellness and prevention of diseases including assessment, analysis and managing the situations that are distinctive in them. (Women's Health Medical Education, 2018).

The changing lifestyle, improved durability and better control of infectious diseases; the non-communicable diseases have developed as major health problems worldwide. Next to cardiac diseases, cancer has developed as the major reason for death in nations in Asia. (Singh et al., 2018).

Worldwide there is an increased cancer burden. Disturbingly, WHO states that (WHO, 2018) that the amount of fresh cancer patients is anticipated to increase by nearly 70% within the coming twenty years. Worldwide, there is considerable overlap in common types of cancers. There is a higher incidence of cancers in developing countries and death rates for viral infection connected to cancers such as hepatitis associated cancer of liver and Human Papilloma Virus (HPV)- associated cancer of cervix. (Arem and Loftfield, 2018).

The uncontrolled growth along with the division of cells resulted due to the cellular changes in the body is termed as Cancer. It causes the cells to divide without any control, and it can affect in injury to the immune system, can cause tumors, and impairment that can be fatal. (Nall, 2018).

It is calculated by the American Institute for Cancer Research, (2019) that about eighteen million incidents globally in 2018, 9.5 million incidents were in male and 8.5 million in females. In India, the calculated population with cancer is about two million. Annually fresh incidents disclosed is above one million and deaths occurred is about 0.7 million. (National Institute of Cancer Prevention and Research, 2019).

According to statistics related to age the occurrence of the disease is projected as ninety-seven in one lakh population with higher incidence in the urban zones. There is enough proof that the occurrence of cancer is high among the females and elderly people who are in the reproductive age groups. (Rajpal et al., 2018). The incidence of cervical cancer is very much high when compared to other gynecological cancers. (Finocchario-Kessler, 2015).

Mostly cancer is seen in the economically poorly developed zones. It amounts to about twelve percent of all cancers in women. Zones which have a greater risk projected according to the Age Standardized rate are Eastern Africa, Melanesia, Southern and Middle Africa. In 2012, worldwide, projected deaths were 0.266 million from cervical cancer, which is about seven and half percent of total deaths caused by cancer. (Ferlay et al., 2012). World Health Organization (2018) reports that worldwide, cervical

cancer stands at the fourth position. It is estimated as that annually about 0.5 million women develop this disease worldwide which accounts for twelve percent of all malignant diseases in women.

Presently, cervical cancer takes the lives of 2, 65,000 women every year across the world, and majority of those incidents happen in economically backward zones ([www.Cancer Action Network.com](http://www.CancerActionNetwork.com), 2019).

The occurrence of the disease was reported as very high in five countries which are Brazil, China, India, Indonesia, and Russia. UNAIDS (2019) reports that most of the women deaths due to this disease live in economically under developed countries. Presently, very few females in the financially backward countries are able to receive HPV vaccine in comparison to the advance countries very all of them are able to receive the same.

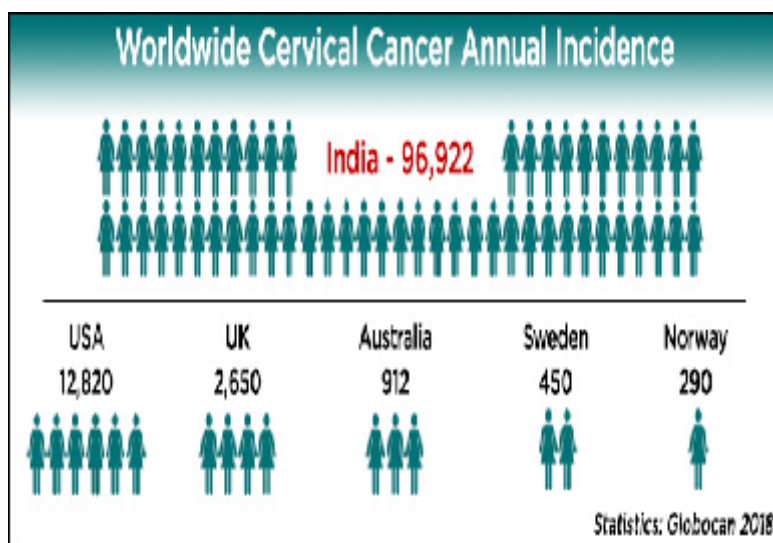
Cervical cancer is an active situation with a very high occurrence percentage in youth population. It is mostly detected between mid-30s to mid-40s age groups. Fifteen percent is detected in females above 65 years of age and in young adults who are in the age group of less than 20. (Cancer Net Editorial Board, 2018). It is the second widespread cancer in females in India who are in the reproductive age. It caused about 60,000 deaths in 2018, with the majority of mortalities between ages 35 and 39, followed by women between 30 and 34. (Priyambada, 2019).

The major health issue faced by women in India is cancer of the cervix, and every year, approximately 1, 20,000 women develop this disease. Out of the total cervical cancer deaths in the world India accounts for 15.2 per cent. This continues as mostly prevalent in the villages. In cities, the occurrences have reduced. Natural history of the cancer is advancement from minor dysplasia to cervical cancer which takes about 10 to 20 years and so it is an avoidable disease and creates the motivation for assessment. (Srivastava et al., 2018).

In an epidemiological study, done by Jayalekshmi et al., (2006) to determine the problems of cancer in women in Kerala the results revealed that the incidence rate in villages was higher than in cities. In light of the rapid growth of population in India, the total load of occurrence and deaths are estimated to rise by 68 and 78%, respectively, by 2030. (Bansal et al., 2015). Annually in India, 1, 22,844 are detected and about 68, 000 die

because of this. A total woman of 432.2 million in India falling in the category of 15 years and above are at risk. (Sreedevi et al., 2015).

The National Institute of Cancer Prevention and Research (NICPR, 2018) reports that every eighth minute a female is dying of cervical cancer in Asian countries. It is the third major reason of deaths due to cancer which accounts for about ten percent of all cancer associated deaths. The average 5-years survival rate is 48.7%. The survival length of the women depends upon the cancer stage during the time of diagnosis. In India, cervical cancer accounts for more than 20% of all cancer instances in females and twelve percent in both males and females. The new cases registered is 96,922, death occurred is 60,078 and the median age is 38 years. (Figure 1).

