APPSA

Association for Peri-operative Practitioners in South Africa

Journal

Vol 8 Issue 3 August 2022

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FLOW CHART FOR MANUAL REPROCESSING OF SOILED INSTRUMENTS

STEP 1

PRE-TREATMENT FOAM
For surgical instruments

1

- Applied immediately after used–prevent drying of surgical soil.
- Neutral pH, keeps soils moist for up to 100 hours.
- Foam breaks down soil – inhibiting microbial growth - bacteriostatic.
- Easily rinsed from surfaces.

Or **Pre-Water rinse**

- Rinse off all blood, body fluid and tissue immediately after use, using cold water.

STEP 2

MIX SOLUTION

Getinge Enzymatic Detergent.

2

- Dosing according to manufacturer recommendations.
- Dosing range 2–10 ml/l.
- Cleaning temperature (manual) 30–45 °C (same as for baby bath temp).

STEP 3

CLEANING PROCESS

3

- Use appropriate cleaning brushes.
- Brushing process should be one way wash action- prevent pullback of soil.
- Wash instrument below water/detergent solution surface – ensure contact time.
- Adequate contact time should be at least for 2min.

STEP 4

RINSE - POST CLEANING

4

- Ensure thorough rinsing, with clean water.

STEP 5

INSPECT - POST CLEANING

5

- Inspect all instruments surfaces to ensure visibly clean and free of stains and tissue.
- Inspect for proper function and condition.
- Oil instruments open and close needle holders, scissors and other hinged instruments - using an Oily pen.

STEP 6

DRY OFF THE INSTRUMENTS INFECTION PREVENTION

6

- Dry instruments thoroughly with a clean paper towel every time.
- A High pressure air gun can be used which is more effective.
- Drying minimizes the risk of corrosion and forming of water spots.
- Most important is the prevention of recontamination.

Reprocessing refers to infection control procedures for removing and inactivating microorganisms on reusable patient-care equipment. Reprocessing of reusable medical devices/instruments includes cleaning, disinfection, and sterilization.

Reminder always wear proper PPE

For more information
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GENERAL INFORMATION

- The Journal is the official publication of APPSA (Association for Peri-operative Practitioners in South Africa). It provides personnel in the operating room and related services with original, practical information, based on scientific fact and principle

- APPSA is a non-profit organisation which exists for the benefit of its members. This is accomplished by way of congresses, local meetings and travel grants, with the express goal of raising the standard of peri-operative practice in South Africa

- Revenue is raised from, among other sources, the sale of advertising in the APPSA Journal

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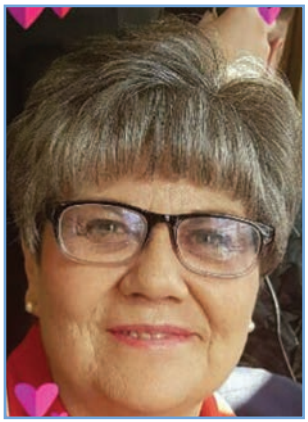
Contents

REGULAR FEATURES

SAVE THE DATE
APPSA Congress 2023



From The PRESIDENT

Dear APPSA Journal reader

As you can see, our commitment to you, our loyal APPSA members continues unabated. One of the strongest benefits you have as a member of this organisation is access to self development and empowerment through the continued sharing of knowledge that is synonymous with the name APPSA.

Before COVID, we were able to pride ourselves on the wonderful study days we used to host - in every APPSA Region - with the generous help of members of the trade, and our highly informative APPSA Journal. While the study days were placed on hold, the Journal has never stopped and we continue to furnish you with educative articles aimed at improving one's understanding of technology and techniques in peri-operative practice … and in other 'soft skills' necessary for our overall development.

In this Journal we feature articles such as:
A) Who is looking after our healthcare workers
B) Humour and laughter: good medicine for all
C) Surgical positioning: a sub-specialty of surgery?
D) Needs of critically ill cancer patients and their relatives: nursing perspectives

These articles will help you develop all sides of your character as a peri-operative practitioner. Read them and enjoy!

In addition, please diarise that APPSA will be hosting its APPSA 2023 Congress between 12 and 14 May 2023 in Gauteng, so please start planning now!

Until next issue, stay blessed

Marilyn de Meyer

APPSA
Association for Peri-operative Practitioners in South Africa

From The EDITOR'S DESK

I was thrilled to read that, once again applications have opened for aspiring nurses to apply to sit for a Diploma in Nursing at the Gauteng College of Nursing. As you will read in this issue of the APPSA Journal, we are facing one of the greatest nursing crises the world has ever known – and if we do not start producing qualified nurses in the next 10 to 20 years, the worldwide nursing crisis will cripple healthcare system across the globe. This is not just a South African healthcare crisis, this is a worldwide healthcare crisis. We need to be proactive – as peri-operative practitioners. We didn't start out as peri-operative practitioners, we started our careers as nurses, and specialised to become the highly-trained professionals we are today. It is our jobs to ensure that future generations follow in our footsteps – and do what we did, by starting at the beginning and working their way up the ladder … just like we did.

