1. Intervention Research Methods

*Introduction*

Nursing is still a developing profession; it is regarded as the underdog and struggles to get acceptance from medical colleagues. In England, nurses have a significant input into what doctors do. This is due to the development of nursing leadership over the past 20 years. Dr Molassiotis’ clinic deals with symptom management exclusively, where the doctors refer patients they cannot treat. So their medical colleagues appreciate their work, and will actually ask how to treat a problem, but this came through high quality publications, knowing how to manage and treat patients, and having a sphere of influence.

“We need recognition because we do good work, and without us, hospitals wouldn’t be able to run. However, nurses need to work together and with others; globally, nurses tend to work in isolation, but we need to work together to promote the profession.”

An analysis of grant applications showed that even highly experienced academics would fail to get funding for not adhering to some basic ‘rules’ such as ensuring there is a clear, simple research question, ensuring that the research will add to knowledge, not adding to the volumes already published, ensuring that aims and objectives are aligned, and that the methodology is clearly identified and is appropriate to address the stated objectives of the project. Settings and terminology need to be clearly identified, with clear understanding of bias and limitations. A research proposal should always have an answer to ‘so what?’ This means there should be implications arising from the project.

In the largest grant of £600 000 in 18 hospitals in the UK, a criticism of one of Prof. Molassiotis’s funding proposals was the attrition rate of 35%. However, due to a pilot study done, he was able to justify this evidence-based rate which the reviewers accepted. Prof. Molassiotis has a 90% success rate of funding applications in a very competitive field, whereas the usual success rate for nursing applications is 15%.

“That’s not because I’m cleverer – we’re all equally clever. I just chose to play the game differently, building up my proposal over years with pilots. Research is a process, and one needs to follow this process. Theory should inform modelling the intervention as Phase 1, leading to exploratory trials as Phase II, contributing to definitive randomised controlled trial as Phase III before heading for long term implementation as Phase IV. The funders are more willing to award grants because they can see one has been careful, and will therefore be careful with the money.”

“A PhD or Masters thesis with many limitations is not necessarily a bad thing. It shows me that they’ve thought through the potential bias which will influence the interpretation of the findings. Mostly, this research will not change the world! An experienced external examiner is looking for a demonstration of learning, although we have an ethical obligation not to waste patients’ time with inappropriate study designs,” says Prof. Molassiotis.

“Don’t choose external examiners who you know will tell you what you want to hear! They come from a different experience, and examiners are human too – there’s no end to the learning of academics, either for reviewers, supervisors or students. Submit your work to others to critique before submission – it’s a quality assurance process. Don’t take things personally – it’s an academic process of constructive criticism which you should try to get – not a pat on the back, but developing new ideas and concepts, and if we are comfortable with other people’s views, it will impact on the project, our leadership, intellectualism and moving the profession forward. We should embrace constructive criticism, even if it’s not what we always want to hear.”
Type 1 error is accepting the null hypothesis when it shouldn’t be the case, and Type 2 is rejecting
the null hypothesis when it should be the case. Sample size needs to be sufficient in order to be
certain of the statistical findings; if sample size is incorrect, this could result in Type 1 or Type 2
errors.

Intervention research phases: this is an 8-10 year process.

**Theory:** Explore relevant theory to ensure best choice of intervention and hypothesis and to
predict major confounders and strategic design issues.

**Modelling:** Identify the components of the intervention and the underlying mechanisms by which
they will influence outcomes to provide evidence that you can predict how they relate to and
interact with each other. This helps a researcher to decide on the right components and also the
acceptable components for the population.

**Exploratory trial:** (pilot, feasibility trial) Decide the constant and variable components of a
replicable intervention and a feasible protocol for comparing the intervention with an appropriate
alternative.

**Definitive randomised controlled trial:** Compare a fully defined intervention with an appropriate
alternative using a protocol that is theoretically defensible, reproducible and adequately controlled
in a study with appropriate statistical power.

