



Original Article

Prospective Outcome Analysis of Adolescents and Young Adults Receiving Treatment from a Tertiary Cancer Hospital in Bangladesh

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Abstract

Background: Malignancies in adolescents and young adults (AYAs) are increasing day by day with increasing their death occurrences but a few clinical and epidemiological data from developing countries. There are 72006601.45(44.2%) people under this 15-39 years age group in Bangladesh. They are in vital age group not only for their own development but also for their country and for the world. This study was aimed to find out the outcome of treatment and causes of death.

Methods: The study was an observational study. All histologically confirmed cancer patients aged 15-39 years who completed treatment under medical oncology department in National Institute of Cancer Research and Hospital (NICRH) from Jan.2016 to Dec.2017(24 months). Of them 593 patient were included for the study. Their follow up were taken over phone or departmental follow up registries up to May, 2019. Information was prospectively studied.

Results: Total 593 patients were enrolled for this study. Of them, male(M) 295(49.75%), female(F)298(50.25%) and M: F=1:1.01. After follow up, it was documented that 170(28.67%) patients were untraceable whose 63(10.62%) patients had no contact number. Among the remaining patients 473, 170(35.94%) patients were died due to anorexia 162(95.3%), both nausea and vomiting 90(53%), pain and fever 65(38.24%), diarrhea 57(33.53%), respiratory distress 38(22.35%), cachexia 37(21.76%), bleeding and generalized swelling 18(10.60%), opportunistic infection 10(5.88%), stroke 3(1.176%), surgical complication 2(1.18%). Of the died patient's male were 96, female was 74 and M: F death ratio was 1.3:1. The leading causes of death, according to specific disease, were lung cancer 11(61%), head neck cancer 12(57%), sarcoma 56(46%), GIT (gastrointestinal tract) cancer 39(40.63%) and leukemia 12(35%). Least death occurred in GCT (germ cell tumor) 1(4.34%) and lymphoma 7(9%). Alive patients were 240. Of them male were 84, female was 156 and the ratio was M:F=1:1.86. According to specific disease, the highest survival was in testicular malignancy 18(85.71%), breast cancer 88(71%), FGT (female genital tract) 26(70%), lymphoma 44(59%) and GIT malignancy 42(43.75%).

Conclusion: In AYA the death occurrences were 170(35.94%) and tract out of follow up were 170(28.67%). This high death occurrence dangerously alarming for developing countries as youth are majority of total population in developing countries. So methods should be searched to reduce the AYA death occurrences.

Key words: Cancer treatment, outcome

TAJ 2021; 34: No-2: 108-113

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Introduction

The discipline of adolescent and young adult oncology (AYAO) is an evolving field that has begun to be defined only within the last decade. The increasing focus over the last 10 years on the outcomes, unique challenges of care, and distinct biology of young adult cancers is beginning to stimulate interest in the development of clinical programs specific to the care of AYAs. Cancer is regarded as a disease of older adults. Little is known and reported in literature about the incidence and patterns of this disease in adolescent and young adults (AYAs). This population poised between children and adults has been called the “lost tribe”¹. There is no study in Bangladesh with AYAs malignancies in older adolescents and young adults. There are limited studies and literatures are available from developed countries. The annual number of AYA cancers, although small, will constitute a significant burden. This diagnosis disrupts the normal trajectories of development including physical, psychological, social and life goals related to family and careers. For this reasons, cancer in AYA merits attention.

Early detection of the disease by recognizing signs and symptoms that appeared first will be beneficial for the patients with AYA tumour as prognosis differs with the stage of the disease. Although cancer is the second leading cause of death in AYA (12% of death), it is still relatively uncommon. The incidence of cancer is increasing. Fortunately, with modern aggressive multidisciplinary therapy, 5 year survival for this group with cancer exceed 75%³.

