



## QUALITY OF LIFE ASSESSMENT IN ADULT CANCER PATIENTS – A SURVEY

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### Abstract:

**Aim:** The aim of this study was to conduct a questionnaire based interview to assess the quality of life of adult cancer patients based on general and cancer specific issues and analyze the significance of duration since diagnosis and type of cancer.

**Back Ground:** World Health Organization (WHO) defined quality of life (QoL) as individual perception of life, values, objectives, standards and interests in the framework of culture. An optimum management of cancer patients can be done by using accurate quality of life information. Many clinical trials have been conducted to show that it is important to take into account quality of life issues to make decisions regarding initiating treatment and make choices between alternative treatments.

**Materials & Methods:** A total of 41 cancer patients (23 females and 18 males) of age 25-70 years, being treated at Saveetha Dental College, Chennai were included in the study. The details of the patient such as age, gender, type of cancer, years since diagnosis and treatment were recorded. A questionnaire was prepared and comprised of 20 questions under two categories: general questions and cancer specific questions. The general questions were answered in a yes/no format whereas the response to specific questions was graded on a scale from 1-4 (1-never, 2-sometimes, 3-frequently, 4-always) based on the frequency of the problem they faced. The data obtained was tabulated and a statistical analysis was done to obtain the results.

**Results:** From this study, it can be concluded that the quality of life of patients significantly improved as duration of treatment progressed. Patients with carcinoma of buccal mucosa, breast cancer, gynaecological cancer and cancer in head and neck region gave a favorable response for general questions as compared to those with carcinoma of lung and spine. There was no significant variation in specific questions between the types of cancer. However, more significant results may be obtained by increasing the sample size of the study.

**Key Words:** Cancer, Chemotherapy, Quality of Life, Radiotherapy & Treatment

### Introduction:

Cancer has now become a burden on the society by claiming the lives of millions across the world. Statistical analysis conducted by the National Cancer Institute reported that there have been 5 million deaths in the US due to cancer since 1990. Researchers across the world have made several attempts to increase the success rate of treatment and thus ensure better survival outcomes. While first priority in the treatment of cancer must be given to tumor control, it is increasingly recognized that effective management of patient should include techniques to maximize patient's sense of well being or quality of life <sup>[1]</sup>. The quality of life is majorly determined by the disease, treatment and the need to minimize physical and emotional suffering of the patient <sup>[2]</sup>. With improved early detection and treatment, large number of cancer patients are now surviving many years post diagnosis which has led to an increased interest in the quality of life of such patients. World Health Organization (WHO) defined quality of life (QoL) as individual perception of life, values, objectives, standards and interests in the framework of culture <sup>[3]</sup>. Cancer can produce subtle and serious symptoms which are determined by type and stage of cancer, time since diagnosis, patient acceptance, intensity of disease and the level of psychological distress experienced by caregivers <sup>[4]</sup>. Patients often use their quality of life as a measure of the success of the treatment and overlook the more important criteria such as their vitals, lipoprotein level, echocardiogram, etc. The main problems of long term cancer survivors are in the areas of social/emotional support, health habits, spiritual/philosophical view of life and body image concerns <sup>[5]</sup>. However, some patients also take a positive lesson from the treatment as it enables them to cope better with stress and gives them a better sense of their priorities in life. An optimum management of cancer patients can be done by using accurate quality of life information. Many clinical trials have been conducted to show that it is important to take into account quality of life issues to make decisions regarding initiating treatment and make choices between alternative treatments <sup>[6]</sup>. Two types of QoL assessment are done: general QoL instruments to measure the overall impact on patient's health status and cancer specific instruments assess the impact of a specific cancer on QoL <sup>[7]</sup>. Despite its importance, there is currently little reliable information available regarding impact of cancer and treatment upon the quality of life. This failure of inclusion may be due to the difficulty in measuring the

subjective symptoms with some degree of accuracy and dependability. However, in recent years extensive research has been done to develop quality of life measures that will be widely accepted and used. Some of these cancer specific QoL measures include Functional Adjustment to Cancer Therapy (FACT) [8], Functional Living Index-Cancer (FLIC) [9] and Cancer Rehabilitation Evaluation System (CaRES) [10]. These scales measure the physical, psychological, social and spiritual. It has also been reported that the type of treatment, whether it is radiotherapy, chemotherapy or surgical intervention also has an impact on the quality of life. The aim of this study was to conduct a questionnaire based interview to assess the quality of life of adult cancer patients based on general and cancer specific issues and analyze the significance of duration since diagnosis and type of cancer.

