Pediatric Oncology Palliative Care in Atlantic Canada: A Needs Assessment

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Background and Objectives: Pediatric palliative care (PPC) is an important part of pediatric oncology care. It improves symptom management, quality of life, and end-of-life care. Despite recommendations for early integration, there are still barriers to providing consistent and equitable PPC, especially in vast rural regions such as Atlantic Canada. This study surveyed regional healthcare workers to better understand the needs, barriers, and opportunities for improving PPC delivery for children with cancer, and to provide practical recommendations to support better integration and access to PPC in those Provinces.

Methods: This study used an inductive qualitative approach and a multi-methods design. Healthcare providers affiliated with the Atlantic Provinces Pediatric Hematology Oncology Network (APPHON) were invited to complete a survey exploring their experiences with PPC delivery, including gaps and suggested improvements. Survey responses were analyzed using thematic analysis. Follow-up focus groups with volunteer participants were then conducted to further explore key themes, and this data was also analyzed thematically.

Results: Key themes were identified, including role confusion across teams, inconsistent communication and information sharing between provinces, and gaps in education and training. Participants also described challenges with resources and infrastructure, particularly in more rural and underserved areas, as well as unmet psychosocial and mental health needs for patients and families. There was also a clear need for better feedback processes and opportunities for team debriefing.

Discussion: Overall, findings highlight variability and fragmentation in PPC delivery across Atlantic Canada.

Conclusions: Addressing these gaps will require standardized care pathways, improved communication systems, and stronger collaboration between tertiary and community teams. Enhancing early integration of PPC and expanding education opportunities may help reduce disparities and improve outcomes for children and families.

Keywords: pediatric palliative care; pediatric oncology; healthcare access

Pelvic Dimensions and Uterine Position: Morphometric Analysis and Clinical Insights from the Anatomy Lab

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Background and Objectives: Variations in pelvic dimensions and uterine position may influence gynecologic and obstetric outcomes, yet existing morphometric studies often rely on imaging and limited measurements. This study characterized female pelvic and uterine anatomy in cadaveric specimens and examined associations among pelvic diameters, uterine dimensions, cervical position, and uterine version and flexion.

Methods: This observational morphometric study examined sagittal sections of female pelvises donated through Dalhousie University's Human Body Donation Program. Hysterectomized specimens were excluded, and donor identities were protected using coded data. Pelvic conjugates were measured manually and digitally using ImageJ, along with uterine, cervical, and vaginal dimensions, cervical position, and uterovaginal and uterocervical angles. Manual measurements were retained for cross-validation. Descriptive statistics, normality testing, and Pearson or Spearman correlations were performed, with significance set at $p < 0.05$.

Results: Anteroposterior pelvic inlet dimensions were consistent across specimens, with mean anatomical, obstetrical, and diagonal conjugates of 118.19 ± 12.28 mm, 117.52 ± 13.69 mm, and 132.48 ± 13.47 mm, respectively. These measurements were strongly positively correlated ($r = 0.87–0.94$; $R^2 = 0.76–0.89$), supporting internal geometric coherence among pelvic inlet dimensions.

Cervical position varied widely relative to the straight conjugate line, ranging from 24.92 mm below to 47.60 mm above, with a mean of 13.34 ± 14.56 mm. Cervical position was not significantly correlated with bony pelvic inlet dimensions ($R^2 = 0.0002–0.0317$; $p > 0.05$), but was significantly positively correlated with vaginal length, suggesting a stronger influence of soft-tissue dimensions ($R^2 = 0.193$, $p = 0.017$).

Mean vaginal and uterine body lengths were 67.53 ± 12.41 mm and 35.00 ± 9.72 mm, respectively. Both showed only weak positive associations with pelvic conjugate diameters, with no statistically significant correlations, indicating that pelvic inlet geometry explained little variation in soft-tissue dimensions.

Pelvic inlet geometry was not associated with angle of version. However, retroflexed specimens demonstrated significantly larger diagonal conjugate measurements than anteflexed specimens, with both Mann–Whitney U testing and Spearman correlation supporting a significant positive association between diagonal conjugate size and retroflexion ($U = 180.0$, $p = .001$). Cervical position did not differ significantly by uterine version or flexion status. Although retroflexed specimens had slightly higher cervical position ranks, the association was weak and not statistically significant ($rs = 0.266$, $N = 29$, $p = .163$), suggesting that cervical position was largely independent of uterine anteflexion or retroflexion.

Discussion: These findings suggest that bony pelvic inlet dimensions are internally proportional but do not independently determine cervical position. Cervical position varied widely and was not associated with pelvic conjugate measurements, while its significant correlation with vaginal length suggests soft-tissue dimensions may play a greater role.

Vaginal and uterine body lengths were only weakly related to pelvic inlet dimensions, further indicating that soft-tissue morphology is not tightly constrained by bony geometry. Retroflexed uteri were associated with larger diagonal conjugate measurements, suggesting that greater anteroposterior pelvic space may permit posterior uterine flexion. However, cervical