That is why I was so excited when my colleague in the Gauteng Legislature asked me to post this notice telling everyone that applications are now open to anyone wishing to apply to study to become a nurse at any one of the following campuses for the 2023 academic year. There is no time like the present to go and study at any of these great nursing colleges:

Ann Latsky
Chris Hani Baragwanath Campus
SG Lourens Campus
Bonalesedi Campus

There are a number of very stringent criteria that will govern whether applicants will be successful or not – the most important being:

A) You must register a profile on the system on the GPG Professional Job Centre system
B) Applicants must be a South African citizen, living in Gauteng
C) You must be in possession of either a school leaving certificate – Senior Certificate, National Senior Certificate, be currently in Grade 12 or National Vocational Certificate: Primary Health.

All applications have to be made on the GPG Professional Job Centre system on or before 31 July 2022. NO LATE APPLICATIONS WILL BE CONSIDERED. All information can be found at: **nursingintake.gauteng.gov.za**

In other great news, APPSA will DEFINITELY be hosting an APPSA Congress in 2023. Please start saving NOW. We will make it as affordable as possible because we want EVERYONE to be part of the great APPSA gees! More information will follow, but you need to get your membership details in order – and so do your friends!

Until next issue, keep safe

Madeleine Hicklin

NEW REPORT CALLS FOR GLOBAL ACTION TO ADDRESS NURSING WORKFORCE CRISIS AND PREVENT AN AVOIDABLE HEALTHCARE DISASTER

Geneva, Switzerland; Philadelphia, Pennsylvania, USA; 24 January 2022 – A recent report has revealed how the COVID-19 pandemic has made the fragile state of the global nursing workforce much worse, putting the World Health Organization's (WHO) aim of Universal Health Coverage at serious risk. It suggests up to 13-million more nurses will be required over the next decade, the equivalent of almost half of the world's current 28 million-strong workforce.

International Council of Nurses (ICN) Chief Executive Officer Howard Catton, who co-authored the report, said the findings underlined the severity of the shortages: "We knew the situation was fragile because of the persistent historical underfunding of nursing around the world, but with the latest information about nurse vacancies, their rates of intention to leave, and staff sickness rates, it must now be recognised as a global crisis. We already had a shortage of 6-million nurses at the start of the pandemic, but with the immense and relentless pressure of responding to COVID-19 and the Omicron variant, and an avalanche of resignations and retirements anticipated, the world will need to recruit and retain up to 13-million nurses over the next decade.

"The WHO's International Year of the Nurse and Midwife in 2020 and last year's International Year of the Healthcare Worker were an important starting point in recognising the true value of nurses and other health workers, but it simply was not enough. This is a global health crisis, and it requires a fully-funded and actionable 10-year plan to support and strengthen nurses and the health and care workforce to deliver health for all."

The report, published on 24 January 2022 by the International Centre for Nurse Migration in partnership with CGFNS and ICN, provides a blueprint for what needs to be done at the national and international level to guide nursing workforce planning globally. It says countries should commit to prioritising nurses for vaccinations, provide safe staffing levels, expand their domestic nurse education systems, increase the attractiveness of nursing careers for women and men, adhere to ethical international recruitment standards, and monitor countries' ability to be self-sufficient to meet their nursing workforce requirements.

CGFNS International Inc President and Chief Executive Officer Dr Franklin A. Shaffer, another co-author of the report, added: "We can anticipate that there will be a migration tsunami as more than ever before, countries around the world turn to the international nursing supply to meet their workforce needs. The pre-existing unequal distribution of nurses around the world will be exacerbated by large-scale international recruitment to high-income countries as they look for a 'quick fix' solution to solving their nursing shortages, which will only widen inequalities in access to healthcare globally."

Lead author of the report, Professor James Buchan of the University of Technology Sydney, (UTS) and the University of Edinburgh, said: "COVID-19 has had a terrible impact on the nursing workforce in terms of the personal effect it has had on individual nurses, and the problems it

has exposed within many healthcare systems. Pre-existing shortages exacerbated the impact of the pandemic and burned-out nurses are leaving because they cannot carry on any longer. Governments have not reacted effectively to the growing worldwide shortage of nurses, and now they must respond to the pandemic, which is an alarming game-changer that requires immediate action."

The report says a long-term plan is needed to stem the tide of those leaving nursing because of the additional stresses resulting from COVID-19, and to create a new generation of nurses to grow the profession to meet increased future demands of an ageing global population.

ICN President Pamela Cipriano said: "Nurses have been on the front lines of the pandemic for two years now. The influence they have had on the survival and health of the people they serve has been enormous. Despite enduring heavy emotional and physical burdens of providing care for their patients and communities, they have shown great resilience. But resiliency has its limits. Without nurses, it is clear our health systems would collapse. All of the evidence in this report shows that it is vital to act on a new 10-year plan that guarantees investments to stabilize and build the nursing workforce. Delivering on commitments to support nurses with safe work environments, staffing levels and workloads, involvement in decision-making, mental health services and equitable compensation will catalyse interest and growth to build the profession. Nurses deserve to be recognised and rewarded for their immeasurable contributions to the health of people everywhere."