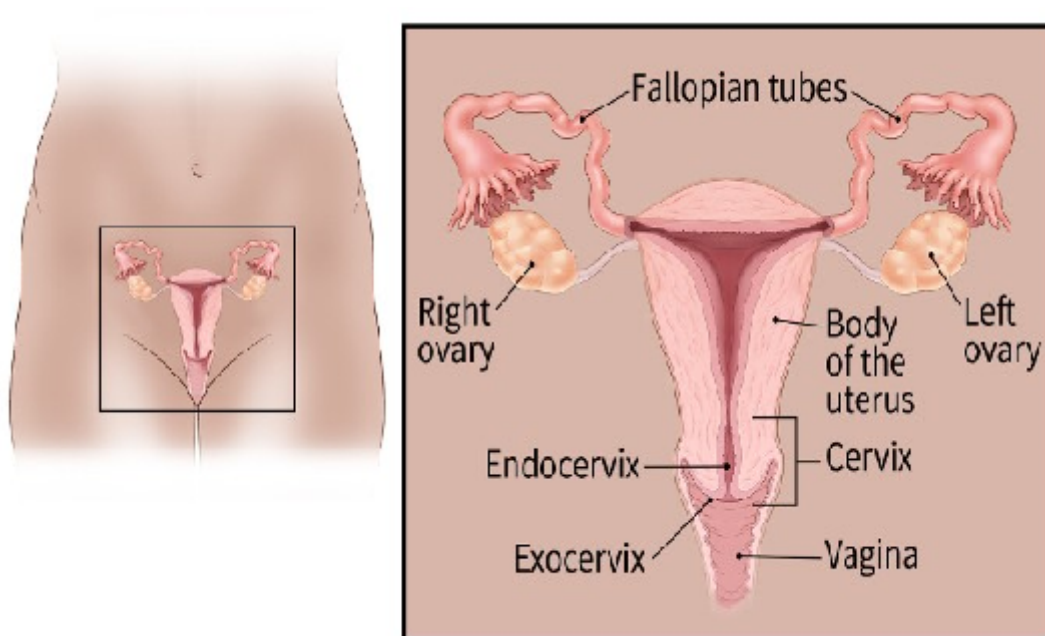


**WORLDWIDE INCIEDNCE OF CERVICAL CANCER -2018**

**FIGURE 1**

The cancer of cervix is defined as a form of cancer that arises in the cells of the cervix, the lower portion of the uterus that connects to the vagina. It starts in the cervical lining cells, the lower portion of the uterus which is occasionally called the uterine cervix. In the uterus body (the upper part) the baby grows. The body of the uterus and vagina (birth canal) is connected by the cervix. (ACS, 2018).

The cervix is coated with two kinds of cells and there are two parts in the cervix. The closest portion to the uterus body is known as endocervix. The exocervix (or ectocervix) is the part that is next to the vagina and is enclosed by squamous cells. (Figure 2).



## STRUCTURE OF REPRODUCTIVE ORGANS

**FIGURE 2**

Adenocarcinoma and squamous cell carcinoma are the two main types of cervical cancers. Squamous cell carcinoma is the mostly prevalent cervical cancer. They develop from cells in the exocervix. They mostly start in the conversion zone (where the exocervix will join the endo cervix). The other type of cancer of cervix is known as adenocarcinoma. These develop in the endocervix from the cells known as gland cells. In recent decades, the most commonly found type is cervical adenocarcinoma. Cervical cancers having both the features of squamous and adeno are less in common, which are known as mixed carcinomas or adenosquamous carcinomas ([www.Cancer Net Board.com](http://www.Cancer Net Board.com), 2019).

In India, cancer of the cervix is seen in about 6%-29% of all cancers. Squamous cell carcinoma and adenocarcinomas are the widespread types among cervical cancers. (Bobdey et al., 2016).

The symptoms that are commonly noticed in the cervical cancer are loss of blood between periods, loss of blood during the post-menopausal phase, bleeding after sexual intercourse, uneasiness while having intercourse, secretion in vagina with heavy smell, secretion in vagina stained with blood and pain in the pelvis. Human Papilloma Virus

(HPV) infection, particularly HPV 16 and 18 strains produce most of cervical cancers worldwide. (Nordqvist, 2019).

The objectives of staging are to evaluate the spread of cancer and find out if it has touched the adjacent parts or the more remote organs. Stages are classified as four different stages as follows.

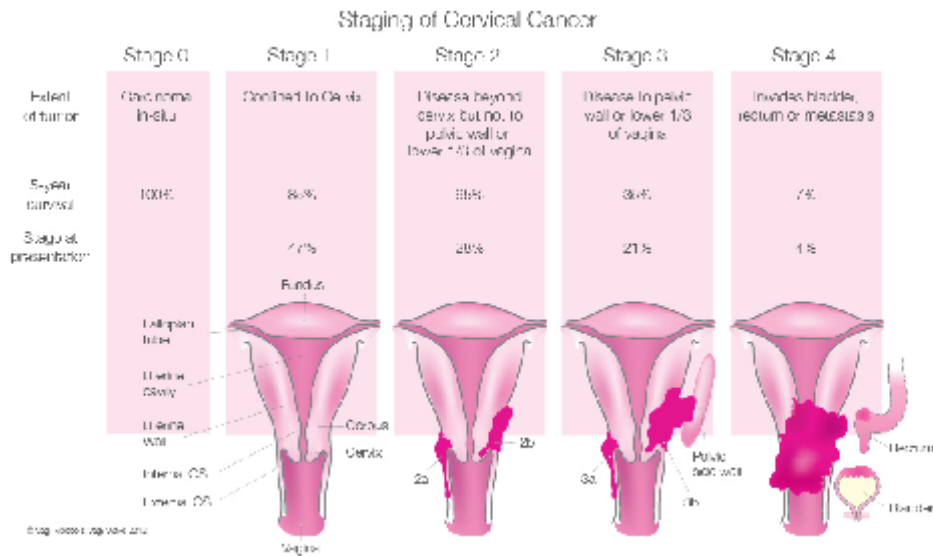
**Stage 0** : Presence of cells that can cause cancer.

**Stage 1** : Growth of the damaged cells into the external part of deeper tissues of the cervix, and probably to the adjacent lymph nodes and into the uterus.

**Stage 2** : The disease would have spread away from the cervix and uterus but not deeper into the walls of the pelvis or the lower portions of vagina and this perhaps would affect the adjacent lymph nodes or not.

**Stage 3** : A part of the vagina or the walls of pelvis would be affected by cancer cells. The ureters would have been blocked, which transport urine out of the bladder. The adjacent lymph nodes may be affected or may not be.

**Stage 4** : The disease would have affected the rectum or bladder and grow beyond the pelvis. The adjacent lymph nodes may be affected or may not be. At a later stage, the spread would have reached the organs that are far away which includes, skeletal system, pulmonary system, and the liver. (Cancer Net Board, 2019). (Figure 3).



### STAGING OF CERVICAL CANCER

**FIGURE 3**

Various diagnostic measures include examination of pelvis, Pap smear test, colposcopy (examination of cervix and vagina), biopsy, and various other diagnostic procedures. Cystoscopy (examination of bladder and urethra) and Proctoscopy (examination of colon and rectum with sigmoidoscope). (Cancer Net Editorial Board, 2018).

According to National Cancer Institute (2019) there are five different types of treatments for this. Operation is removal of the part of the cancer area. Radiation therapy is a method that is used to kill the cells with cancer and stops its growth. Stopping the growth of the diseased cells using various drugs and kill them and avoid further multiplication is known as chemotherapy. Drugs or other materials are used to specifically find and target the diseased cells only leaving out the normal cells and this method is known as targeted therapy. Using the immunity system of the patient to fight against the cancer cells is known as Immunotherapy.

