



Body image distress among cancer patients: needs for psychosocial intervention development

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Abstract

Objectives This study examines the body image distress among patients with head and neck cancer (HNC) visiting a tertiary care hospital for follow-ups.

Design A cross-sectional survey purposively enrolled 170 head and neck cancer (HNC) patients who had undergone cancer surgery at a newly established tertiary care hospital, North India.

Methods A structured pre-tested socio-demographic and clinical profile checklist and the Derriford Appearance Scale-24 (DAS-24) were used to collect information. An appropriate descriptive and inferential statistic was applied to compute the findings.

Results The median age of the participants was 46.0 years, and 80% of the participants were unemployed. The mean body image distress score was 57.95 ($SD = 10.3$, 47–66.75, range 42–77). The body image distress shows a significant association with age ($p < .001$), gender ($p = 0.003$), and working status ($p = 0.032$) of the HNC patients. Multilinear regression reported gender as an independent predictor (95% CI : 0.615–8.646, $p = 0.025$) for body image distress in HNC patients.

Conclusions HNC patients reported substantial body image distress due to changes in body appearance. Female patients who had undergone surgery at young age reported higher body image distress. Recommending cosmetic surgery and nurse-led psychosocial nursing intervention on routine follow-ups are other potential strategies to improve facial appearance to overcome the negative impact of body image.

Keywords Body image · Head and neck neoplasm · Appearance · Distress

Introduction

Head and neck squamous cell carcinoma (HNC) is the sixth most common cancer worldwide and accounts for 30–40% of all cancer in India [1, 2]. Mouth and tongue cancers are more common in India, with a higher incidence in the North-East region [1]. However, extensive use of tobacco, pan masala,

and gutkha is common and may be linked to the higher incidence of HNC in the geographical area [3].

HNC patients undergo long, physically demanding, and multimodal treatment approaches, including surgery, radiotherapy, and chemotherapy or a combination [1]. These treatment modalities result in significant alterations and debilitating changes in the body involving loss of a body part, disfigurement, scars development, and skin changes, leading to overall disturbed body image [4]. Unlike other forms of cancer, the disfigurement after surgical excision for HNC cannot be hidden and can enormously influence the individual's identity [5, 6]. Surgical treatment can distort normal symmetry and landmarks of the skin and lead to psychological distress among patients [6]. Likewise, radiotherapy may cause fibrosis, swelling, and changes in skin pigmentation and may disrupt normal skin integrity and tone [7].

Furthermore, a person's identity is an intricate construction that extends beyond their physical appearance. Body

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image is a similar yet multifaceted concept encompassing perceptions, thoughts, feelings, and behaviors associated with the whole body and its different domains [7]. It has been described as a subjective perception of one's insight regarding own body, based on self-interpretation and reactions to the judgment of others, with associated features such as identification, imitation, social factors, and emotional expression [8]. A visible disfigurement and functional impairment in the typical appearance of the body leads to a substantial negative impact on one's psychological health, referred to as body image distress [9]. Additionally, body image distress denotes perceived physical anomaly such as obsessively examining oneself in the mirror, grooming to hide or fix the perceived flaw, and seeking reassurance from others about their appearance without satisfaction [10]. According to the cognitive-behavioral model, body image is the notion of satisfaction and dissatisfaction with one's body in terms of appearance investment and self-evaluation, where appearance investment refers to an individual's view of the significance of look, and physical attributes and self-evaluation indicate the degree to which an individual is satisfied with her appearance [11].

Body image distress in HNC patients refers to an individual's identity as a by-product of their social and psychological experiences shaped by their impressions and sense of the bodily appearance every day [12]. The evidence suggests that 75% of patients face innumerable problems related to acknowledgment and embarrassment about unwanted physical changes and body image, which further evoke painful experiences and constantly remind of body disfigurement [13]. Furthermore, body image distress is common in HNC patients, with prevalence rates ranging from 25 to 77% [14]. However, the prevalence of body image distress found varies in oral and oropharyngeal cancer [15]. It may be linked with relationship conflict, social isolation, damage to self-image, disfigurement, stress, and moderate levels of anxiety and depression experienced by an individual [15, 16].

However, the extent of body image distress experienced after different treatment modalities is poorly understood and negatively impacts patients' daily functioning and psychosocial health [17]. Clearly, further research is needed to address the concern and issues related to the impact of body image distress on health-related quality of life and psychological status as a part of treatment in head and neck cancer (HNC).