Mr Catton added: "We can no longer afford to undervalue and underfund the nursing profession, not only for the sake of the health of nurses, but for the protection and sustainability of our entire global health system. Let's be clear: we are not talking about stop-gap solutions, getting through the current pandemic, or even preparing for the next. We are talking about being able to address all the healthcare needs that have built up and been delayed since the onset of the pandemic. If we do not address all these present and urgent needs in a sustainable way over the next decade, the WHO's ambition of Universal Health Coverage will be thwarted."

According to Dr Shaffer: "Ethical and properly monitored international migration will always provide individual nurses with an opportunity to develop their careers and follow their dreams. But as this report shows, governments must act quickly to ensure that people everywhere have access to nursing expertise whenever they need it. CGFNS and the ICNM can help governments to ensure that international recruitment is ethical and that both the recruiting countries and the nurses involved can benefit from the process."

REGIONAL SUMMARY OF THE REPORT
ANNEX: COVID-19 AND THE GLOBAL NURSING WORKFORCE: IMPACTS ON WHO REGIONS

- In the State of the World's Nursing report, the global nursing workforce was estimated at 27.9-million nurses; 9 out of 10 nurses worldwide are female
- The global shortage of nurses was estimated at 5.9-million nurses
- Nearly all (89%) of these shortages were concentrated in low-income and lower, middle-income countries

- High income countries had more than three times the nurse graduation rate (38.7 graduate nurses per 100,000 population on average) than low-income countries (10.4)
- One out of six of the world's nurses were expected to retire in the next 10 years, meaning that 4.7-million new nurses will have to be educated and employed just to replace those who retire; higher rates will be evident in some high-income countries
- One in every eight nurses practised in a country other than the one where they were born or trained. A joint OECD (Organisation for Economic Co-operation and Development) and European Union report on policy responses to the pandemic in 36 countries in Europe has highlighted that 'Pre-existing shortages of nurses were exacerbated during the peak of the epidemic, also because many nurses themselves became infected by the virus... The demand for nurses is expected to continue to rise in the years ahead because of population ageing while many nurses are approaching retirement age. Nurses working overseas: The USA reports the highest number of registered international nurses, estimated at almost 197 000; second was the UK with over 100 000 foreign-trained nurses, then Germany with 71 000, and Australia with 53 000. OECD has concluded that: "The COVID-19 pandemic revealed once more that foreign-trained nurses are key assets for health systems in many OECD countries. Along with bringing into the spotlight the important role and dedication of frontline health workers, the pandemic has further highlighted the deeply embedded challenge of staff shortages as well as the significant contribution that migrant nurses make to the health workforce.

WORLD HEALTH ORGANIZATION (WHO) AFRICAN REGION

A World Bank study of the East, Central and Southern Africa Health Community in 16 countries (Botswana, Eswatini, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Seychelles, South Africa, South Sudan, Tanzania, Uganda, Zambia, Zimbabwe) noted that out- migration of nurses reduced the available supply of nurses in these 'sending' countries. ***This means that these countries can "face needs-based shortages of nurses to achieve Sustainable Development Goals" and "poses direct and indirect costs to sending governments, including tuition as well as foregone wages and tax revenue."***

Economic Community of West African States (ECOWAS): Online survey, 1 000 nurse respondents, 15 countries of ECOWAS, April to May 2020. Moderate (78%) or severe (10%) stress was reported by most nurses; the proportion with normal or low-level stress was only 12%.

South Africa: Survey of nurse managers, rural district hospital, South Africa. Managers had to deal with pandemic-related nurse staffing shortages on a daily basis, resulting from absenteeism due to COVID-19 infection or COVID-19 infected family members at home. The shortage was also worsened by early retirement, resignation or death of nurses.

Uganda: 395 nurse respondents in five hospitals, February 2021. 40% reported high levels of burnout. Predictors of nurses' burnout were lack of availability of PPE and increased workload.

WORLD HEALTH ORGANIZATION (WHO) REGION OF THE AMERICAS

Brazil: On-line survey of nurses and nursing technicians in four hospitals (n=499), August to Sept 2020. Burnout was identified in 60 (12%) workers; there was higher prevalence among nurses (17%)

Canada: In Canada it has been highlighted that the number of vacancies for registered nurses (RN) Registered Psychiatric Nurses (RPN) almost doubled from 12 860 in the first quarter of 2020, to 22 425 in the second quarter of 2021.
1. Survey of 1705 frontline nurses, July to November 2020 (of whom 782 reported caring for COVID-19 patients). High chronic fatigue, poor quality of care, lower work satisfaction and higher intention to leave their organisation were found for nurses caring for COVID-19 patients.
2. Survey of 3676 nurses, June to July 2020. 52% reported inadequate nurse staffing, 49% indicated some level of disagreement about access to sufficient PPE in their workplace; almost half the sample (47%) met the diagnostic cut-off indicative of potential PTSD. Nurses with negative ratings of most workplace safety indicators were more likely to suffer from PTSD, anxiety, and depression.