2. **Outline of research proposal:**

   **Introduction:**
   - State the importance of the problem
   - Research/evaluation design
   - Analyses
   - Research personnel
   - Schedule (timing) and budget
   - Ethical issues

   **Research Objectives:**
   - Are the objectives specific and clearly stated?
   - Are the objectives appropriately inclusive?
   - Are the objectives attainable (in light of available measure, time, accessible
     population, resources, and/or the proposed PI of project)?

   **Substantive Significance:**
   Will attainment of the stated objective contribute to new knowledge or needed
   understanding of the subject?

   **Background information:**
   Has the appropriate contextual information been provided?

   **Literature review:**
   - Complete and up to date – are the important or major references included? Have
     negative findings or competing hypotheses been reviewed and discussed? Has
     important and relevant material been overlooked? Does the review currently reflect
     the degree to which the area for study has been investigated (extensive/minimal)
   - Does the literature review confirm that the proposal’s research objectives are timely
     and needed; the selected research design is justified, and/or the PI is sufficiently
     knowledgeable of and up to date in the literature?

3. **Research/evaluation design:**
Helpful hints in developing research/funding proposals:

- Anticipate concerns/questions
- Try to incorporate these into the proposal and give rebuttal, rationale or answer before it can be raised by the reviewer.
- Have the research proposal reviewed by as many people as possible
- Expect criticism, not praise; develop an attitude that feedback now is essentially constructive, not destructive
- If someone who’s on your side hasn’t seen or understood your point clearly, then you have a problem with how the grant is organized (i.e., how it’s written, organized or argued)
- If your research application meets these criteria, the project will be better conducted and will more likely lead to results that make substantive and scientific contributions to health care practice/delivery and health/clinical science.
- Practice will make you successful!!

4. Round Table discussion: Meet the experts: Experiences of students and supervisors

Prof. Susan Wright: There are many challenges! They don’t read before they decide to study, and find it hard to get into a reading mode, and are not in the habit of reading science. People may be good clinically, but not in research. Writing in scientific English is a big challenge. Finance is also a problem; we don’t give bursaries to part-time students.

Prof. Lize Maree: In South Africa we may take on too many students at a time.

Prof. Yvonne Bothma: It’s a challenge for students to identify the topic – they often come with vague ideas and they struggle with this. I like to see my students every fortnight and the ‘contract’ is not a once-off, it is renewed every time you see that student. Each time they postpone a meeting, it adds another two weeks to their timeframe.

Prof. Todd Maja: Most of the time, you find most of the nursing students are working full-time which is a major constraint; the post-grads are studying part-time who have other obligations.

Prof. Alex: These problems are not unique. I’m also against spoon feeding students – they should not rely heavily on the supervisor, who needs to keep the person in between the parameters, but not to hold your hand. The student must have the experience of critical thinking. Guiding, not teaching. The topic also has to be your choice, you must like the subject matter. Research is about a good justification of your choices; if you do this without a model, that’s fine because it’s about the process.

Relationships between PhD students and supervisors are important, and in England there is a ‘contract’ where the ground rules are laid down. Sometimes supervisors can find themselves doing pastoral care, helping them with family problems. In England, there are ‘advisors’ who can provide pastoral care, and also someone to whom students can discuss expectations. Things can go wrong when there’s no balance, and revisiting the relationship to make sure it’s still on track.

Questions/comments from the floor:

We have a challenge with computer literacy, also searching for information. Also, supervisors who are less informed are problematic for students.

My supervisor wanted a time frame from me which was odd, but now I understand: do yourself a favour, set time limits for yourself, and you will progress. Use the time you have, and slowly but surely, you will get there.

It is a challenge to work and do research at the same time. Money is a problem, so changing jobs became a problem. Most of the things you learn during the process of your Masters.

5. Role of research in nursing leadership
Leaders need to be visionaries and can be followers; leaders are not necessarily managers. Leaders can be like shepherds – getting people together but not necessarily always at the front. They are informal designations, and try to move people forward. Anyone from the academic team can be a leader, with vision to take people forward, leading by example earns respect. One needs to have a balance in life; leave work at work, and home at home. Leaders are often so involved with materializing their vision that they often forget about the life balance.