The first aim of the present investigation is to study the body image distress among HNC patients and whether socio-demographic and clinical factors are associated with body image distress. The present study's findings will develop more insight into other body image-associated issues, facilitating emotional needs targeting HNC patients with body image distress.

Material and methods

A cross-sectional survey design was used to understand the body image distress among HNC patients who underwent surgery at one of the tertiary care hospitals, North India. All India Institute of Medical Sciences, Rishikesh, Uttarakhand, is among the six-apex healthcare institutes established under the Ministry of Health and Family Welfare (MOHFW), India, to correct regional imbalances in health care services across the country. It is a tertiary care institute with a 1000-bed hospital to provide multispecialty health care services to the underserved population. Other specialized services to oncology patients are catered by hematology, medical oncology, radiation, surgical oncology, and integrated breast care center (IBCC).

HNC patients who had undergone surgery with 6 weeks of follow-up were purposively recruited in the study. A sample size considering 75% expected prevalence and 5% margin of error was used to calculate the survey and was 288 [18]. However, the study sample size was limited to 170, considering restriction and decreased patients' load during the second wave of the COVID-19 pandemic. The data collection was completed between Dec 18, 2020, to Jan 18, 2021. Patients equal to or more than 18 to 65 years of age and converse in Hindi and English languages are included in the study. Patients with other malignancies and unwilling to be part of the study were excluded from the study.

Self-reported questionnaires

The data collection tools consisted of a clinical and socio-demographic sheet, and Derriford Appearance Scale (DSA-24) is used to measure body image distress among HNC patients.

Socio-demographic and clinical profile sheet consists of information on age, gender, religion, working status, marital status, family type, education, residential area, and monthly income. Furthermore, a brief clinical profile was obtained using a pre-tested clinical profile sheet consist information on the duration of cancer, tumor site, types of surgery and treatment, comorbidities, and history and time of alcohol and tobacco use.

The Derriford Appearance Scale 24 (DAS-24) [19] is a 24 items short form of the Derriford Appearance Scale 59 (DAS-59) psychometric scale designed to measure adjustment to problems of visible difference and disfigurement in the body after undergoing different types of surgery in cancer patients [19]. Participants were asked to respond to the scale using a 5-point rating scale, "almost always (4)" to "never/almost never (0)." Some of the items in the

scale are rated on “extremely (4)” to “not at all (0).” The scale has a total score of 11–96 (min.–max.). The scale is continuous, and getting a high score indicates more psychological distress due to poor or dissatisfaction with body image. The scale was translated into Hindi, and the back-translation method [20] was used to measure the scale’s consistency. The tool was translated from the original language, English, to Hindi with the help of an expert in Hindi literature and retranslated into the origin language by an English language expert to know the language consistency [20]. The translated tool reliability is calculated using the split-half test and reported 0.82 ($r = 0.82$) for the present study. The scale’s internal consistency was tested using Cronbach’s alpha and reported 0.86 ($\alpha = 0.86$). The translated Hindi version scale was pre-tested before using it for the final study.

Ethical considerations

The Institutional Ethics Committee (ICE, 43/IEC/M. Sc./2020) approved the study. Written informed consent was obtained from each patient after giving a due explanation of the purpose of the study. Data collectors ensured privacy and confidentiality at each point of research and publication of the findings.

Statistical analyses

Descriptive statistics analyze the frequency, percentages, and other relevant statistics for socio-demographic and clinical profiles. Independent sample *t*-test and one-way ANOVA were applied to find the association of socio-demographic variables with body image distress among patients. Odds ratio (ORs) with 95% confidence interval (CI) was used to quantify the association between socio-demographic characteristics and the body image distress of patients. The SPSS Window, Version 23.0 Armonk, NY: IBM Corp is used for data analysis. The level of significance was set at $P < 0.05$ (two-sided).

Results

Descriptive analysis and preliminary analyses

Table 1 describes the demographic characteristics of the participants. The median age of the participants was 46.0 years. Around an equal number of participants were in a category of 41–50 years (26.46%) and 51–60 years (27.06%). Furthermore, more than two-thirds of the participants were not working (80%) and were married (88.24%). More than half of the participants (52.36%) belonged to urban areas and completed secondary education (54.12%).