Latin America: A recent assessment of the impact of the pandemic on the health workforce in five Latin American countries, published by WHO, covering Bolivia (Plurinational State of), Chile, Colombia, Ecuador and Peru reinforced the point that these countries entered the pandemic with staff shortages, and made the critical point about sustainability. "The biggest challenge ahead is to develop mechanisms to absorb the newly recruited HRH (Human Resource for Health) to reduce pre-pandemic gaps and maintain improvements in their terms and conditions of employment, such as pay increases, which in turn largely depend on identifying adequate sources of funding".

United States of America: The Bureau of Labor Statistics' Employment Projections 2020 to 2030 report that the registered nurse workforce is expected to grow from 3-million in 2019 to 3.4-million in 2030, and that there will 194 500 vacancies for RNs created each year when nurse retirements and other leavers are considered.
1. A study of nurses and patients in 254 hospitals in the US states of New York and Illinois between December 2019 and February 2020, (in other words, just before the pandemic) concluded that "Hospital nurses were burned out and working in understaffed conditions in the weeks prior to the first wave of COVID-19 cases, posing risks to the public's health".
2. Survey of healthcare workers (20 665 respondents, incl. 2 301 nurses, at 124 institutions), 2020. Burnout was reported in 63% of nurses, and 56% of nurses also reported work overload. Approximately one in three physicians and nurses surveyed intend to reduce work hours. One in five physicians, and two in five nurses intend to leave their practice altogether. Burnout, workload, and COVID-19-associated stresses were associated with intent to reduce hours or leave, whereas feeling valued was strongly associated with lower odds of reducing hours or leaving.
3. Survey of 400 frontline nurses, 2021. 22% indicated they may leave their current positions, 60% said they were more likely to leave since the pandemic began, with insufficient staffing, workload, and emotional toll being the most reported factors
4. Survey of 5 000 nurses and nurse managers, 2021. Pandemic impact on intention to leave was rated high overall and was highest in nurses with 25+ years of experience and in managers/directors. 11% of the total sample indicated they intended to leave their position, and 20% were undecided. "The combination of those who intend to leave and those who are uncertain about leaving their positions could cause instability in the workforce if not reversed"

WORLD HEALTH ORGANIZATION (WHO) SOUTH-EAST ASIAN REGION

India: Survey of 120 frontline nurses in the emergency department of a tertiary care centre in North India, August 2020. The nurses experienced a moderate-to-severe level of burnout in emotional exhaustion and depersonalisation. India has a "train for export" model, which has

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seen the number of nursing schools increase dramatically. In 2000 there were 30 colleges offering the internationally desired BSc in nursing: this had grown to 1 326 by 2010, and to 1 996 by 2020. Nearly all of these colleges (1833: 92%) are in the private sector. The countries accounting for the largest shortages of nurses (in numerical terms) in 2018 included Bangladesh, India, Indonesia and Pakistan.

WORLD HEALTH ORGANIZATION (WHO) EUROPEAN REGION

Belgium: Web-based survey: 1 135 Intensive Care (ICU) Nurses. Two-thirds of ICU nurses were at risk of burnout and this risk was associated with their working conditions during the first wave of the COVID-19 pandemic.

Germany: The average number of vacant positions for registered nurses in long term care in 2019 was 15 000 and in acute care 12 400. On average it took 205 days to fill a position for a nurse in long-term care and 174 days for a nurse in a hospital. Two surveys of nurse long-term care managers, April 2020 (532), Dec 2020 (301). Consideration of intention to quit the profession often or very often since the outbreak of the pandemic increased significantly from 12.8% in survey one to 20.3% in survey two.

Ireland: On-line survey of 2 642 nurses and midwives in Ireland, August to September 2020. 52% had a patient they cared for die because of Covid-19, 82.72% reported Covid-19 had a negative psychological impact on them and 61% considered leaving the profession.

Netherlands: National survey of ICU nurses, 726 nurses, September 2020. Symptoms of anxiety, depression, and post-traumatic stress disorder were reported by 27.0%, 18.6% and 22.2% of nurse respondents.

Spain: National survey, 11 560 nurse respondents April 2020. Lack of personal protective equipment was a crucial issue; 80.2% reported a high or a very high psychological impact of COVID-19; 29.5% of the nurses reported COVID-19 symptoms.

Switzerland: There will be a shortfall of 65 000 nurses across all training levels by 2030 if no action is taken. This is partly due to the fact that only about half of the number of nurses in Switzerland that will be required in the future are currently undergoing training. A third of all nurses working in Swiss hospitals are foreign trained. During the pandemic this high dependency on foreign staff posed problems: When countries closed their borders to limit the spread of the virus, Switzerland was forced to negotiate with its neighbours to allow health workers to continue to cross the border to work.