**Materials and Methods:**

A total of 41 cancer patients (23 females and 18 males) of age 25-70 years, being treated at Saveetha Dental College, Chennai were included in the study. The details of the patient such as age, gender, type of cancer, years since diagnosis and treatment were recorded. A questionnaire was prepared based on an earlier study [11] and comprised of 20 questions under two categories: general questions and cancer specific questions. The following domains were assessed under the two sections:

- ✓ General questions: Positive feelings, negative feelings, cognitive abilities, pain and social acceptance.
- ✓ Specific questions: Benefits, distress, financial difficulties, appearance and change in attitude of people towards them.

The general questions were answered in a yes/no format whereas the response to specific questions was graded on a scale from 1-4 (1-never, 2-sometimes, 3-frequently, 4-always) based on the frequency of the problem they faced. The data obtained was tabulated and a statistical analysis was done to obtain the results.

**Results:**

The analysis revealed that the percentage distribution of different types of cancers among the 41 patients (23 females and 18 males) aged 25-70 years was as follows: breast cancer (14.6%), carcinoma of tongue (14.6%), cancer in neck region (12.2%), carcinoma of buccal mucosa (24.4%), gynecological cancer (17.1%), cancers in the other oral sites (12.2%), lung cancer (0.02%) and carcinoma of spine (0.02%). Further comparison of responses was made based on type of cancer and based on duration of treatment. The treatment duration was divided into three groups: group 1:1-6 months, group2: 6 months-1 year and group 3: more than 1 year.

**Based on Type of Cancer:**

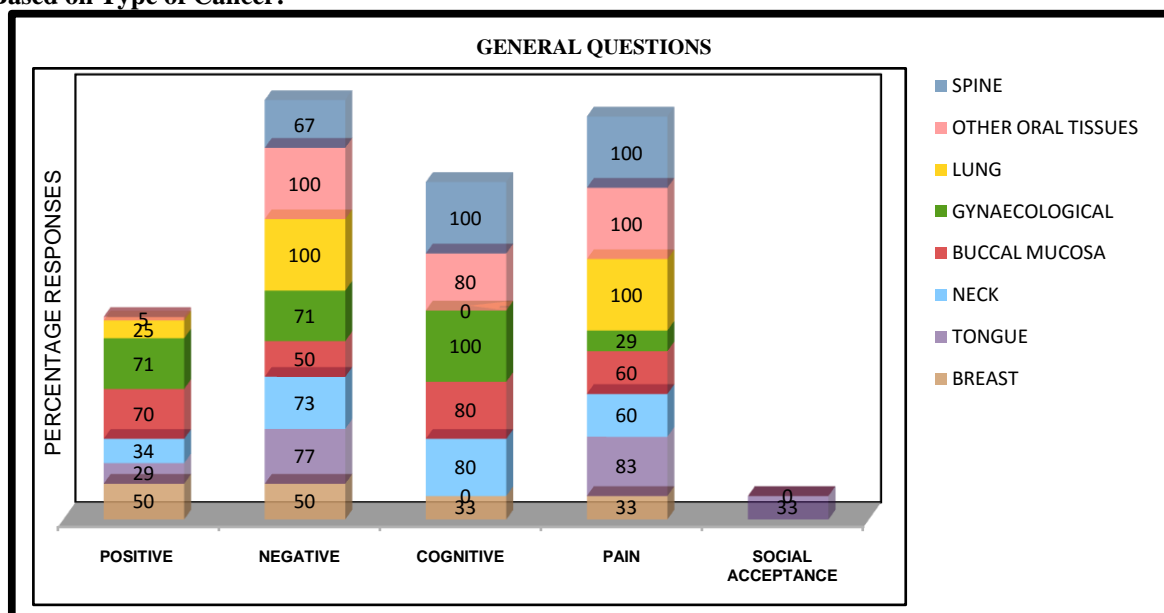


Figure 1: Percentage response for the general questions based on the type of cancer

The analysis of the general questions based on the type of cancer gives the following result:

- ✓ Positive feelings were reported in 70% of buccal mucosa carcinomas, 50% of breast cancers, 35% of oropharyngeal and laryngeal carcinomas, 32% of gynaecological cancer, 29% of tongue cancers, 25% of lung cancer and 5% of patients with cancer in other oral sites like submandibular region.
- ✓ Negative feelings were reported in all patients with lung cancer and carcinoma in other oral sites, 67% of carcinoma of spine, 77% of tongue cancer, 73% of pharyngeal and laryngeal cancers, 71% of gynecological cancers, 50% of breast cancer and carcinoma of buccal mucosa.
- ✓ Cognitive abilities were affected in all carcinoma of spine patients, 80% of lung cancers, 71% of gynecological cancer, 20% of pharyngeal and laryngeal cancers and 17% of breast cancers.

- ✓ Pain was a primary complaint in all patients diagnosed with gynaecological cancer, lung cancer, carcinoma of spine and carcinoma in other oral sites. 83% of tongue cancer patients and 80% of patients with Ca of buccal mucosa and pharynx and larynx, 33% of breast cancer patients reported with pain.
- ✓ The desire to attend social gatherings was seen in 60% of Ca of buccal mucosa and other oral sites, 33% of patients with carcinoma of tongue and breast cancer and 29% of gynecological cancer patients.

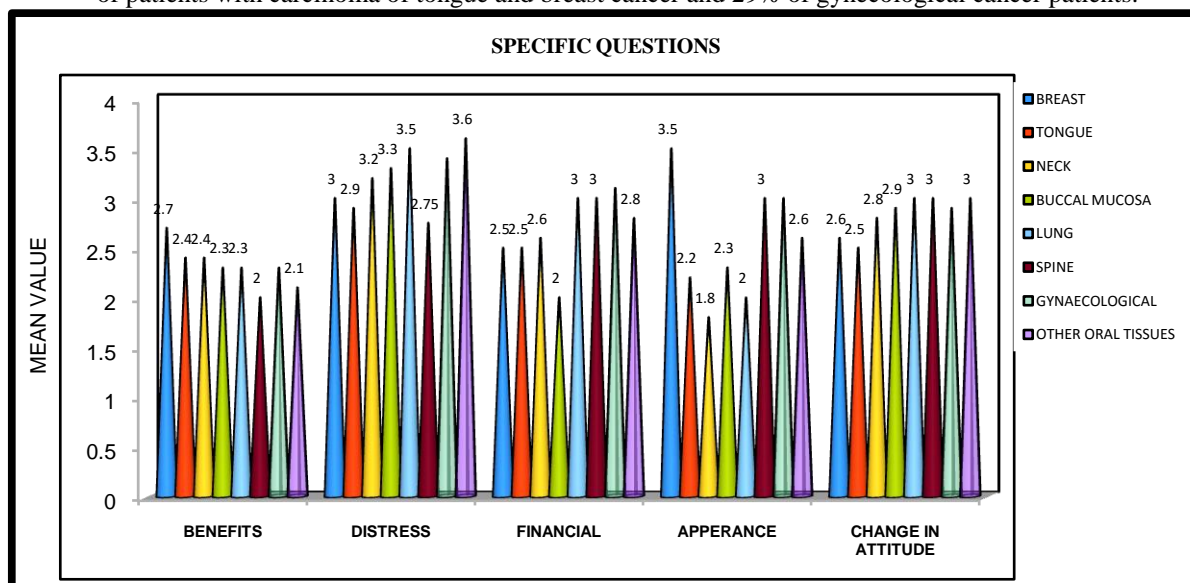
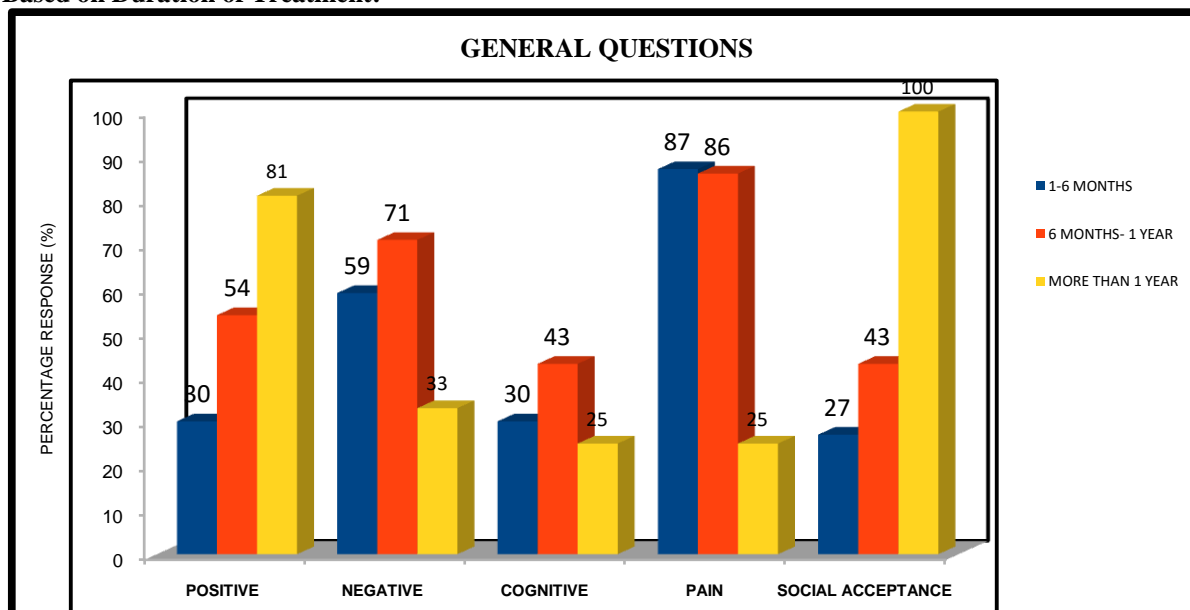