Detecting the exact type of cancer is very important to treat suitably and effectively since various types of cancer needs a particular protocol of treatment which would involve one or many methods like surgical intervention, treatment with drugs, and treatment with radiation. The very initial method is to establish the aims of cure and soothing care and the hospitals should be amalgamated and public focused. (WHO, 2018).

## **C. IDENTIFICATION OF RISK FACTORS OF CERVICAL CANCER**

The identification of risk factors of cervical cancer is discussed under the following headings.

- 1. Risk factors.**
- 2. Screening of risk factors of cervical cancer.**

### **1. Risk Factors**

Risk factor is the one that raises the probability of advancing cancer. It could be a substance, condition or behaviour. Most of the cancers are caused by many factors of risk. (Canadian Cancer Society, 2019).

Worldwide the most noted risk factor in cervical cancer that prevails is Human Papilloma Virus (HPV), this is quoted in the epidemiological research articles. Young age, marriage at an early age, multiple abortions, having sex with various companions, high number of pregnancies, usage of tobacco, or oral methods of contraception, smoking, and economically weaker status are also noted to be important risk factors for the cancer development. (Kour et al., 2010).

Cervical cancer risk factors include multiple male companions, having sex at a younger age, more number of pregnancies, young age during first delivery of baby, prolonged use of contraceptives orally, infections with the Human Papilloma Virus, inflammatory diseases and HPV infections; other independent risk factors are infrequent screening for cervical cancer, smoking, tobacco use and nutritional and dietary factors. (Mwaka, 2016).

In a study done by Sharma and Pattanshetty (2018) causative aspects of cervical cancer were assessed between patients in a hospital with tertiary care. A case-control study was conducted for 273 participants. Study results showed that disease caused by the Human Papilloma Virus (HPV) was the major causative agent involved. Marital status, usage of alcohol, menarche at a younger age, having sexual contact before the adult age, having at least one abortion, high number of pregnancies were noted to be the other significant risk factors.

### **a. Human Papilloma Virus (HPV)**

HPV infection is the major causative agent for cancer of cervix. More than 150 associated viruses are group together. This can cause disease to the cells that lie superficially on the skin, genital linings, mouth and throat, anal canal. The inside organs like lungs, heart, and blood are not affected. (American Cancer Society, 2019).

Worldwide Human Papilloma Virus is the commonly spread disease caused by sexual transmission which is deeply associated with cancer of cervix. In the recent times, HPV testing and vaccination have been presented for preventing cancer of cervix. (Heydari et al., 2017).

Harsha Kumar and Tanya, (2014) conducted a study to evolve a section of women who underwent testing with PAP smear. In the developed nations, the range is in the high 60s and high 80s in percent. In India, the ranges are between 3 to 7 percent. Study highlighted that the yearly occurrence had decreased by introducing screening based on the population. The disease progression and the death rates can be reduced in India if the women underwent regular screening programs and the probability of detecting the disease in initial stages would be high.

Thangam (2019) in her analysis has described the causative agents of cancer of cervix among women with cancer through non experimental descriptive survey design. Using Convenient sampling technique 120 samples were selected. The present study reveals that, among 120 samples none of them exposed to PAP smear test previously. The major risk factor was nonexistence of awareness of the screening process among sexually active group. Nearly half of the women were affected with sexually transmitted diseases, and they were not aware of the mode of transmission and the treatment regimen. Hence this study attempted to find out the risk factors of the disease, focusing on concept of avoidance and control.

### **b. Smoking**

The probability of smoking women as compared to non-smoking is two times likely to get the disease. When the smoking women's mucous from the cervix was tested it was found to contain the tobacco by-products. It is believed by the research scholars that the DNA of the cells of the cervix may get damaged by these by-products and can induce

the growth of cancer further. The immune system is affected by smoking in the way of less efficient in combating the HPV infections. (American Cancer Society, 2019).

The influence of smoking can raise the level of risk of cancer of cervix by various means. Local initiation of immune control by the tobacco by-products is a kind of process. Additionally, the various components in cigarettes like nicotine and its derivatives would damage the DNA in the squamous cells. The cervical epithelium is affected and this causes disease development of cervical cells and also in various other portions of body. (Roura et al., 2014).

Roura et al., (2014) conducted a cohort analysis to evaluate the connection between the risk of cervical grade 3 cancers and smoking and invasive cervical cancer (ICC). At baseline, the contributors were asked to complete the survey form and blood samples were taken. For total 9 years, about two hundred and sixty-one ICC cases and eight hundred and four cervical grade 3 instances were reported. Study results showed smoking levels, extent and severity had two-fold high risk of grade 3 cancers and ICC. Study concluded that cancer risk was lessened to half when compared between the people who were not smoking through the last decade and the people who were continuing to smoke until recently.

Gonzalez et al (2006) reviewed the results of various reports of epidemiology and identified that there is relation between smoking and squamous cell cancer of cervix. Study expressed that higher the incidence of smoking cigarettes lesser the age inception of smoking. The years of smoking is inversely proportional to the occurrence of cancer of cervix.

### **c. Chlamydia infection**

It is the most commonly noticed disease affecting the female reproductive system. This is mainly spread only through sexual contact. Results reveal that the causative agents are found in the cervical mucous or blood system. (American Cancer Society, 2019).

Chlamydia can be the source of cervical hypertrophy and prolonged infection. The potential target groups for HPV are metaplastic groups, due to contamination of Chlamydia.

Therefore, as a result of infection with Chlamydia, death of the cells may be stopped. There is a possibility of undue appearance of cancer cells, and so the irregularity of the cells can happen. (Silva et al., 2014).

#### **d. Nutrition**

Nutrition is a significant factor that has an impact on carcinogenesis of the cervix.

In recent years, the part of dietary aspects has an impact of cancer of cervix and is taken in to vast interpretation. High level of consumption of better dietary consumption of vegetables or fruits that are colored in yellow and green, will reduce the risk of cancer to about half. So, having a balanced and a healthy diet will lead to consumption of high percentage of antioxidants and will perform a major part in decreasing the disease. (Tomita et al., 2010).

The stress caused by oxidation due to insufficiency of antioxidant micronutrients, there is a probability of changing the usual balance and convert the HPV affected cells to process of carcinogenesis of the cervix. This process is influenced by folate which is a micronutrient. Less amount of immunity due the B vitamins deficiency is a very high-risk factor for causing the infection. (Moutinho ,2011).

A study was done by Ghosh et al., (2008) to find the correlation between consumption of balanced diet and survival rate of cervical cancer. A considerable association was identified among high input of multiple vitamins and vegetarian foods with survival rate of cancer of cervix. Study concluded that consumption of balanced diet improved the survival of women with cervical cancer.