United Kingdom: The National Health Service (NHS) in England reported a registered nurse vacancy rate of 10.5% at 30 September 2021 (39 813 registered nurse vacancies). There have been recent projections suggesting that there will be a need for 69 000 more nurses by 2024/5 to meet growing pandemic related demand. Royal College of Nursing on-line survey of 9 577 members, October 2021. 74% report regularly working beyond their contracted hours at least once a week, 68% report they feel under too much pressure at work, and 62% reported that they are too busy to provide the level of care they would like to. 57% of respondents stated they are considering or planning to leave their job (the survey in the previous year had reported that 36% of respondents were thinking about leaving). Commonly cited reasons were feeling

undervalued (70%), feeling under too much pressure (61%), feeling exhausted (60%), low staffing levels (59%) and low levels of pay (53%).

WORLD HEALTH ORGANIZATION (WHO) EASTERN MEDITERRANEAN REGION

Egypt: Sample of 207 nurses working in teaching hospitals, March to April 2020. More than half reported increasing workload and stress.

Iran: Survey of 479 nurses working in COVID-19 response, Iran, June 2020. Study reports a positive relationship between PTSD, general health, job demand and job strain with turnover intention.

Lebanon: On-line survey of nurse members of NNA, July to October 2020, 511 respondents. Two in five nurses indicated that nothing would make them give up nursing (40.6%); but nearly as many (38.3%) indicated that they did not want to be a nurse anymore, but that their families need their salary; a quarter of respondents indicated that they were thinking of working outside the country (24.8%).

Oman: National survey, 1 130 nurse respondents, August 2020. 75.6% reported stress, 44.2% reported anxiety, 38.5% reported depression and 73.7% reported poor sleep.

Qatar: Survey of 512 nurse respondents, August to September 2020. Nurses in Qatar had significantly higher turnover intentions during COVID-19 compared to before COVID-19; nurses who worked in a COVID-19 facility for more than three months had significantly higher turnover intention than those who did not work in a COVID-19 facility.

WORLD HEALTH ORGANIZATION (WHO) WESTERN PACIFIC REGION

Australia: The Federal Health Minister was recently quoted as saying that international nurses who had already applied to come to Australia "would be able to sidestep travel restrictions to secure flights and take up critical jobs" during the pandemic response, and that international inflow of nurses had been "severely disrupted" by international border closures. The cost of flights and quarantine will also be met, and the "airlift" is reportedly likely to be made up largely of nurse migrants from Britain, Ireland and other countries where nursing qualifications are recognised by regulators as being equivalent to those in Australia.

1. On-line survey, 11 000 respondents, Aug to Oct 2020. 44.11% of respondents were moderately or extremely concerned for their personal health and safety; 16.63% of respondents had sought mental health or well-being support from external providers; Almost half (46.74%) felt their workload had significantly or moderately increased; Around half were moderately or extremely concerned about having adequate staff (53.18%), the welfare of their colleagues (52.15%) and having the right skills mix in the workplace (51.43%).
2. Online survey of nurses in primary healthcare (637 respondents) 2020. 22.0% reported having considered resignation, the primary reasons being concern for personal physical and psychological safety; only approximately one fourth of respondents reported always having sufficient gowns and P2/N95 masks.

China: On-line survey of frontline hospital nurses, February 2020: 4 692 respondents. The overall mental health of frontline nurses was generally poor during COVID-19 outbreak; 9.4% exhibited depression; 6.5% reported suicidal thoughts.

Japan: National survey of 2 765 hospital administrators, September 2020. Hospitals that were designated to accept COVID-19 patients exhibited a higher nurse leaving rate: 21.3%, compared to 11.3% in other institutions.

Philippines. Survey of 261 frontline nurses in 5 COVID-19 referral hospitals. Fear of COVID-19 was shown to decrease job satisfaction and increase organisational and professional turnover intention among frontline nurses.

Republic of Korea:
1. Survey of 2 489 nurses, April to May 2020. 72.8% of those who participated experienced unfair treatment such as forced shift change, forced individual time off, forced change of work units, and unpaid leave.
2. Survey of 340 nurses at seven public hospitals, October, 2020. Nurses who cared for COVID-19 patients had higher turnover intentions than general nurses: "a decrease in the job resource stress is vital for reducing nurse turnover intentions"

Taiwan: Survey with 12 596 nurse respondents, April 2020. 52.3% were affiliated with hospitals designated for COVID-19 treatment, and 7.1% had provided care for patients with COVID-19.The proportion of nurses with high levels of emotional exhaustion was significantly higher in critical care units and in departments related to COVID-19.

The International Centre on Nurse Migration (ICNM) serves as a comprehensive knowledge resource created by CGFNS International Inc. (CGFNS) in partnership with the International Council of Nurses (ICN). ICNM emphasizes the development, promotion and dissemination of research, policy and information on global nurse migration and human resources in nursing. This resource centre features news, resources, and publications widely available to policy makers, planners, and practitioners.