Many cancers, including lymphoma, leukemia, sarcomas, melanoma, GI stromal tumor, breast cancer, and colon cancer, the epidemiology and cancer biology differ in AYAs compared with younger children and older adults⁵. Recent studies have found differences in outcomes for AYAs in certain cancers depending on whether they were treated on pediatric or adult protocols. Generating and delivering treatment care plans for the AYA population requires awareness of and sensitivity to these issues. The recommendation of the AYAO PRG is “to provide education, training, and

communication to improve awareness, prevention, access, and quality of care for AYAs.”⁶

The age limit of this study was 15 to 39 years. Our objective was to study the descriptive epidemiology of cancers in AYAs at NICRH and to compare this with the available data in other countries literature. There is no study in Bangladesh with AYAs malignancies in older adolescents and young adults. There are limited studies and literatures are available from developed countries. The annual number of AYA cancers, although small, will constitute a significant burden. There are 72006601.45(44.2%) people under this 15-39 years age group²¹. They are in vital age group not only for their own development but for their country.

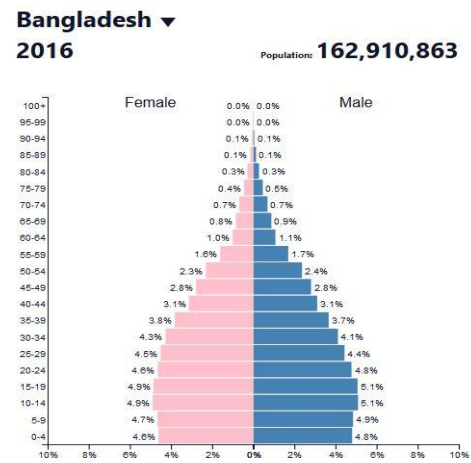


Figure 1: Population pyramid of Bangladesh.

The aim of this study was to find out the outcome of treatment and causes of death.

Materials and Methods

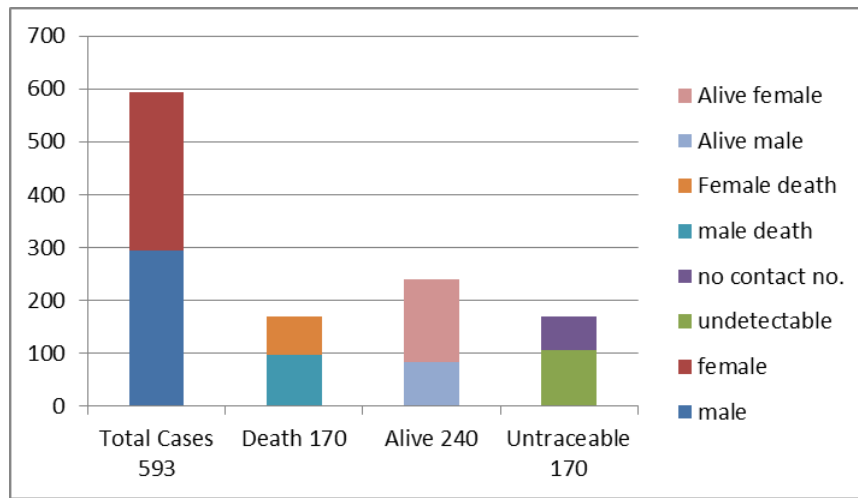
The study was an observational study. All histologically confirmed cancer patients aged 15-39 years who completed treatment under medical oncology department in National Institute of Cancer Research and Hospital(NICRH) from Jan.2016 to Dec.2017(24 months). Of them 593 patient were included for the study. Their follow up were taken over phone or departmental follow up registries up to May, 2019.All the diagnosed case of cancers, at the age of 15 to 39 years, take treatment or admitted in the Department of

Medical Oncology. The sample was collected by purposive sampling technique using phone or departmental follow up registries up to May, 2019. Prior to commencement of this study, the

thesis protocol was approved by the respective authority (RRC & EC) of NICRH, Dhaka. Consent were taken with written documents.