Siegel et al., (2010) performed a case-control analysis on impact of nutrition and the results showed that there was an association between people consuming fruits that are containing high amounts of antioxidants and reduced risk of having the disease. Results revealed that B vitamins may offer prevention from the occurrence of cancer cells of cervix.

#### **e. Oral Contraceptives**

Usage of contraceptives orally may promote or initiate tumors of the cervix. The latest oral contraceptive usage method is connected with proliferated risk of the disease. (Vanakankovit and Taneepanichskul, 2008).

Vanakankovit and Taneepanichskul (2008) in their study to evaluate the result of the contraceptive usage in women with cancer of cervix. A total of 240 women were selected with disease and without disease. Contraceptive pills user more than 3 years showed significant risk in developing cervical cancer. Study results suggested that screening tests and investigations need to be done for users who are using for a longer period.

Gierisch et al (2013) have done a case-control study, to find the relation among the usage of oral contraceptives and cancer of cervix in women. Time span of the drugs usage was sorted as below five years, between five and ten years and above ten years. The outcomes showed HPV-positive women who were using contraceptives regularly were at high risk upon comparison with non-users and this trait was substantial in the below 5 years usage population.

#### **f. Multiple Sex Partners**

Among the women who are having multiple sex partners, there is always an increased chance of coming in to contact with a person who is carrying the HPV virus. Also, it is noted that the risk is high in females with cancer of cervix who have sex with more than one companions. Usually this high risk is ascribed to risk of getting the infection caused by the HPV. (Liu et al., 2015).

Liu et al., (2015) performed a Meta analytical study on women who had sex with various companions and the analysis concluded that the risk was higher even after treating them for infection from the virus.

#### **g. Young age at Marriage and High Parity**

Women below the age of 17 years conceiving and giving birth to their first baby are at two-fold risk of getting cancer of cervix in a later stage of their life when compared to the women who give birth for the first time above 25 years or more than that. (American Cancer Society, 2019).

Having sex for the first time at younger age is associated with high level of risk of getting cancer of cervix of invasive type. In majority of the developing nations, both of these situations are quite usually found. (Louie et al., 2009).

The risk percentage is high in women who get pregnant and have three or more children. This is due to the changes in hormones that happens during pregnancy and this

makes them more vulnerable to HPV infection and growth of cancer. Also, the women during pregnancy can have immune systems that are very weak and this allows to get infected by HPV. Higher the delivery numbers higher the risk of cancer of cervix. (American Cancer Society, 2019).

Louie et al., (2009) performed a study on cancer of cervix, invasive type from 8 developing countries. In total 1864 experiment and 1719 controls they were investigated on the roles of Age at first sexual intercourse (AFSI), Age at first pregnancy (AFP) and Invasive Cervical Cancer (ICC) estimates of risk. The results revealed that the risk was more than 2 times in women who stated AFSI and AFP below than the age of 16, upon comparison with women with AFSI and AFP at the age of 21. The study highlighted that women having initial sex contact and give birth at a very young age have high risk of getting the cancer.

Jensen et al (2013) analysed and found that the indicator of Grade 3 cancer of cervix is delivery. It was concluded that it was noticed that delivery was main high agent for developing cancer of cervix, particularly in women diseased by HPV. Childbirth is the next high-risk factor for causing abrasions to cervix.

#### **h. Low Socioeconomic Status**

Poor source of income is considered as a major causative agent. The occurrence rates and mortality rates are higher in women who are socioeconomically weaker. These women's reach to get good services in regard to health is very limited. Also, their access to investigations and initial screening tests are very less. These women do not get chances to investigate or get treatment in a pre-cancerous state. (Averbuch et al., 2009).

Matejic et al., (2011) established an analysis to find out the factors that stimulate the participation of women in the cancer assessment activities. Case control design was adopted and between 18-70 years of age of women from four primary health care institutions were selected as a sample. The study results revealed that compliance to the assessment significantly is associated with earnings of the family. Study concluded that improving socio economic status is a key factor to improve the health of women.

#### **i. Weakened Immune System**

The immunity of a person has a major part in destruction of the damaged cells and by this they are able to curtail down the progress and spread. There are chances of a

precancer type getting converted into an invasive type quickly in a woman who has a very weak immunity as such in cases who are affected by HIV. Also, women consuming immunosuppressive medicines, in cases of transplantation or for autoimmune disease, are at high risk in getting cancer of cervix. (Kiss et al., 2010).

Liu et al., (2010) in their analysis reported that women with lymphatic diseases condition have a higher possibility of getting affect by this disease, since there exists an association between lymphatic system and the cervix.

Kim et al (2014) highlighted in their analysis which was done to find the relation between inflammatory disease and the risk of cervical cancer. Results revealed that women affected by arthritis which is rheumatic in nature, are approximately two times riskier to develop cancers of the cervix.

#### **j. Family History**

When compared with normal population, women's first-degree relatives if affected with cancer of cervix (squamous type and adeno type) then there is a high chance of for them getting the disease. So, it is evident that the risk factors are shared between hereditary traits and HPV infection. (Hussain et al., 2018).

Details of familial history of cancer plays an important part which has an impact on the assessment process when comparing with the other type of cancer diseases, and this may be mainly because of the infection caused by the HPV. This infection can be main reason for majority of the damages of cervix rather than other reasons of familial or hereditary. (Bellinger et al, 2013)

Zelmanowicz and Hildesheim, (2013) in their analysis to assess the risk factors of cancer of cervix related with familial history highlighted that there is a twofold risk in regard to this. The percent of risk is increased in relatives like daughter, sister and mother. The authors also have concluded that the analysis reinforced that more likely a family pattern exists here other than a hereditary reason

## **2. Screening of Cervical Cancer Risk Factors**

Many reasons are there which have an impact on the survival rates of women affected by cancer and staging is one of them. The invasive type of cancer when diagnosed in the primary stage, the chances that the women can live more than or until 5 years is

high. Half of the women are detected in an initial stage. There is only a half chance of life if it is spread to the adjacent organs and lymphatic system. The survival rate averages in the high 40s in India. (Cancer Net Editorial Board, 2019).

Worldwide, there is steady decrease in the occurrence and deaths relating to cancer of cervix, particularly in the developed nations because majority of the instances are detected routinely. The occurrence has decreased by less than five percent annually in the economically forward countries where assessments are commenced and executed for more than 10 to 20 years. (Torre et al., 2017).

World Health Organization (2018) projected that half of the diseases caused by cancers can be avoided by completely ruling out the risk factors, implementing the prevalent control measures. Through early detection the issue can be lessened and the women can be better managed. If diagnosed early and handled sufficiently many cancers have an increased possibility of remedy.

The purpose of screening is to find out the women with variations that are related to a particular type of cancerous disease without any symptoms and guide them appropriately for detection and further care. It is estimated that by 2040, if the assessment and management are not increased then there is chance of high (more than half) occurrence of mortalities when compared with that of in 2018. (WHO, 2018).