The International Council of Nurses (ICN) is a federation of more than 130 national nurses associations representing the millions of nurses worldwide. Operated by nurses and leading nursing internationally, ICN works to ensure quality care for all and sound health policies globally.

CGFNS International Inc. (CGFNS) is an immigration neutral non-profit organization that helps foreign educated healthcare professionals live and work in their country of choice by assessing and validating their academic and professional credentials. CGFNS is ISO Certified, and an NGO in Consultative Status with the United Nations Economic and Social Council (ECOSOC), which serves as the central forum for international and social issues.

WHO IS LOOKING AFTER
Our Healthcare Workers

By C Lee

ABSTRACT

March 2022 marked the second anniversary of the coronavirus disease (COVID-19) outbreak being officially recognised as a pandemic by the World Health Organization (WHO). During this period, almost 460-million cases and more than 6-million deaths have been reported[1]. More than 220 countries have been affected, resulting in nationwide lockdowns, closure of borders and bans on national and international travel[2]. Globally, the COVID-19 pandemic has had a massive financial, political and socio-psychological impact, the fallout of which is still being felt today.

INTRODUCTION

March 2022 marked the second anniversary of the coronavirus disease (COVID-19) outbreak being officially recognised as a pandemic by the World Health Organization (WHO). During this period, almost 460-million cases and more than 6-million deaths have been reported[1]. More than 220 countries have been affected, resulting in nationwide lockdowns, closure of borders and bans on national and international travel[2]. Globally, the COVID-19 pandemic has had a massive financial, political and socio-psychological impact, the fallout of which is still being felt today.

The rapidity of spread and the large surge in patients requiring in-hospital, as well as out-patient care, put tremendous strain on healthcare systems throughout the world. Many healthcare systems were overwhelmed, leaving major gaps in the availability of healthcare and human resources, including protective measures for frontline workers, such as the availability of personal protective equipment (PPE). The healthcare sector, being at the forefront of this disaster, required healthcare workers to work long hours, often at great risk of infection to themselves and their families, and often under difficult and unfamiliar working conditions. Additional stress factors such as financial insecurity, physical illness, exhaustion, quarantine and isolation from support systems, stigma and grief from loss of loved ones and patients, have weighed heavily on healthcare workers.

In the general population, the psychological impact of quarantine during a pandemic includes depression, stress, low mood, irritability, insomnia, anxiety, emotional exhaustion, as well as post-traumatic stress symptoms. Those that have been exposed to the virus often reported fear, nervousness, sadness and guilt[3]. Widespread job insecurity and financial instability may lead to worse mental health outcomes, with psychological distress symptoms as high as 25% in study subjects[4].

In healthcare workers, occupational stress and burnout were already highly prevalent in the pre-pandemic workplace[5 - 8]. During past viral epidemics, such as the Severe Acute Respiratory

Syndrome (SARS-CoV-1) pandemic in 2003 and the Middle East Respiratory Syndrome (MERS-CoV-1) epidemic in 2012, healthcare workers suffered various adverse psychological outcomes[9 - 13]. Frontline personnel were at high risk of experiencing symptoms of post-traumatic stress disorder (PTSD), with residual symptoms as high as 10–20% one to three years after the end of the disease outbreak[9, 14, 15]. In comparison to non-healthcare workers, 30% of healthcare workers still showed significantly higher exhaustion levels and psychological symptoms two years after an epidemic[16].

Psychological distress symptoms during the COVID-19 pandemic have been consistent with previous pandemics[17 - 19], although some studies have shown an even higher prevalence of distress, depression and anxiety symptoms when compared to previous epidemics[20, 21]. Intensive care unit (ICU) doctors, nurses and other staff were at particular risk of developing negative mental health outcomes[22]. Lower-middle income countries, such as Pakistan, reported an alarmingly high prevalence of severe stress (90.1%), anxiety (85.7%), depression (72.3%) and post-traumatic stress symptoms (24.3%) among COVID-19 isolation ward healthcare workers[23]. A review of 106 studies reported a 24.3% prevalence of post-traumatic stress symptoms[24]. These are concerning statistics which emphasise the need for the pro-active provision and accessibility of psychological support services during a pandemic.

Anaesthetists are at high risk of viral exposure due to the nature of their work. In addition, they are also exposed to many stressors, which may lead to the development of PTSD. These stressors may include frontline exposure, increased work hours, displaced work environments, lack of access to PPE, quarantine, exposure to death and grief, as well as financial insecurity and pre-existing mental health problems. In this edition of SAJAA, the study by Lombard *et al.* reports that post-traumatic stress symptoms were present among South African anaesthetists during the COVID-19 pandemic, with 17.6% of anaesthetists satisfying the criteria for a provisional PTSD diagnosis[25]. Several pre-disposing factors were identified, such as feelings of loneliness, poor social support, fewer years of anaesthetic experience and pre-existing mental health conditions. These findings emphasise the psychological impact of the COVID-19 pandemic on anaesthesia providers. Although many may perhaps be feeling jaded towards the on-going pandemic, vigilance is important to recognise its mental health impact. The pre-disposing factors identified in this study should encourage a collegial responsibility to look after one another.

