The impact of pharmacist participation in a multidisciplinary team on an oncology ward compared with a ward clinical pharmacy service

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Abstractions:
- DRP: Drug Related Problem
- NCC MERP: National Coordinating Council for Medication Error Reporting and Prevention
- SVPH: St. Vincent’s Private Hospital
- PCNE: Pharmaceutical Care Network Europe
- BNF: British National Formulary

1. Introduction
Integration of pharmacists in multidisciplinary teams has been shown to have a positive impact in several clinical, pharmaceutical and financial indicators (1-15). Literature on the oncology setting and in non teaching facilities is sparse and no literature in fully private healthcare facilities or in Irish hospitals is available. Differences in methods, outcome measures and working frameworks make the available evidence difficult to generalise.

2. Methods
Study Setting
- Oncology ward of SVPH (25 bed unit with over 1200 patient admissions yearly)

Study Design
- Pilot 5 days
- Control Group 26 working days
- Intervention Group 26 working days

Sampling Method
- Sequential enrolment (no randomization)

Inclusion Criteria
- Patients 18 years old and over.
- Patients had to be admitted under the care of an Oncology Consultant.

Primary Outcome Measure
- Number of DRPs identified by the pharmacist.

Secondary Outcome Measures
- Type, causes and outcomes of DRPs.
- Type of intervention needed to solve a DRP.
- Classification according to the NCC MERP classification system.
- Acceptance rate by medical staff.
- Time needed to provide the clinical pharmacy service to the oncology ward.

3. Results

<table>
<thead>
<tr>
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<th>Control Group</th>
<th>Intervention Group</th>
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<tbody>
<tr>
<td>Patients included</td>
<td>124</td>
<td>130</td>
</tr>
<tr>
<td>No. of DRPs</td>
<td>86</td>
<td>129</td>
</tr>
<tr>
<td>DRPs/1000 patient days</td>
<td>155</td>
<td>228</td>
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<tr>
<td>% patients with 1+ DRPs</td>
<td>29.8%</td>
<td>43.8%</td>
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<tr>
<td>RR=1.47 (95% CI, 1.05 - 2.06)</td>
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<td>DRPs/Total no. of patients</td>
<td>0.69</td>
<td>0.99</td>
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Table 1 – No. of DRPs and rates

- Manifest/Potential DRP rate was 60/40.
- The most common types of DRP were: unnecessary drug therapy, untreated indication and effect of drug therapy not optimal.

- The main causes of DRPs related to issues of drug selection, dose selection and treatment duration.

- 89.5% of proposed interventions were accepted by medical staff.

- 83.3% of DRPs involved patients prescribed over 5 regular drugs

4. Discussion
The increase in total number, rates and patients with DRPs could be explained by the more complete patient’s clinical information available to the pharmacist when present in the multidisciplinary meetings. This allows the pharmacist to assess patient’s drug therapy more effectively.

In general, DRPs were graded as more severe in the intervention group than in the control group. One possible reason for this was that the better clinical picture obtained by the pharmacist allowed him/her to have a better understanding of the impact of the DRP for the patient. It is highly unlikely that this difference is due to differences in the intrinsic nature of DRPs since these differences were not found in this study.

Limitations:
- No randomization
- Historical control group
- Patient population might not be reflective of oncology population in public hospital settings
- Study uses intermediate outcomes and not final outcome measures such as mortality rates or disease related outcomes

5. Conclusions
The study provides evidence of the benefits of pharmacists participating in multidisciplinary models of care in private and non teaching health care facilities:

- Higher number of DRPs were prevented and resolved when the pharmacist participated in the multidisciplinary team.
- More patients were detected with DRPs in the intervention group.
- Improved quality of drug use with potential clinical benefits for patients, potential cost savings and costs avoidance for the hospital and pharmacy department.

6. References
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(13) Poh EW, Nigro O, Avent ML, Doecke CJ. Pharmaceutical Reforms: Clinical Pharmacy Ward Service versus a Medication Care Team Model. [NCT00351676].

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