We’re not short of leaders in nursing, but because nursing is lower ranked, it is not as obvious. One of the most fundamental things as a nurse leader is active communication with subordinates and peers. This is a key highlight of leaders, together with emotional intelligence, and is critical. It is also for providing feedback. Listening is very important for leadership, particularly active listening.

**How to motivate people?**
This needs clear messages from leadership on what is going to happen and saying thank you. Transparency helps people to respect the process. One knows that it is successful when one gets feedback from peers, or sees influence in the nursing press, for example. Leadership is about influencing others.

**Definition**
Leadership is the process of inspiring others. Leaders inspire their personnel, need to have trustworthiness and self-confidence. Leaders communicate a vision that turns self-interest into commitment to the job. Leaders need to be transparent and communicate openly; leaders who gossip are not effective leaders.

**Key tasks of leaders**
Set direction: mission, goals, vision
Build commitment: motivate and inspire
Confront challenges: innovation, deal with change.

“All people have untapped leadership potential – it is there in you. The attempt defines leadership – it does not have to be successful. To be a leader you must make a decision to act. Our image of leaders need not be professional people, it could be parents who teach us values and that hard work is necessary; nothing comes free.”

‘Followship’ and leadership are reciprocal roles. Being an effective follower is as important to new staff as being an effective leader. The characteristics of effective followers (who become good leaders) are self-direction; active participation in setting group directions; investment of time and energy in the world of the group; being a critical thinker; advocating for new ideas.

Management is also a process of influencing people, with the specific intention of contributing to meeting the organisation’s goals. Management is the process of getting work done through other people. Management is planning, organizing, coordinating, and controlling work given to employees. This is different from leadership which is informal, moving people forward to a vision. Sometimes they can be concurrent. One is top-down, the other is participatory and aims to develop people.

**Leadership theories**
Prominent leadership theories include trait theory, behavioural theories (leadership styles), situational theories (understanding all the factors); transformational theories (inspiration and meaning). Behaviours of effective leadership include thinking critically, solving problems, respecting people, communicating skillfully, setting goals and sharing vision, and developing people. The difference between ordinary leaders and star leaders is emotional intelligence – it’s about listening to others, acknowledging others’ perspectives, and welcoming constructive criticism; bringing people together in a spirit of trust. Communication is key: give and receive feedback, link ideas in a group, and network by connecting people in a group or organisation. Listening is the most critical communication skill.

**Giving feedback:**
Give both positive and negative feedback; give immediate feedback; give it frequently which keeps motivation high and prevents problems from growing. Be objective, use standards for making judgements, and tell 'why’ it is bad/good. Base feedback on observable behaviours; be factual and accurate. Expect to receive feedback, and when you give negative feedback allow time for the individual to express their feelings and for problem solving to find ways to improve the situation. This is important if the problem has been ignored for a while. Giving feedback in a threatening way reduces motivation; too much fear immobilizes people. Your ultimate purposes are to bring about improved performance.

Leaders’ traps
Not learning quickly; isolation; being a ‘know-it-all’; keeping existing team; taking on too much; captured by wrong people; successor syndrome.

Effective leadership checklist
- Be able to handle senior staff and other managers;
- Be able to manage time wisely; can establish priorities and not get swamped by minor details;
- Be results oriented: I don’t care how you do it, just do it!
- Be able to read between the lines – sometimes how something is said is as important as what is said;
- Must be a good examples for employees;
- Be able to handle employees; able to be close to employees and still be the boss;
- Be effective in handling problem employees who will consume great amount of supervisory time and energy;
- Be decisive even in highly ambitious situations. Supervisors should not be paralysed into inaction due to lack of information;
- Be politically skilled;
- Be able to use authority wisely – too much use of authority and you are a tyrant, too little and you are a softie!
- Be patient;
- Be good at handling stress; must resist taking job related stress home since this can damage one’s family life;
- Be motivated: leaders have to like the supervisory job in spite of its problems, and have the will to manage.