Results

Total 593 patients were enrolled Of them, male (M) 295(49.75%), female (F)298(50.25%) and M:F=1:1.01. At the end of follow up it was documented that 170(28.67%) patients was untraceable whose 63(10.62%) patients had no contact number, 170(35.94%) patients were died and 240 (56.74%) was alive. Of the died patients male were 96, female were 74 and M:F death ratio was 1.3:1. Alive patients were 240. Of them male were 84, female were 156 and the ratio was M:F=1:1.86



At a glance of cases (Alive, death & undetected):

The leading causes of death, according to specific disease, were lung cancer 11(61%), head neck cancer 12(57%), sarcoma 56(46%), GIT (gastrointestinal tract) cancer 39(40.63%) and leukemia 12(35%). Least death occurred in GCT(germ cell tumor) 1(4.34%) and lymphoma 7(9%).

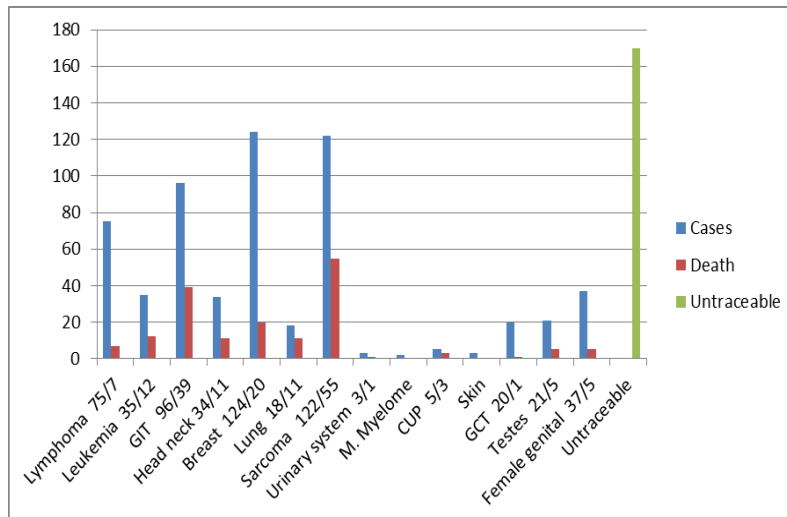
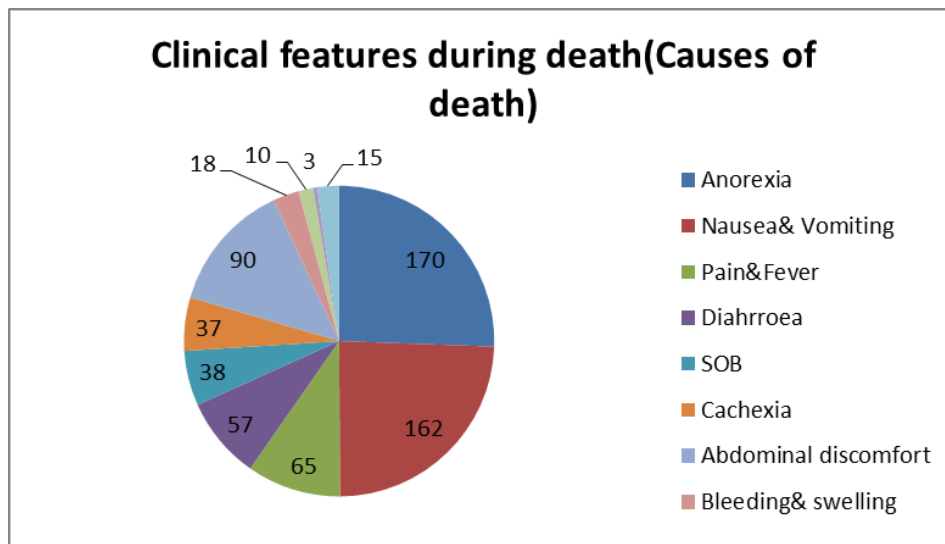
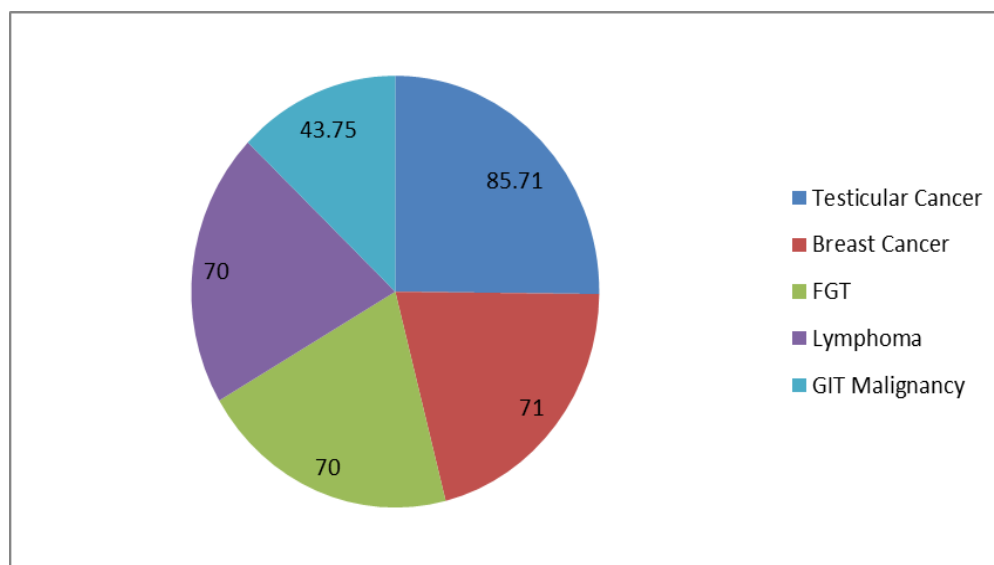


