Introduction. The primary objective of this study was to compare the effect of usual care with and without iComPAsS on overall improvement of pain, quality of life and patient compliance with reporting. The specific objectives were: (1) to compare quality of life between the groups, (2) to compare reporting compliance between the groups, and (3) to explore factors that affect the motivation between the groups.

Methods. One-hundred adult cancer patients seen at BCI, with good performance status (0-2), and pain of at least 4 (in a scale of 0-10) were considered eligible. Patients were randomly assigned to either ARM 1: to receive usual care at the discretion of the attending physicians or ARM 2: report daily symptoms using the mobile app + usual care. Patients were required to record or report symptoms at least once daily during a 20-week monitoring period. Physicians were instructed during clinic visits to view reports at their discretion. Outcome measures were evaluated at baseline, 3rd, 6th, 12th and 20th week with validated tools namely: ESAS [1], EORTC-QLQC30 [3] and the TSRQ [2].

Results. One hundred patients were randomized, of these 76 were included in the analysis, 37 in the control arm (usual care) and 40 in the mobile application arm (app arm: iComPAsS). No difference in baseline pain and demographics was found between groups. Twenty-six were excluded for the following reasons: 5 with follow-up still ongoing, 8 lost to follow-up, 4 died, and 7 drop-outs.

Conclusion. The iComPAsS mobile application was useable and acceptable by both physician and patient end-users. Implementing a mobile application which utilized ESAS tool was feasible. Patients using the app were more compliant in reporting symptoms and 93% of them found it easy to use. The majority considered it to have aided recall and improved discussion with physicians. All clinical users answered that the app facilitated detection of serious toxicities. Despite this, compliance to reporting was still noted to diminish over time. Patients may not feel the need to report, especially when they feel competent with managing their pain, or when optimal pain control has been achieved.

For the primary outcome, a significantly greater reduction from baseline pain was observed in the mobile app group during the first monitoring period. This difference was no longer apparent in subsequent monitoring visits up to the end (Table 1.)

Compliance rate was significantly higher in the mobile app. Reporting compliance was noted to diminish over time with lowest compliance rates seen at the end of monitoring (see Table 2).

No significant difference in quality of life measures were observed between the groups at the end of monitoring.

Factors affecting compliance with the mobile app were explored by the TSRQ tool. We found that as patients felt more competent with managing their pain, they were less compliant with symptom reporting (perceived competence: Pearson’s r=-0.20, weak correlation). In addition, reporting compliance was inversely related with pain control. Reporting compliance improved as their pain was uncontrolled (Pearson’s r=-0.33, weak correlation).

We continue to develop this mobile application to include tools for monitoring of other health issues

This project was supported by the ASCO Conquer Cancer Foundation Grant.