Activity:
Mark out 12 different days on the calendar spread out over 4-6 months. At the end of the day, write down some leadership behaviour, positive or negative, followed by a reaction statement that answers the following questions: how did I feel about my action? How does this action or behaviour jive with what I know about leadership best practices.

6. “How to get yourself into print” - Prof Alex Molassiotis: Editor-in-Chief, European Journal of Oncology Nursing

Aim: to get yourself into print

Outcomes:
- Identify your reason for writing
- Select who you want to write for
- Understand how to approach the writing process
- Define and plan your article
- Have an overview of the publishing process

1. Why publish? For fame & fortune; publish or perish; disseminate good practice; policy analysis; start or contribute to a debate; to educate; to entertain/personal reasons...but everyone can be an author!
2. Challenges include that the research process is long; the research may not fit with the publication
3. Bad publications are those whose findings unclear, have missing information, poor figures, incorrect statistics, poor readability, abbreviations or terms not defined, literature not well reviewed, important issues missing in discussion. (Need to place the results with literature review in context in the Discussion session)

4. Successful papers are simple and take you from A-B in a straight line, giving the reviewer an easy read. Journals have a wide readership – don’t think your fancy language means you are a better intellectual!

5. Sources of topics:
   - research
   - Audit
   - Letter to editor
   - Procedures, techniques, medications, variety of illnesses, reactions to these etc. But each journal will have different requirements.

Tips before writing:
   - Peruse the journal you want to publish in and see how similar articles are reported
   - Establish interest before you start writing
   - Plan before you start writing
   - Keep sentences short and language simple
   - Word count as you write – stick to the word count required
   - Follow journal guidelines for contributors
   - Use sub-headings to guide the reader
   - Use charts etc to display numerical data
   - Keep details of all references used
   - Complete a section before editing
   - Send article to only one journal at a time.

Defining your subject
   - What am I writing about? (What is the point of the article?)
   - Who am I writing it for?
   - Why am I telling them? (addresses the ‘so what’ issue)

Planning the article
   - What is your aim for this article?
   - Decide your section headings
   - Expand on each section
   - Prepare to write (research, read, make notes)
   - Do a thorough literature review – but some journals have limits on the references
   - Outlining/sub-heads/visual aids
   - Getting started and staying motivated
   - Use mentors

All articles should include the following:

Title, authors, abstract, introduction, methods, findings, discussion, conclusion, references

Abstract
This is a shortened version of the paper giving key information. The aim is to have the greatest impact in as few words as possible, but it is one of the most important components of your paper. Don’t rush it at the last minute! (200-250 words – what was the study, method, 3 key results, one sentence on the conclusion)

Methods
This indicates the objective of the study/hypothesis; ethical approval; access; population/sample; sample size; inclusion/exclusion criteria/ how recruited; consent; how data was collected and analysed.

Findings/results
What did you find? This is where to include tables and diagrams.
Discussion
Always acknowledge limitations. Go on to show how, despite the limitations, the findings have relevance. Discuss the findings in the light of existing literature, show how your work supports/or disagrees with existing work. Include if possible implications for practice and for future research. Get it read by someone who doesn’t understand your work – this is the level of simplicity required. Must have the right info, but be simple. You can send an email to the editor before you’ve written it to check if the journal you’ve chosen will publish it.

Process to submission
Article sent – acknowledgement of receipt – article sent to reviewers – article returned to editor with comments – article returned to author = reject

OR

Revise article and return to journal – letter of acceptance/copyright form – article to sub-editor, in-house article, photographer etc – proofs to author – corrections to editor (typos) – publication. If you’ve been asked to make revisions, go ahead and do it, and it is likely to be accepted at this point.

Ethical issues in writing and publishing:

- Plagiarism: use information which exists in paraphrase and reference it, then you’re fine
- Duplicate publication – don’t repackage and send to a different journal if it’s the same study
- Authorship issues (supervisors do meet the criteria to be co-authors but the moral decision is the student’s)
- Conflict of interest (intellectual or financial) – must declare this (mention study funded by AP)
- Ethical obligations (feedback to your patients)