Fig: Disease specific death (in %)



Died Patients were categorized according to symptoms during death. Among the traceable patients (473), 170(35.94%) patients were died due to anorexia 162(95.3%), both nausea and vomiting 90(53%), pain and fever 65(38.24%), diarrhea 57(33.53%), respiratory distress 38(22.35%), cachexia 37(21.76%), bleeding and generalized swelling 18(10.60%), opportunistic infection 10(5.88%), stroke 3(1.176%), surgical complication 2(1.18%). Total alive patients were 240. Of them male were 84, female were 156 and the ratio was M:F=1:1.86. According to specific disease, the highest survival were in testicular malignancy 18(85.71%), breast cancer 88(71%), FGT(female genital tract) 26(70%), lymphoma 44(59%) and GIT malignancy42(43.75%).

Disease specific highest alive (in %) :



Conclusion

In AYA, the death occurrences were 170(35.94%) and lost to follow-up cases were 170(28.67%). This high death occurrence is dangerously alarming for developing countries as youth are majority of total population in developing countries. So, methods should be searched to reduce the AYA death occurrences.

AYA cancer patients varies among different countries across the world. More research in this field will help us understand the needs of Bangladesh's unique reproductive young population. Cancer in AYA is an important problem that has gone under recognized or was only a peripheral concern among health services provider, patient support and advocacy, funding, and cancer surveillance constituencies, as well as healthy teenagers and young adults who do not know they are at risk for cancer.

Recommendations:

Following recommendations are can be given based in this study:

1. Provide education, training, and communication to improve awareness, prevention, access, and quality of care for AYAs.
2. Identify age related warning clinical features.
3. Ensure excellence in service delivery regarding prevention, screening, diagnosis, treatment, survivorship and end of life.
4. Identify the characteristics that distinguish the unique cancer burden in the AYA patient.
5. Support the AYA cancer patient.

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