Table 1 Socio-demographic variables and body image distress in participants ($n = 170$)

Socio-demographic variable	<i>f</i> (%)	Mean \pm SD	<i>p</i> -value
Age (years, median)	46.00		
≤ 40	51 (7.05)	67.81 \pm 5.63	< .001
41–50	45 (26.46)	56.69 \pm 8.59	
51–60	46 (27.06)	47.83 \pm 5.51	
> 60	28 (16.48)	59.82 \pm 9.80	
Gender			
Female	47 (27.65)	62.49 \pm 9.76	0.003*
Male	123 (72.35)	56.22 \pm 10.02	
Working status			
Not working	136 (80.00)	61.32 \pm 10.07	0.032*
Working	34 (20.00)	57.11 \pm 10.08	
Marital status			
Married	150 (88.24)	57.91 \pm 10.31	0.887
Unmarried/widow	20 (11.76)	58.10 \pm 10.83	
Family type			
Joint family	72 (42.35)	57.62 \pm 10.27	0.627
Nuclear family	98 (57.65)	58.4 \pm 10.44	
Education			
Up to primary	48 (28.23)	58.05 \pm 9.76	0.932
Secondary	92 (54.12)	57.62 \pm 10.24	
Graduate and above	30 (17.65)	59.03 \pm 11.37	
Residential area			
Rural	26 (15.29)	55.42 \pm 9.53	0.942
Semiurban	55 (32.35)	58.51 \pm 10.04	
Urban	89 (52.36)	58.31 \pm 10.71	
Monthly income#			
≤ 10,001	09 (05.29)	54.78 \pm 10.77	0.089
10,002–29,972	141 (82.95)	57.52 \pm 10.35	
29,973–49,961	20 (11.76)	62.41 \pm 9.05	

#Classification based on Kupuswami scale updated in 2020; #-Muslim and Sikh; **p*-value < 0.05

Table 2 presents the clinical profile of the participants. More than half (58.24%) of the participants have oral cancer, followed by nasopharynx (14.11%) and nasal cavity (13.53%) with a mean duration of 11.55 (*SD*: 6.91) years of cancer since the first diagnosis of cancer. More participants (38.24%) underwent a combination of treatment including radiotherapy, surgery, and chemotherapy (38.24%) and underwent mouth angle scarified surgery (27.06%) and glossectomy (21.76%). Approximately half of the participants have one or another comorbidity, including hypertension and diabetes, and cancer. More participants reported alcohol use (42.94%) than tobacco (20%), with a mean duration of 13.43 (*SD*: 6.56) years and 12.82 (*SD*: 5.06) years, respectively.

Furthermore, body image distress was found significantly higher in females ($p = 0.003$) and younger participants ($p < 0.001$) visiting the outpatient department for follow-ups.

Table 2 Clinical profile of cancer participants ($n = 170$)

Clinical profile	f (%)
Tumor site	
Nasal cavity	23 (13.53)
Nasopharynx	24 (14.11)
Oral cavity	99 (58.24)
Hypopharynx	07 (04.12)
Others*	17 (10.00)
Duration of cancer [^] (Yrs, mean \pm SD)	11.55 \pm 6.91
Type of treatment	
Surgery + chemotherapy	26 (15.29)
Surgery + chemotherapy + radiotherapy	65 (38.24)
Surgery + radiotherapy	46 (27.06)
Surgery only	33 (19.41)
Type of surgery	
Facial skin-sacrificed	30 (17.65)
Mouth angle-sacrificed	46 (27.06)
Glossectomy	37 (21.76)
Inferior maxillectomy	01 (00.59)
Other types	56 (32.94)
Comorbidity (yes)	76 (44.70)
Type of comorbidity	
Diabetes mellitus	03 (3.89)
Diabetes mellitus and hypertension	36 (46.75)
Hypertension	37 (49.35)
History of alcohol consumption (yes)	73 (42.94)
Alcohol consumption duration (Yrs, mean \pm SD, $n = 73$)	13.43 \pm 6.56
≤ 10	23 (31.52)
11–15	42 (68.48)
History of tobacco consumption (yes)	34 (20.00)
Tobacco consumption duration (Yrs, mean \pm SD, $n = 34$)	12.82 \pm 5.06
≤ 10	13 (38.23)
≥ 11	21 (61.75)

*Paranasal cavity, larynx, salivary glands; [^]Duration is since the first diagnosis of cancer

Additionally, this distress was reported higher in participants staying at home or not working ($p = 0.032$) Table 1.