Social support structures stretch much wider than one's own home and may include colleagues and the workplace environment. Because burned-out and distressed healthcare workers generally do not seek help, prevention should include making the workplace more supportive by creating a culture of health and wellness. Management of mental health vulnerability and measures to look after the mental health of the healthcare workers on a systemic level should be a priority. Institutional support and preparedness for managing disease outbreaks cannot be over-emphasised. Those with prior mental health distress are more susceptible to further psychological damage resulting in more severe and prolonged PTSD. Focus areas should include professional training, effective disaster management plans, provision of adequate resources, but also compassionate human resource management.

We should encourage each other to seek help and decrease the stigmatisation of mental health symptoms. Several structures are in place to assist individuals who are feeling psychologically and mentally burdened. These include the South African Society of Anaesthesiologists' Wellness

in Anaesthesia Group, Healthcare Workers Care Network, South African Depression and Anxiety Group (SADAG) as well as departmental wellness programmes at many workplaces.

Human resources are the most important, yet most fragile, resources in the healthcare chain. The maintenance of a functioning healthcare system depends on a healthy workforce - physically, financially, professionally and psychologically.

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PERI-OPERATIVE OUTCOMES - More Than Sevoflurane And Scalpels

By CA Lee; AD Grieve

It is well understood that access to safe surgery is a major challenge in low-income and middle-income countries (LMICs), where over five billion people do not have reliable access to surgical care, resulting in an estimated 17-million avoidable deaths per annum[1]. Bickler *et al.* have predicted that up to 90% of children in LMICs will manifest a surgically-treatable condition before the age of 15[2]. If these conditions are not managed effectively, they result in severe morbidity or mortality. Butler *et al.* have echoed this sentiment, noting that up to 20% of children in Rwanda, Sierra Leone, Nepal, and Uganda needed surgery but that 62% of that cohort had an unmet surgical need[3]. Despite paediatric surgical services in South Africa being positioned to offer a wide range of safe paediatric surgical interventions[4], the paucity of surgeons results in limited access to centralised centres and much of the population remains unserved[5].

It is, however, becoming increasingly apparent that accessing surgical care is not the only challenge in overcoming peri-operative adverse outcomes. A recent study by Biccard *et al.* demonstrated how patients across the African continent are twice as likely to die post-operatively than their counterparts in high-income countries (HIC)[6]. This is despite being of low ASA status, regardless of the surgical discipline involved, and affects both elective and emergency procedures.

This on-going plight is highlighted by the article by Drs Balkisson, Kusel and Torborg, *A retrospective review of the peri-operative management of patients with congenital oesophageal atresia and tracheo-oesophageal fistula (OA/TOF) at a South African third level hospital* in this month's edition of the Journal. Their review is a timely (and perhaps humbling) reminder that outcomes in surgical patients are determined by more than good surgical and anaesthetic technique.

The authors performed a retrospective clinical audit of all cases of neonatal OA/TOF repair over an 11-year period, aiming to describe the patient population presenting for surgery, evaluate the pre-operative factors affecting early mortality, and report on intra-operative ventilation and haemodynamic complications. While the incidence of major cardiac and other anomalies was similar to internationally published data, they describe a 60-day in-hospital mortality rate of 21%, higher than expected based on commonly-used risk stratification criteria. The main factor associated with mortality outside of traditional risk stratification tools (prematurity and the presence of major congenital cardiac anomalies) was the need for pre-operative ventilation, which was required in 52% of the neonates. They conclude that the lack of antenatal diagnosis, together with delays in transfer to an appropriate referral centre, resulted in a high incidence of pneumonia requiring ventilation and delays in surgical intervention.

In the neonatal population, antenatal diagnosis of congenital surgical conditions could facilitate either the transfer of an expectant mother to an appropriate level facility prior to delivery, or allow for planned infant transfer immediately post-delivery. One of the areas that highlights the gap between HIC and LMIC is the access to antenatal ultrasound - most women in HIC have access to antenatal ultrasound and the majority of cases of congenital anomalies, including TOF/OA are diagnosed antenatally, whereas in sub-Saharan Africa, it is estimated that access to antenatal ultrasound in rural areas is as low as 6%[7]. Despite the WHO's recommendation that all pregnant women have one ultrasound before 24 weeks' gestation, antenatal ultrasound is not offered as a standard screening tool in South Africa at clinic or community health centre level, where many women are cared for during pregnancy, but only when indicated in specific circumstances[8]. The South African maternity guidelines recommend that, at district hospital level, `all pregnant women should preferably have access to one basic ultrasound at between 18 to 20 weeks' gestation (if the infrastructure allows for this)'", and that patients are referred for further assessment if any abnormalities are detected on the scan[8].