Figure 2: Mean value of response obtained for specific questions based on type of cancer

The following results can be interpreted from figure 2:

- ✓ The mean score of the benefits acquired after initiation of treatment was found to range between 2-3 for the different types of cancers which shows that the patients only sometimes or frequently felt that they had gained some benefits from the treatment.
- ✓ The mean score for distress was highest in carcinoma of oral tissues (3.6) followed by lung cancer (3.5), gynecological cancer (3.39), Ca of buccal mucosa (3.27) and carcinoma of tongue (2.91).
- ✓ The financial stability was affected almost equally in all the types of cancers with the score ranging between 2-3.
- ✓ Appearance was found to be affected most in breast cancer patients (3.5) and least in carcinoma of oropharynx and larynx (1.8).
- ✓ All the patients found a frequent change in attitude of people towards them with mean score nearing 3.

**Based on Duration of Treatment:**



The following results were obtained after the analysis of general questions based on duration of treatment (Figure 3):

- ✓ Positive feelings were reported in 81% of patients undergoing treatment for more than 1 year followed by 54% patients in 6 months-1 year category and 30% of patients undergoing treatment for past 1-6 months.
- ✓ 71% patients in group 2, 59% patients in group 1 and 33% patients in group 3 reported negative feelings after treatment.
- ✓ Cognitive abilities were affected in 43% of group 2 patients, 30% of group 1 patients and 25% of group 3 patients.
- ✓ Pain was reported in 87% and 86% of group 1 and group 2 patients and only in 25% of group 3 patients.
- ✓ All the patients in group 3 were willing to attend social gathering and meet new people whereas only 43% of group 2 and 27% of group 1 patients were willing for the same.