Socioeconomic inequalities act as a major factor in the occurrences, chances of survival, death rates of cancer of cervix. It is related with a majority of aspects like limited accessibility for assessment, non-implementation of prevention programs, and delay in identification of risk factors, inadequate and ineffective treatment. (Leinonen et al., 2017).

Majority of the population in India did not get a chance to be assessed for cancer of cervix. In low resources areas like India,

In India, more than 95% of women have never been screened for cervical cancer. In low resource areas like India, there are a variety of obstacles that block the women from attending an assessment program which are, limited knowledge, not known of the assessment methods, unknown of the initial disease symptoms, less number of control support, and misinterpretation of female diseases, limitations on social and economic basis, and on a whole deficiency of knowledge on the national policies and assessment methods.(Bansal et al., 2015).

Kumari et al., (2012) in their analysis to find out chances of survival and to analyse the importance of clinico pathological factors in disease progression. The findings revealed that the mortality rates are estimated to increase and this can be stopped by conducting appropriate assessments and provide necessary curative measures.

Aswathy et al., (2012) expressed about cervical cancer in Kerala, where 809 women in their reproductive age were selected from four Panchayats. The results revealed that majority of them had a knowledge about having an early assessment would help detect and prevent the occurrence of the disease. Also, many of them were not aware of the aspects involved in the disease progress.

Basu et al., (2014) highlighted in their research about the attitude, knowledge, and different methods followed by the women in association to the risk factors of cancer of cervix in Maldives. The study concluded that there was limitation in knowing about the aspects involved in avoidance of cervical cancer. They recommended that a common program to improve the literacy level of the younger generation would help in improving the knowledge on avoidance and reduction of exposure to multiple risk aspects.

Mwaka (2015) conducted a survey in Uganda. A total of 448 women aged about 18 years and above were involved. Majority of them were aware about cancer of cervix. Various risk factors such as HPV infection, having sex with many companions, having sex at very young age were all documented by them. More than half of them were in a belief that chronic adaptation of family planning measures may cause cancer of cervix. Also, further it was disclosed that about seventy percent believed that it can be prevented. More than ninety percent had a belief that if detected at initial stages it can be cured.

Sreedevi et al., (2015) performed an epidemiological analysis to reveal the incidence of cancer of cervix in 500 females in Kerala. Study findings revealed that occurrence is greater in women who were economically backward, also in women who had more children, and in illiterates. The author recommended that there should be research done in the areas of making HPV assessments cheaper. Also, there should be enough access to the whole society through government programs.

Bansal (2015) performed an analysis to evaluate the attitude and knowledge in relation to the cancer of cervix. A total of 400 women were approached. The assessments were done to less than 10% of the group but the attitude of over 75% was favorable. Study concluded that the knowledge level in regard to cancer of cervix was low in the women.

They had a favorable attitude for assessment. The acceptance of assessment of cancer can be increased if the appropriate women are approached and assessing infrastructure should be accessible easily all over.

Momenimovahed and Salehiniya (2017) conducted a study to identify the occurrence and death rates associated with cancer of cervix. The results revealed that multiple aspects such as hormonal, hereditary, reproductive, sexually transmitted infections, were the reasons for this disease. The socioeconomic and health factors all put together jointly were the main reasons that for the occurrence of this disease. If found in an undeveloped stage, majority of the instances can be avoided by conducting various programs. To name a few are, stoppage of smoking, adapting lifestyle changes, undergoing routine assessment and getting appropriate treatment of precancerous cells.

Parija et al (2017) performed a study on identification of risk factors among 1000 married women with abnormal PAP smear test attending A.H Regional Centre, Odisha. Study results revealed early menarche, having sex at young age, getting married at younger ages, economically backward, high number of childbirths, very poor environment, and getting infected by HPV, carried a high chance of getting cancer of cervix. Improvement of socioeconomic status, education and assessing the cancer of cervix in women who have increased risk aspect can reduce cervical cancer mortality rates significantly.

Prior knowledge and the characteristics involved rises the acceptance of avoidance methods related to cancer of cervix. This will motivate the women to contact the health services in the early stage. The avoidance measures, such as assessment of the cervix, vaccines, and infrastructure to detect the disease at an initial phase. For this to happen, government and other private care providers should ensure that these arrangements are easily available.

#### **D. QUALITY OF LIFE OF WOMEN WITH CERVICAL CANCER**

Quality of life is a multidimensional concept encircling insight of advantages and disadvantages of scopes like psychological, socioeconomical, intellectual and physical functions. (Kaur et al., 2018).

Diagnosis and dealing with cancer of cervix is expressively traumatic and results in physical and psychosexual disease affecting Quality of Life. Cancers have distressing effect on the lives of those afflicted with it. It instills a dreary sense of fear and panic in

the mind of those suffering from it and those receiving treatment as well. By shattering the patients physically and psychologically it affects their well being. (Bashir et al., 2017).

Cervical cancer survivors are faced with psychological, social and physical distress apart from fatigue, irritability, decreased energy level, memory loss, and recurring pain and decreased Quality of Life. The difficulties in symptom experienced by cancer survivors is a serious factor that impacts their life quality. (Torkzahrani et al., 2013).

Cervical cancer lead to physical, emotional and psychosexual problems and its treatments, such as chemotherapy (CT), and radiation, surgery, can result in a distortion of body image, mucositis, gastrointestinal issues, weight changes, psychological factors, changes in hormonal levels, and economic liability. While calculating the effectiveness of treatment, healthy life is mostly being used as an initial conclusion. (Bashir et al., 2017).

Cancer-Related Fatigue (CRF) is a common symptom of worry that is relatively more distressing than pain affecting the life quality. While management, the patients experiences 58% to 94% of CRF and after receiving chemotherapy treatment the CRF is 56%-95%. (Karthikeyan et al., 2012).

It is projected that more than 19% of the survivors of cancer of cervix suffer from bladder issues which are chronic in nature. Due to surgery done, weakening in pelvic floor muscles leads to bladder dysfunction. The common symptoms of bladder are both incontinence and difficulty in urination of the patient. It is well known that uncontrolled bladder function will impact significantly the Quality of Life. This is mostly related with impairment of work, sexual difficulties, isolation from the society, and anxiety and depression. (Egil Skjeldestad and Hagen, 2008).

Ninety percentage of patients with cervical cancer may have changes that are permanent in their bowel habits. Nearly about half of them stated that these symptoms had a negative impact on the life quality. 20-40% indicated that the impact on their life quality is moderate or severe. Symptoms may include mucus discharge, diarrhea, fecal incontinence, urgency, and rectal bleeding. Overgrowth of bacteria can be the reason for diarrhea or chronic lessening in bile salt absorption. Most commonly noted symptom is rectal bleeding which occurs in about 30-50% of women after treatment of pelvic radiation. Yet it produces less ache than other symptoms of bowel; only about a meagre percentage note a negative influence on life quality. (Andreyev et al., 2013).