Significant problems measured by DAS-24

The DAS-24 measures significant problems are summarized in Table 3. We have considered the critical issues reported as worst outcomes (e.g., extremely/moderately, almost always, or often). A total of 98.9% of participants were self-conscious about their features and believed (98.3%) that surgical treatment had an adverse effect on work. Similarly, 95.9% of participants responded that self-consciousness makes them irritable at home and (81.3%) distressed while watching a mirror or window. More than two-thirds of participants

(80.7%) express folding arms and covering their face while facing other people. Likewise, 82.5% said to avoid using communal changing rooms and avoid going (89.5%) shopping at departmental stores and supermarkets. An equal number of participants (74.3%) refused to attend a social event and reported adverse effects on sexual life (74.8%) after surgical excision.

Furthermore, findings reported that participants aged less than 40 years were feeling more body image distress while going shopping in departmental stores/supermarkets than their counterparts ($p = 0.035$). In contrast, feelings of rejection were significantly higher in participants aged 51–50 than older and younger ($p = 0.016$). However, the feelings of body image distress were substantially higher in the participants who belonged to the 41–50 years of age category in contrast to the younger cohort ($p = 0.006$). Findings reported that females were significantly more concerned with body image distress after surgical excision (Table 4).

Furthermore, multilinear regression was applied to quantify the strength of association of variables that show significant association with DAS-24. Findings represent that gender has a considerable impact ($p = 0.025$) on body image distress among participants. The model explained 91% of (Nagelkerke R^2) variance on the body image distress (Table 5).

Discussion

The study was conducted to identify body image distress among HNC patients attending follow-up services at a newly established tertiary care hospital in North India. The median age of participants was 46.0 years, with a higher proportion of male participants than females. These demographics were found in concurrence with the previous Indian epidemiological study, which reported higher HNC incidence in the age group of 40–60 years and sixteen times higher in the male population conducted in Western Uttar Pradesh [21]. Likewise, these demographic trends were found similar in other studies performed in southern states of India [22]. Demographic trends further supported with other relevant literature emphasizing 2–4 times higher risk of HNC in men than women [23]. A higher proportion of the male participants in this study and previous literature support a higher prevalence of HNC in the cohort. In addition, males in the Northeast region had the highest prevalence of developing cancer than females (11–25% vs. 3–18%) [24].

In clinical profile, oral cancer reported more frequent cancer in the studied population with a mean duration of 11.55 (± 6.91) years since the first diagnosis. Furthermore, a more significant number of participants were undergoing a combination of treatment, including chemotherapy, radiation, and surgery. Indian studies reported 40% of oral cancer,

Table 3 Response to the Derriford (DAS 24) Questionnaire

Derriford Appearance Scale (DAS-24) items	Significant problem on DAS-24	Significant problem on DAS-24	
		<i>F</i>	%
How confident do you feel	Not at all/slightly	41	24.0
How distressed do you get when you see yourself in the mirror/ window	Extremely/moderately	139	81.3
My self-consciousness makes me feel irritable at home	Almost always/often	164	95.6
How hurt do you feel	Extremely/moderately	102	59.7
At present, my self-consciousness has an adverse effect on my work	Almost always/often	168	98.3
How distressed do you get when you go to the beach	Extremely/moderately	117	68.4
Other people misjudge me because of my feature	Almost always/often	132	77.2
How feminine/masculine do you feel	Not at all/slightly	166	99.4
I am self-conscious of my feature	Almost always/often	169	98.6
How irritable do you feel	Extremely/moderately	72	42.1
I adopt certain gestures (e.g., folding my arms in front of other people, covering my mouth with my hand)	Almost always/often	138	80.7
I avoid communal changing rooms	Almost always/often	144	82.5
How distressed do you get by shopping in department stores/supermarkets	Extremely/moderately	153	89.5
How rejected do you feel	Extremely/moderately	22	12.9
I avoid undressing in front of my partner	Almost always/often	26	15.2
How distressed do you get while playing sports/games	Extremely/moderately	00	0.00
I close into my shell	Almost always/often	10	5.8
How distressed are you by being unable to wear your favorite clothes	Extremely/moderately	102	5.8
How distressed do you get when going to social events	Extremely/a fair amount	127	59.7
How normal do you feel	Extremely/moderately	127	74.3
At present, my self-consciousness has an adverse effect on my sex life	Almost always/often	63	36.8
I avoid going out of the house	Almost always/often	128	74.0
How distressed do you get when other people make remarks about your feature	Extremely/a fair amount	101	59.1
I avoid going into pubs/restaurants	Almost always/often	96	56.2