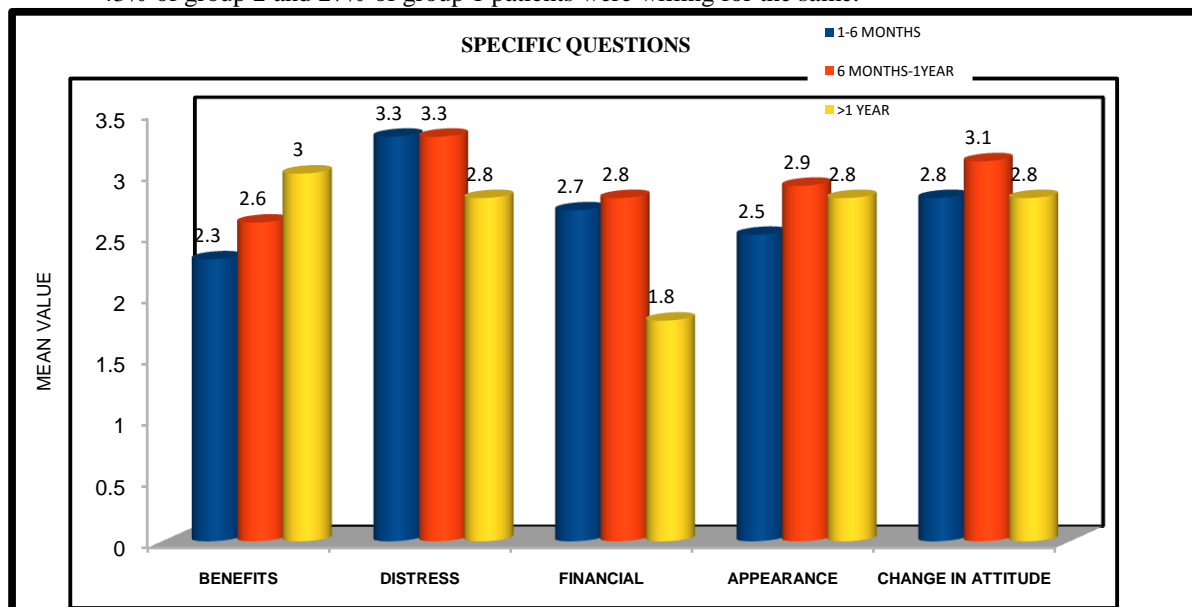


Figure 4: Mean value of response obtained for specific questions based on duration of treatment  
 Analysis of specific questions based on duration of treatment (Fig 4) gave the following results:

- ✓ The mean score for beneficial outcome of treatment was 2.83 in group 3, 2.52 in group 2 and 2.25 in group 1.
- ✓ Distress was felt most frequently in patients in group 1 (3.28), followed by group 2 (3.25) and group 3 (2.81).
- ✓ Financial instability was reported frequently in group 1 (2.63) and group 2 (2.71) and only sometimes in group 3 (1.75).
- ✓ Issues regarding appearance were frequently faced by patients in group 2 (2.85) and group 3 (2.75) and slightly less common in group 1 (2.46).
- ✓ Patients undergoing treatment from 6 months-1 year felt the maximum change in attitude of people towards them whereas the mean score for group 1 and 3 patients was similar.

**Discussion:**

A questionnaire based survey was done to assess the quality of life of 41 adult cancer patients. The general questions were divided into 5 domains: positive feelings, negative feelings, cognitive abilities, pain and social acceptance. The positive feelings of the patient post-treatment assessed whether the patient had the energy to carry out everyday activities, whether they were content and happy with life and if they felt that they could enjoy their future. Negative feelings included symptoms of fatigue, depression and anxiety. The patient was asked if cognitive abilities such as memory were affected and whether they felt any kind of physical pain. The patient’s desire to attend social gathering and meet new people was used to determine their social acceptance status. The specific questions were also divided into 5 domains: benefits, distress, financial stability, appearance and change in attitude. Patient’s ability to appreciate and prioritize things in life and ability to cope with stress were included as benefits acquired after treatment. The patient were asked if they were distressed about dying of cancer, recurrence of cancer and whether they worried about their family members being diagnosed with cancer. From the statistical analysis of general questions based on type of cancer, it is evident that the positive feelings were maximum and negative feelings were least in patients undergoing treatment treatment for carcinoma of buccal mucosa. Unfavorable results were seen in patients suffering from lung cancer, carcinoma of tongue, carcinoma of spine and cancer involving other oral tissues. Cognitive abilities were affected the most in carcinoma of spine. Pain was a major contributing factor in diminishing the quality of life in all types of cancers. Social acceptance was found to be better in patients with carcinoma of buccal mucosa. A study about quality of

life done by Avis et al <sup>[11]</sup> reported that patients with prostate cancer had fewer problems compared to other types of cancer. Social avoidance was highest for head and neck cancers and bladder cancer. This maybe due to the fact that these cancers have socially observable effects which leads to social awkwardness.

The analysis of specific questions did not give significant results based on type of cancer. It was found that all the cancers had approximately similar mean scores and that type of cancer did not majorly affect quality of life. However, the study conducted by Avis et al [11] reported significant differences across cancer specific summary score which highlights the importance of using these measures in assessing quality of life in long term cancer survivors.