There is very limited sexual activity in the women who have cancer of cervix. Major role is played by husband's fear, low sexual willingness, and cultural background in sexual activity. The cancer survivors experience more pain with penetration, sexual discomfort, and vaginal dryness. (Bashir, 2017). The common sexual problems are vaginal dryness, vaginal shortness, bleeding and reduced sexual pleasure and these are usually related with the treatment of radiation therapy. (Rai, 2014).

Complications of lymphadenectomy (Lymph node enlargement) for gynecologic malignancies found that 23.5% (4/17) women with cancer of cervix had lower leg lymphedema in an average of eight months after the surgery. Any complications that arise due to treatment which damages the lymph nodes would result in obstruction of the lymph vessels that can create lymphedema in the lower leg area. (Ferrandina et al., 2012.) Lower extremity lymphedema is noted to be combined with anxiety, depression, and low level of self-confidence, which produced a low quality of life. (Tiwari et al., 2013).

Many psychological factors including low self-esteem, changes in self-image, and beliefs about the origin of cancer, marital tensions, fears and worries can affect the cancer survivors. (Fernandes and Kimura, 2015).

Mood, disorders related to stress, and fear of relapse, structural damage are the major psychosocial problems that impacts the life quality in the patients survived from cancer of cervix. Acute stress disorder is the major side effect that is caused when the women are given high-dose rate brachytherapy and this amounts to about 30% in total and the others include disturbing memories, vegetative hyperarousal, and avoidance reaction. (Kirchheiner, 2014).

Ferrandina et al., (2012) found that body image has an impact on life quality with treatment given to cancer of cervix. However, it is noted that in the patients that have undergone radiation there is a change in physical structure that comes back within a year. On contrary, the fear of recurrence remained over a period of time. For personalizing treatment and providing better care, the study is very much an essential assessment. (Thapa et al., 2018).

Korfage et al., (2009) performed a survey to evaluate the life quality and level of anxiety. 291 cervical cancer survivors were selected for the survey. Study results revealed Quality of Life significantly improved over life time. Increased anxiety was more common

amongst the survivors. Upon comparison, the women who were in the immediate post treatment had increased anxiety levels than the women who had survived for more than five years. Also, the same trait was seen with regard to the structural image and sexual worry. The older patients who received only radiotherapy or combination with chemotherapy, had more symptoms, poor functioning level of vagina/sex, and a rise in the sexual worry.

Bartoces et al., (2009) performed a comparative analysis to find out the self-esteem and life quality between different types of patients who had cancer of cervix. About 145 samples were interviewed who were affected by two types of cancer. Study highlighted that self-esteem was related to one factor and not related with another factor. The study concluded that self-esteem with the factor related to the emotional issues indicated that it supported well the interventions for self-esteem would be more efficient if there is emotional support provided rather than physical support.

Wilailak et al., (2011) performed an analysis to compare the life quality between normal women and cancer patients. A total of two hundred women were involved totally each group comprising of hundred women respectively. The study results revealed that life quality of cervical cancer patients was worse than normal on the aspects of difficulty in breathing, sleep quality, loss of appetite, constipation economic issues and sexual function. Study concluded that life quality of patients who were recently detected with cancer of cervix was than that of the normal women.

Sekse et al., (2015) have conducted a survey to evaluate life quality of 120 women who had undergone treatment for over a time of 1-1/4 years. Upon comparison, fatigue was seen as highly prevalent among cancer patients which accounted for about two thirds. Depression and anxiety were also noted to be remarkably related to fatigue. Study results showed that fatigue was noted to be in majority percent women affected by depression and in nearly about eighty percent of women with anxiety. The patients who had fatigue also were noted to have increased levels of depression and anxiety than the patients who were not affected by fatigue. Younger patients had more fatigue than older patients.

Lee (2016) conducted a comparative study on the life quality and reproductive functionality among normal women and survivors of cancer. It was interesting to note that survivors in the experimental group who did not have any disease started to involve in sexual activity by 3 months' time. Women's life quality was measured with the standard

scales. Study results noted that there was no impairment in the normal sexual function in the survivors of cancer compared with the healthy women. It was concluded as lymphedema was noted to be a significant issue in the survivors.

Hemavathy and Julius (2016) performed a study to explore the life quality among women affected by cancer. It was concluded that the necessity to take suitable measures and to evaluate the life quality in a country like India is very much essential.

Bashir et al., (2017) performed a comparative study to find out the life quality of cervical cancer patients pre and post treatment in Jammu. Longitudinal design was adopted to evaluate the life quality of newly diagnosed patients. Results showed significant worsening of life quality after the treatment. Study concluded that life quality of women was worsening after cancer-focused management in all domains due to adverse effects of radiotherapy and chemotherapy.

Rahman et al., (2017) performed a research to find out the life quality in cancer of cervix pre and post management. Ninety patients in total were evaluated. The baseline observations were recorded during first time admission, second evaluation was done after 3 months and the third evaluation at 6 months after treatment. EORTC 30-scale and EORTC 24-scale were used as a tool. Reasonable amount of improvement was noted statistically in psychological function, physical, fatigue, pain, and symptoms of vagina of the participants. Only less improvement was noted in cognitive, social, or role functioning, sexual activity, or sexual enjoyment and body image. There was considerable worsening noted in the vaginal and sexual functions. Study concluded that the life quality of the patients in terms of physical ( $P= 0.04$ ) and emotional functioning ( $P= 0.001$ ) was good after management. Highly educated women and who were detected in the initial phase were noted to have good life quality.

Fadodun (2018) conducted an elaborative study on finding out the life quality in females diagnosed with cervical cancer. Study was focusing on providing more information on the influence of cervical cancer management had on the status of health of women. EORTC QLQ 30 and EORTC CX24 scales were applied. Results showed the level of functioning such as physical functioning (50.9%), emotional functioning (52.6%), cognitive functioning (64.9%), role functioning (29.8%) and social functioning (26.3%). Very few people had high level of role functioning and social functioning. Study

concluded that more importance should be given to specific domains of all level of functioning.

Singh et al (2019) had done an explorative study to find out the various aspects affecting life quality in cancer of cervix patients. About 85 patients were selected from King George medical Hospital; Lucknow. Prospective cohort study design was used. EORTC 30 scale and EORTC 24-scale were used to identify the factors. The study results showed the various factors affecting Quality of life were education, tobacco use, degree of differentiation of tumor, and size of tumor. These factors found to have statistically substantial effect on life quality of the survivors of cancer.

Health and life standards are constantly compromised for cervical cancer patients, those with poorer handling means, and those with less care. It is very much essential to detect the methods to open the door for survivors to improve standards of life. The sense of continuous healing and support need to be given to the patient, family, care takers and friends.