F frequency, % percentage

where cancer of the tongue and mouth contributed more than one-third of total cancer [25]. However, a declining trend for oral cancer was observed in men above 40 years of age during 1986–2000, but this trend remains unchanged in adult men below 40 [26]. A decline in tobacco use may be postulated as a possible reason for this group's sudden drop in oral cancer. However, a significantly higher cancer incidence indicates continued use of tobacco and alcohol in the population. Excessive alcohol (42.9%) and tobacco (20%) use was higher in female participants in the current cohort. Besides tobacco use, the harmful effects of alcohol and other local tobacco products are apparent risk factors for oral cancer in India and elsewhere [27, 28]. Furthermore, it has been attributed that regular alcohol use increases the risk of oral cancer [25]. In addition, smoking and alcohol use further intensifies the incidence of oral cancer compared to alcohol use only [29, 30].

Furthermore, the mean scores of body image distress were 57.95 ± 10.3 , ranging from 42 to 77, suggesting higher distress among participants. The higher distress in participants

shall be correlated with dissatisfaction with personal appearance or disfigurement after surgery [31] which is similar to earlier work on HNC patients [32]. Likewise, other concerns noticed among surgically treated HNC patients were negative body image and poor quality of life [15, 32]. The incidence of negative self-evaluation about the health dimension of body image, appearance, and not being attractive or embarrassed about bodily changes is well documented in cancer patients [33]. In a qualitative investigation, disfigurement reported a constant reminder for ruptured self-image and other dysfunctions in cancer patients [34]. However, the prevalence of body image distress varies, ranging from 25 to 77%, higher in newly diagnosed younger participants [13].

HNC patients' age, gender, and working status reported a significant association with body image distress. Findings said that younger participants (< 40 years) felt more distress while shopping in a departmental store. Conversely, the adult cohort reported a feeling of rejection and distress while playing sport. These findings on distress are consistent with the work conducted by Melissant HC et al. (2021) in

Table 4 Body Image distress and selective socio-demographic variables of participants ($n = 170$)

Item	Age/gender/work- ing status	Mean \pm SD	<i>p</i> -value
Feeling distressed while shopping in department stores/supermarkets	≤ 40 years	3.43 \pm 0.57	0.035*
	41–50 years	3.20 \pm 0.55	
	51–60 years	3.07 \pm 0.74	
	> 60 years	3.29 \pm 0.60	
Feeling of rejection	≤ 40 years	2.00 \pm 0.63	0.016*
	41–50 years	1.96 \pm 0.42	
	51–60 years	2.37 \pm 0.90	
	> 60 years	2.00 \pm 0.72	
Feeling distressed while playing sports/games	≤ 40 years	0.80 \pm 0.83	0.006*
	41–50 years	1.29 \pm 0.82	
	51–60 years	0.78 \pm 0.84	
	> 60 years	0.71 \pm 0.81	
Avoiding communal changing rooms	Female	2.91 \pm 0.69	0.025*
	Male	3.17 \pm 0.65	
Avoid going to pubs/restaurants	Female	3.13 \pm 0.99	0.028*
	Male	2.76 \pm 0.97	
I close into my shell	Female	1.51 \pm 0.55	0.025*
	Male	1.28 \pm 0.59	
I feel close into my shell	Not working	1.31 \pm 0.60	0.048*
	Working	1.53 \pm 0.51	

p*-value significant < 0.05Table 5** Multilinear regression to identify predictors of body image distress ($n = 170$)

Variable	<i>B</i>	<i>SE</i>	β	<i>t</i> -value	<i>p</i> -value	95% <i>CI</i>
Constant	58.295	3.074		18.962	0.000	52.040–64.550
Age	0.437	0.754	.093	.579	0.566	–1.098–1.971
Gender	4.630	1.974	0.393	2.346	0.025*	0.615–8.646
Working status	–3.044	2.073	–.248	–1.469	0.151	–7.260–1.173

Model fit calculated from valid cases $F(2,205)$, $p = 0.106$, adjusted $R^2 = 0.091$; *SE*, standard error; *CI*, confidence interval; **p*-value < 0.05

Netherlands reported higher distress among the younger age cohort while having social interactions [6]. Likewise, male participants were more embarrassed while using communal changing rooms, and refraining from visiting restaurants and public places is more frequently observed in the female cohort. A qualitative investigation reported that participants with this kind of cancer face more problems while eating in public places or restaurants while holding the fluid in their mouth, staring people, and prosthesis-related issues that further potentiate frustration and embarrassment [17]. Symptom progression becomes a struggle to perform activities of daily living, including eating, swallowing, speaking, and pain in addition to changes in appearance [35]. In addition, surgery-specific complications may substantially impact normal eating, chewing, and swallowing food, making it a challenge for the patient to dine out at public places [36].