The next comparison was made based on duration of treatment. The analysis of general domains revealed that the positive feelings significantly increased and negative feelings drastically decreased in patients undergoing treatment for more than 1 year. It was evident that favorable outcomes were obtained as duration of treatment increased. Cognitive abilities were least affected, physical pain was reduced and desire to attend social gatherings increased. This maybe due to the fact that the perception of patients towards their diagnosis and treatment improves as the duration increases. Patients developed a more positive attitude towards treatment as it gave them a hope for survival and overcoming their difficulties. Ahles et al <sup>[12]</sup> conducted a study on long term survivors of breast cancer and lymphoma undergoing chemotherapy and reported that the quality of life of patients undergoing treatment for more than 5 years had a better quality of life.

Favorable results were obtained in the cancer specific analysis for patients undergoing treatment for more than 1 year. The patients frequently felt that the treatment had instilled in them the ability to appreciate life and cope with any form of stress. They were also less distressed about concerns associated with cancer when compared to those patients who had begun treatment recently. The patients also understood the significance of getting the optimum and built a positive approach towards it. Financial instability was reported as a major concern in patients who had been undergoing treatment for pat 1-6 months. However, it was observed that there was no improvement in issues related to their appearance as treatment progressed and the patients continued to find a change in attitude of people towards them.

Some of the recent studies have reported that the type of treatment also has a significant influence on the quality of life. Ahles et al <sup>[12]</sup> reported that survivors who had been treated with systemic chemotherapy scored significantly lower on overall QoL compared with survivors who received local therapy only ( $p=0.04$ ). Heydarnejad et al <sup>[4]</sup> conducted a study in 200 cancer patients undergoing varying intensities of chemotherapy. He reported a significant relationship between type of cancer, pain intensity and fatigue with quality of life. He also reported that patients (68%) who had completed 3 or more cycles of CT had a fairly favorable or favorable quality of life. From their study it could also be concluded that there was no correlation between extent of disease and QoL. Contrasting results were reported by Rustoen <sup>[13]</sup> and Holzner <sup>[14]</sup> who showed that quality of life decreased with an increase in extent of the disease. However, no such analysis was made in the current study.

#### **Conclusion:**

From this study, it can be concluded that the quality of life of patients significantly improved as duration of treatment progressed. Patients with carcinoma of buccal mucosa, breast cancer, gynaecological cancer and cancer in head and neck region gave a favorable response for general questions as compared to those with carcinoma of lung and spine. There was no significant variation in specific questions between the types of cancer. However, more significant results may be obtained by increasing the sample size of the study.

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#### **Appendix:**

#### **Quality of Life Assessment in Adult Cancer Patients: A Survey**

Years since Diagnosis:

Type of Cancer:

Treatment:

#### **General Questions:**

Q1) Positive Feelings

Do you have the energy to carry out day to day activities?

- ✓ Do you think that you can enjoy your life?
- ✓ Are you content with your life?
- ✓ How happy are you on a scale of 1-10?

Q2) Negative Feelings

- ✓ Do you constantly feel tired and fatigued?
- ✓ Are you depressed and worried about life?
- ✓ Do you feel anxious?

Q3) Cognitive Feelings: Do you find it difficult to remember things?

Q4) Physical Pain: Are you bothered by pain that refrains you from doing daily activities?

Q5) Social Avoidance: Do you wish to meet new people and attend social gatherings?

#### **Specific Questions:**

Q1) Benefits:

- ✓ Do you appreciate your life more after being diagnosed and treated for cancer?
- ✓ Do you think that you now recognise what is important in your life?
- ✓ Do you find it easier to cope with stress and problems in your life?

Q2) Distress:

- ✓ Do you constantly worry about dying of cancer?
- ✓ Are you constantly preoccupied with concerns about cancer?
- ✓ Do you worry that the cancer can occur again whenever you feel any kind of pain?
- ✓ Do you worry that your family members are at a risk of getting cancer?

Q3) Financial: Do you feel that cancer has affected your financial stability?

Q4) Appearance: Are you conscious about the way you look because of cancer and it's treatment?

Q5) Change in Attitude: Do you find a change in the attitude of others towards you?