#### **E. INTERVENTIONS TO PROMOTE QUALITY OF LIFE AMONG WOMEN WITH CERVICAL CANCER**

There is a limited access to preventive measures for cervical cancer in developing countries, and is often not identified until it has further progressed and symptoms developed. Adding to this, access to management of such terminal stage disease may be very limited, that resulted in a higher rate of death. The mortality rate from cervical cancer is high globally at 6.9/100,000 and this can be lessened by effective interventions. (WHO, 2018).

Apart from the traditional indicators such as mortality and morbidity standard of life has become an important tool in measuring health status. Assessing QOL is potentially valuable in identifying patients' problems and addressing them in the existing health systems. Taking in to account the impact of early screening methods specific interventions will aid in increasing the survival of cancer patients. (Dahiya et al., 2019).

Along with the standard medical treatments corresponding therapies are used. This can supplement supportive and palliative care, including patients with cervical cancer and focuses primarily on reducing symptoms resulting from chemotherapy and radiation

treatments, improving Quality of Life (QoL) and function. (Ben-Arye et al., 2018). Complementary therapies may include acupuncture, meditation, relaxation therapy, gentle exercise, music or art therapy, guided imagery, massage, dietary therapies, aromatherapy, and support group programs. (Cancer Australia, 2019).

In the present study the following specific therapies are selected as interventions and implemented to promote better quality of life among women with cancer of cervix. The interventions are 1. Multi-dimensional exercises, 2. Dietary management, 3. Progressive muscle relaxation therapy, 4. Guided imagery and 5. Family focused interventions.

### **1. Multi-Dimensional Exercises**

The unfavorable side effects caused by treating cancer include fatigue, pain, diminished strength, muscle wasting, decreased lung capacity, and lessened stretch of movement. In approximately 90% of women, six months after diagnosis of cervical cancer manifest minimum one unfavorable side effect caused by treating the cancer, and about sixty percent experience various delayed effects which influence the management, life quality, and ultimately their chances of survival. (Fontoura et al., 2013).

Approximately 56% of patients with cancer who experienced fatigue have a reduced quality of life in terms of their ability to work (thirty seven percent), to enjoy life (thirty percent) and affect their life (thirty percent). Fatigue in patients with cancer undergoing chemotherapy affects their physical (56%) finding difficulty doing their jobs, fifty six percent have problems with climbing the stairs, and sixty nine percent with difficulty walking long distances), psychosocial (fifty nine percent socializing with friends is difficult and thirty percent difficult in normal sexual intercourse); and in economic aspects (seventy one percent loss of one or two working days a week, 31% loss all of their time doing their job and 28% resigned from job). (Mulhaeriah, 2018).

Fatigue is a subjective symptom that is uncomfortable and characterized by lack of energy and an increased need for rest. Fatigue directs to cognitive impairment and physical, social and mood changes that affect the Patients' Quality of Life. (Yarbro, 2011).

Pharmacological therapy is not sufficiently effective in managing fatigue in patients with cancer, and a combination of pharmacological and non-pharmacological therapy is necessary. Many studies intended to assuage fatigue in patients with cancer by

using physical exercise and relaxation methods, including relaxation/breathing exercises. (Wanchai et al., 2011).

Physical training is an intervention which increases strength, flexibility, cardio respiratory fitness, decreases fatigue, nausea, and vomiting. It also helps to reduce anxiety, stress, depression, and sleep disorders. It adds in better responses to body image, treatment mood, and body mass maintenance which will aid in improving the life quality. (Hayes et al., 2013).

Exercises help in graceful movement in which muscle contraction and assistance are combined and limited by free range alongside the resistance of limiting structure is mostly effective in rising the range. (Hayes et al., 2013).

Adamsen et al., (2006) performed a study to assess the impact of a Multidimensional exercise focusing on physical capacity, general well-being, activity level, and quality of life in cancer patients who undergo chemotherapy. The intervention comprised of fitness training, resistance, relaxation, massaging, and body-awareness exercises. Standard scales for measuring life quality were utilized. Highly noteworthy increases were obtained in body fitness, muscular strength, and physical activity levels. The patients stated reasonable decrease in symptoms related to management of pain and fatigue. Notable improvements were seen in role and physical functioning. There were improved results noted in patients who had advanced stage of disease. Study concluded that a multidimensional exercise intervention may be beneficial for cancer patients in reducing pain and fatigue.

Relaxation techniques include mental or physical exercises to reduce the tension in the muscles and to lessen the psychological strain. These kind of relaxation responses reduces the tension which can aggravate the pain and may also offer a brief cause of distraction. For management of pain relaxation, coughing and deep breathing exercises are most usually suggested. (Kwekkeboom et al., 2018).

## **2. Dietary Management**

Nutrition and Diet are decisive aspects all through the life path in the advancement and development of good health. The noteworthy part is, adjustments made in nutrition may not only have an impact on present health, but also decide if an individual will or will

not develop chronic non-communicable diseases like cancer. A significant perception regarding nutritional aspects in management of cancer is that of dietary arrangements, status of nutrition, choices of food. It can be improvised with various approaches and behavioral methods. (Patel et al., 2018).

Patients who positively seek nutrition information from various sources have improved in nutrition. This aspiration to engage in healthy behaviors may be particularly salient if the patients are aware of the risk recurrence of the disease. A diet which contains high amounts of vegetables and fruits may confer protective benefits. (Kark et al., 2012).

Malnutrition is common among cancer patients and little attention is paid to its risks and results. Moreover, undernourishment will influence the disease progressiveness and also increase the probability of death. Finding out initially about the nutritional needs would give a change for intervening quickly and can avoid issues in the future. Most of the cancer patients are nutritionally at risk. Mainly they suffer from undernourishment of protein due to the high levels of basal energy necessities triggered by the disease and decreased oral intake of food. (Gyungah et al., 2010).

Malnutrition may occur in cancer patients due to modification in smell and taste senses. This is mainly due to the effect the therapy has on rapidly growing cells such as the taste receptors. In a study completed on the patients affected by cancer it is noted that high mortality rates and weight loss have an association. (Sánchez-Lara et al., 2010).

Chemotherapy is connected with multiple levels of chronic and acute toxicities such as sensation of vomiting, headache, and alteration of sensitivity. These toxicities make way to lessened status of nutrition, morbidity, increased mortality related to management, and lessened life quality. The status of nutrition is also altered by the changes in metabolism that are inflicted by the tumor. This leads to the anorexia, anemia and weight loss which is the pathogenesis of cancer cachexia (Meiji et al., 2010).

Lee et al (2016) performed a study to observe the diet related problems and needs associated with nutritional care according to stages of survival in cancer survivors. One hundred and eighty-six out patients were selected as samples. Samples were classified as 2-5 years and more than 5 years from diagnosis. Changes in health-related factors, eating factors, nutritional needs, and life quality were assessed. Study reveals that in 2-5 years of survivors, 43% had diet related problems, 50% had taste change, and 34.5% had reduced body weight. The common problems were reduced consumption, dyspepsia and lessened

life quality. Among more than 5 years of survivors reported loss of appetite, nausea and vomiting. They had showed increased preference for vegetables. Ninety percent of survivors claimed nutritional care concerning regulated foods and stopping recurrence. Study concluded that majority of them have demanded nutritional attention regardless of stage of survival. These qualities of each stage should be measured to improvise their health.