Body image distress is more common in young participants with cancer in a study conducted by Bahrami M et al. (2017) reported feelings of being more apprehensive and isolated, and rejected [33], participants expressed negative

body image experiences related to the asymmetric appearance of the face and created an older look. However, it has been reported by the participants that it will take a longer time for them to restore normalcy in working, living, or sports [34]. Furthermore, disfigurement related to poor self-esteem and higher body image-distress may also impede the normal grieving process and may take a longer time for participants to restore everyday living [37].

In the present study, 80% of the participants were unemployed. Cancer survivors often change or quit their work due to one or another reason, including physical functions and endurance, appearance-related discomfort, fatigue, and strategies to reduce cancer-related symptoms and the need for long-term treatment [31]. Debilitating anxiety after surgical reconstruction made HNC patients more reluctant to join the work and social gathering. Similarly, unclear speech and difficulty in eating further made patients hesitate to continue daily work [12]. Equally, diagnosis of tumor and side effects of treatment-induced alopecia, surgical scar, a cushingoid appearance from corticosteroid use, cranial deformities, and

the weird attitude of work supervisor makes it challenging to return to work are associated with poor work productivity [15, 17].

On the contrary, body image distress reported a significant association with the working status of the participants. Relative younger age and need of income to support cancer treatment and family might have contributed to higher distress in the studied sample. Cancer rehabilitation sometimes has long-lasting effects on employment and the ability to work. Changes in appearance and physical and emotional distress postulated contributing to the high adjusted risk of quitting the job in HNC patients [31]. Further exploration of this relationship in HNC patients is needed.

Female cancer cohort reported higher body image distress than male counterparts. Facial disfigurement has a higher negative impact on female participants than males and may have a negative effect on body image [38]. In general, women are more sensitive about their appearance and appreciate beauty as their emotional strength [17, 39]. Disruption to the developmental goals and tasks imposed by the physical impact after surgery could be a probable reason for higher body image distress in the female cohort, similar to earlier findings on HNC females [39].

Our study has found that body image distress negatively impacts psychological health and health-related quality of life. One potential model of support recognizes the specialized role of nurses to intervene in such issues among patients. There is evidence reporting the effect of a nurse-led intervention to decrease cancer-related psychosocial morbidity and quality of life among newly diagnosed cancer patients [40]. However, a role division for oncology nurses in screening, referral, and treatment needs to be studied in future separate research. Notably, the nurse-led psychosocial screening at follow-ups may necessitate a change in cancer care to improve mental health outcomes.

The study should be appraised under many good points. It is one of the modest attempts to explore neglected yet significant psychological concerns that need immediate attention in the target population. The study included a large sample of HNC patients with different kinds of head and neck tumors and treatment modalities. The present study results add to the knowledge that screening and timely intervention of body image distress in HNC patients can curb many psychological issues and improve health-related quality of life. Additionally, based on our results, efforts should be made to screen the HNC patients for body image distress and other associated psychosocial consequences at routine follow-up or rehabilitation.

The study has many methodological limitations. First, a one-time cross-sectional survey may not attribute cause and effect relationships. Secondly, the response to body image distress was self-reported and hence may carry subjective reporting bias and should be extrapolated carefully. Third,

there is a lack of a control group and a single-center study; even though one of the largest institutes in the regions, the findings' generalizability might be limited to the area only. Upcoming, the phenomenological or case–control multicentric approach might verify the work results.

Conclusions

The body image distress was predominately observed in young female and working patients with head and neck cancer. For clinical practice, it is necessary to identify the patients with higher body image distress when visiting the clinic. Evidence on effective supportive care targeting body image distress in head and neck cancer patients is scarce, indicating more research.

Author contribution NK conceived of the study, defined variables, search literature, collected data, and drafted the manuscript; RR participated in design of the study, literature search, write, and reviewed the draft; RK participated in data analysis, final draft preparation, and approved final draft. All authors read and approved the final draft of the manuscript. All authors contributed equally to the work.

Data availability Not applicable.

Code availability Not applicable.

Declarations

Ethics approval Ethical approval obtained (ICE, 43/IEC/M.Sc./2020).

Consent to participate Appropriate consent obtained.

Consent for publication Authors consented to publish.

Conflict of interest The authors declare no competing interests.

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