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Understanding nursing practice in China

Over recent years, PDD has conducted numerous observational and interview studies in China focusing on medical device design and nursing practice’s. These studies take us closer to the real world experiences and working practices of healthcare professionals. Inspired by the article ‘Six facts you didn’t know about nurses’ (by Stuart Young), we’d love to share what we learnt about the nurses in China.

“We are VERY busy!”

This is one of the most frequent comments from the nurses that we talked to. Nurses are overloaded in both major cities and remote regions. Looking into the statistics, although the total number of registered nurses in China exceeded 3.8 million in late 2017 (increasing by 181.6% from 2005), the current average number of nurses per thousand citizens is only 2.74 (it reached 2 in 2013, amongst the lowest ratios according to WHO statistics). In contrast, the world’s average is about 5; developed countries like the United States and Japan have averages of 9.8 and 11.49 respectively. The shortage of resource is more severe in rural areas in China where the number falls to 1.49. As a result, overtime is relatively common. A survey of 563 nurses showed that over 85% of them work more than 40 hours/week of which almost half work over 50 hours/week.

Night shifts (12 a.m. to 8 a.m.) can be the most challenging. In the majority of cases, only one (or two) nurses take care of wards involving dozens of patients. One nurse on a night shift may have to perform 20-30 insulin injections across the wards, often by herself and before patients’ have breakfast. Imagine how exhausted she would be and how efficient she has to be.
Dealing with confrontation

The pressures on nursing staff don’t only relate to workload. In recent years, the doctor-patient and nurse-patient relationship has become more tense. Patient and family members are demanding more from nurses, and nurses are doing their best to avoid conflict. This isn’t always easy. The nurses are trying to provide the best service so that they can meet the needs of patients but it can be challenging - especially when treating children. This is when emotions can run high and the family want to get involved. Different family members (and generations within a family) will have varying perspectives on how the treatment should proceed and it is not always easy to manage these situations.

Any procedure involving children require’s nurses to pay greater attention and to be extra careful - they do this by making sure that their practice is as efficient as it can be. Even if the treatment is successful there is still room for confusion and misinterpretation. Small misunderstandings can escalate quickly - resulting in arguments, complaints and pressure on staff. For nursing staff, these things are best avoided as their job is already really difficult. It is important to remember that the focus of the nursing profession is to help people - and making their job straight forward is in the interest of everyone.

Sharp injuries

Nursing staff take significant risks in their profession. Data shows that approximately 79% of nurses have suffered a sharps injury in the workplace. In many cases the reasons for these
problems are as follows: Firstly, the nurses have not received safety awareness education; secondly, the surroundings and environments can fail to direct attention to the risk; thirdly, the decision to use protective methods is subtle and complex - for example some feel that medical gloves will decrease the sensation and reduce the treatment efficiency, some feel that wearing protection will hurt the feelings of the patients. Sharps injuries are one of the most concerning things that nurses encounter, and PDD has been involved in a number of design projects that seek to address this problem.

Finding solutions to this problem isn’t always easy - for example, there are many ways in which incidents can occur and ways in which nurses sequence their work load. This impacts on the type of solution’s that are appropriate (for example the location of sharps containers). Practice’s are diverse and it can be challenging to come up with a one size fits all solution. Sometimes the diversity of operation is due to the different requirements and regulations at a departmental, hospital, local or national level. It also depends on the experiences of the nursing staff involved.

Product development professionals need to understand this variety in order to design appropriate solutions - understanding each practice or technique is extremely important, as it helps us to match the design with user needs given the context and the application. There are often unexpected constraints and many shaping factors - for example, we have learned from previous research that nursing salaries’ can be impacted through the use of excess medical supplies (for example when surplus are used in error).

Decision-making power

Issues relating to the design of medical equipment can be further complicated by the fact that the people who purchase the equipment are not essentially the end user. It is sometimes assumed that because nurses use equipment they have some form of decision-making power over the selection of medical devices and supplies. This isn’t always the case. In fact, the nurses who are using the equipment have very little say in terms of the procurement of medical equipment supplies. Nurses can give feedback on the usage of the devices and supplies, but the decision-making power is in the hands of the head nurse, doctors, hospital management and the procurement department.

Image credit: PDD

Design talent

The lack of involvement in procurement is unfortunate as, through our interviews with nurses, we have come to realise that they are great designers and innovators. In many cases, the appreciation of design from the nurses surpassed expectations. As experienced practitioners, nurses have come up with many ideas about improvements to existing practice. Some nurses have even made prototypes to demonstrate their ideas.

Obviously, there is a need to make sure any involvement with the developing of practice’s is safe and effective, the nurses we encountered were natural problem solvers. We say that the master is in the civil, because through many days and nights of front line experience, alongside devotion to the job - the nurses build a rich expectation of what works and what does not.

Takeaway messages:

- Understand the current workflow and the rationale behind that workflow.
- Learn from the practitioners who are close to the pain points (for both patients and nurses). Appreciate their wisdom.
- Evaluate the product in the context (within constraints).
Consider the diversity of practice (education, experience, discipline). Develop an inclusive design.

Languages spoken: Chinese and English.

The last thing that inspired me: My recent visit to The Shanghai Exhibition Centre (previously known as Sino-Soviet Friendship Building). It had amazing Russian and Empire style neoclassical architecture with Stalinist neoclassical innovations.

My dream project: Running a hostel with a garden café.

My obsession: My naughty son.