### **3. Progressive Muscle Relaxation and Guided Imagery**

Cancer and the therapies have been clearly measured as sources of depression and anxiety for patients. It was found that fifty five percent of them stated at least little levels of depression and sixty four percent stated at least mild levels of anxiety. Individuals with depression and anxiety have more disability, lower social functioning, and greater overall weakening in function. Worried emotional states mostly created further problems like fatigue, sleep difficulties and pain. Behaviour changes can be induced by depression and anxiety and they can influence management by reducing the motivational level, reducing the abilities of coping, and impairing cognition, and standard of life. (Salvo et al., 2016).

To get an improved sense of control over stressful indications and side-effects of cancer different psychological treatments and counseling help them. Such treatments include cognitive restructuring, progressive muscle relaxation (PMR), basic hypnotherapy, art and music therapy, and guided imagery (GI). For majority interferences including PMR and GI, researchers have produced diversified indication for their efficacy in managing depression and anxiety. (Andreas et al., 2015).

Guided imagery and relaxation are the methods of comforting that includes relaxing and tightening different portions of the body from head to feet. Listening to tapes used to aid with control, achieve quietness, and reduced stress levels are the parts of guided imagery. They may influence the symptoms of cancer such as depression, pain, anxiety and life quality. (Ramondetta, 2015).

Progressive muscle relaxation (PMR) is a method of deep muscle relaxation which is non-pharmacological. Psychological response is aroused to anxiety-preventing thoughts and anxiety is blocked. Here one should learn how to observe the tension in particular groups of muscle by tightening every muscle group at first. Then the tightening of muscle is loosened and at this point the focus is diverted to feel about the relaxation process and tightening. (Wikipedia, 2019).

Guided imagery is called as picturization. Here an individual envisages sounds, pictures, smells, and various sensations related with achievement of an objective. This imagination could trigger the senses, and creates a psychological or physical impact. Here patients may dream that they are on a mountain or on a beach and trigger relaxation and deviate from anxiety, fear, and pain or they may also dream the stress and direct that image so that the stress instance can be altered. (Breast Cancer Org, 2018).

Andreas et al., (2015) performed a study to evaluate the efficacy of guided imagery (GI) and progressive muscle relaxation (PMR) as a method of reducing stress in patients with breast and prostate cancers who underwent chemo treatment. Results highlighted that the amounts of cortisol of the experimental group before intervention lessened up slowly until third week, whereas the amounts of cortisol of the control group slowly increased until third week. Also, the amounts of amylase had similar interface. The study concluded patients affected by breast and prostate cancers who are having chemotherapy management can have assistance from GI and PMR sittings to decrease depression and anxiety.

Kwekkeboom (2016) performed a study to evaluate the patient's views of the efficacy of Guided Imagery and Progressive Muscle Relaxation interventions that were utilized for relieving pain from cancer and explore ideas of the patient related to aspects that had an impact on the intervention. Cross over design was used in which 40 patients in the hospital with pain related to cancer were used as a sample. Guided imagery was used for 15 minutes and PMR, for 12 minutes. Pain numerical scale was utilized to evaluate pain level. Study results revealed, most of them perceived interventions worked for their pain and, stated that they had a remarkable change in pain with interventions. In conclusion, the above evidence can be used by the health care providers to aid patients in selectin of particular intellectual related methods and convert their substance to be most applicable in management of patient's pain.

Da Silva Filho et al (2017) performed an analysis to identify the effect of mindfulness therapy to reduce the distress and improvise the general well-being of women with cervical cancer who underwent chemo radiation therapy. It was conducted among 60 patients with cancer of cervix. The analysis revealed the patients who followed MBS techniques had a better life quality than the patients in control group. Study concluded that

a 7-week MBS program may reduce the salivary cortisol, and also can increase the general wellbeing and life standards.

Kaur et al (2018) assessed the efficacy of interventional package on the level of depression, anxiety and fatigue. The study location was Chandigarh. A total of 60 patients receiving radiotherapy/chemotherapy were allotted in two groups of 30 each. Jacobson's Progressive muscle relaxation technique, counseling and home care techniques used as interventions. The results showed that the interventional package remarkably decreases depression, anxiety and fatigue in experimental group. The study concluded that this method proved to be an applicable method in decreasing the depression, anxiety and fatigue.

#### **4. Family Focused Interventions**

Gynecological cancers and the management methods can have a substantial influence on patients' emotional, social, physical, and sexual well-being. To enhance the Quality of Life of the patients, an active role should be played by the healthcare professionals, family and friends to tackle these multifaceted needs of patients by the way of providing interventions that employ a comprehensive and coordinated approach that is personalized to cater the patient's individual necessities. (Muliira et al., 2016).

The family caregivers along with the cancer patients respond to cancer as one sensitive order. It affects their physical and social well-being in relation to nature of illness, disease prognosis, sexual well-being, financial demands, changing the roles in family and changing the responsibilities.

Members of the family, as cancer co survivors, must be able to organize their significant stress and various other care taking functions and most of the time create a significant link between clinicians and patients. A complete and systematic methodology in public well-being is needed to aid the members of family who have to overcome the long-term situations like cancer and have to take care the corresponding tasks and stressors that they face in the daily life. (Niemela et al., 2016).

A corresponding study was done by Muliira et al., (2016) to identify the interventions to improve the life quality of gynecologically malignant patients by improvising their psychological, social, physical, and sexual well-being. The treatments were given in the form of peer support, nurse-led support, functional social support, psychosexual, psycho education, psychosocial interventions and customized teaching

program for symptomatic relief to patient and family. Study revealed that interventions had significant effect in life quality and specific intermediations might be utilized as a multidimensional method that is created to meet individual needs of patients and enrich their life quality.

Dahiya et al., (2019) assessed the influence of interventional package on life quality of patients with progressive cervical cancer pre and post chemotherapy in AIIMS, Delhi. Study was conducted among 67 newly diagnosed stages II to IV patients. Interventions were given for 6 months and the post test conducted. The study results revealed improvement in overall functioning significantly post therapy. Study concluded that for further improvement in life quality, interferences needed to improve psychosocial well-being.

The family health and health of community revolve around the women's health. It is very essential to know about how to deal with life quality of women so that to go forward towards a healthier and optimistic future; this aspect is developing into an essential component day by day. All of the aspects such as emotional, social, physical and psychological welfare come together in improving the life quality. Enough time is taken by women for maintenance of good quality of health. In reality, if focused on a precedence, the diseases that affect the women's life quality can be avoided.