Delays in the diagnosis and referral of neonatal surgical conditions such as gastroschisis are associated with increased complications and worsened outcomes (4.8 OR of mortality if outborn from a surgical centre)[9]. If antenatal diagnosis of surgically treatable conditions is not possible in LMICs, healthcare workers need to be trained to recognise the signs and symptoms of, and have a high index of suspicion for, the presence of these neonatal surgical conditions. They should also be able to provide emergent stabilising care prior to transfer. Furthermore, there needs to be ready access to tertiary centres where these conditions are managed. This implies education of healthcare workers at peripheral and district facilities, and a well-functioning referral pathway, transport logistics, and an adequate number of intensive care beds in referral centres. Outcomes, therefore, are determined by the entire peri-operative process, which starts with timely diagnosis (in many cases, as far back as early pregnancy), timely referral to an appropriate level centre, and access to appropriate surgical and neonatal critical care. It is this entire process, with all its steps, that needs to function optimally to ensure improved patient outcomes.

These steps, and the barriers to achieving them, are recognised in the global surgery community as areas that need to be prioritised, as access to surgical and anaesthetic care is considered an integral and critical part of universal health coverage and is not only in the best interests of the individual child but in the health and sustainability of communities[10]. The development and implementation of a National Surgical, Obstetric and Anaesthesia Plan (NSOAP), which is fully embedded into the national health policy and strategy, will contribute to improved, cohesive and sustainable healthcare within South Africa.

We are delighted that preliminary meetings in the development of an NSOAP in South Africa are underway, and that the perioperative care of the country's children is on the agenda. This is not a minor `interest group' agenda but is in line with the WHO's sustainable development goals (SDG), particularly those targets that aim to reduce preventable deaths in children under five and reduce neonatal mortality (SDG goal 3, target 3.2.1 and 3.2.2)[11]. This needs to be a continued area of advocacy and teamwork as we aim to improve peri-operative care and outcomes for South Africa's children.

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PrionTex

WHEN IT COMES TO CHOOSING YOUR NEXT SET OF SCRUBS...

It is important to first consider your options. What fabrics are there to choose from? And how knowing the difference could help you make an informed decision. We have to agree that reading an article on fabric types for medical uniforms, is probably not the first thing to do on your bucket list. However, we hope that the following short, informative summary, will assist you in deciding which scrubs fabric is best suited for you.

KNOWING WHAT IS OUT THERE

There are a variety of scrub suit fabric options in our healthcare market such as cotton, polyester and blends. The choices can be very confusing if you are not a textile guru, but for the sake of keeping things simple, let's take a closer look at 100% cotton scrubs vs 100% polyester scrubs.

100% COTTON SCRUBS

Cotton is a soft, fluffy, natural fiber that grows in a protective case, around the seeds of the cotton plant. The fiber is almost pure cellulose. The fluffy white fibers are then harvested, spun into yarn, and woven into fabric.

It is important to point out that the market also offers different types of cotton, ranging in quality, texture and price. You may have received a high-quality organic cotton piece of clothing as a gift at some point in time, yet it doesn't mean every piece of cotton clothing will compare equally.

Generally, cotton is lightweight, breathable and freely available. As a natural fiber it has limitations.

Being in a profession where you are required to wear scrubs for long hours with lots of movement and daily washing, the disadvantages of cotton scrubs may become clear.

THE COTTON DOWNSIDE

Keep in mind, cotton shrinks! Caring for your cotton scrubs will require special care.

Unfortunately, any natural fiber will wear down faster than its synthetic fiber counterparts. Your cotton scrubs will not be as durable, and sooner or later may have holes, especially when the same set of scrubs are worn day after day.

Cotton fabric is absorbent, but not in a good way. If you require barrier protection, cotton when wet creates a pathway for bacteria and possible infectious agents. Unforeseen spills will take longer to dry and sweat stains are inevitable. Because it is very absorbent, cotton requires more water for washing than most synthetic alternatives.

Cotton releases fluff, sometimes referred to as lint. These particles can become airborne and are a potential carrier of bacteria. Lint should be avoided in a healthcare environment.

100% POLYESTER SCRUBS

Cotton and polyester are worlds apart. Let's compare them quickly. Polyester is man-made or synthetic fiber created in a laboratory. The process of manufacturing polyester fabric involves melting down small polyester pellets, which are then forced through tiny-tiny holes and then stretched.

Once the process of cooling and solidifying is complete, it produces a very strong fiber. These synthetic fibers are then spun and woven into the polyester fabric.

Polyester fabric date back to the 1940's and technology has played a great role in its development. Today, we have high-quality performance polyester fabrics, with amazing touch-and-feel properties.

THE POLYESTER UPSIDE

Polyester is a very strong fiber that will withstand heavy washing. Polyester scrubs are colourfast, lightweight, and durable. Your polyester scrubs will look newer for longer.

Polyester scrubs will offer very low linting compared to cotton scrubs - a key factor for consideration in the operating theatre environment.

Polyester is hydrophobic. In other words, polyester scrubs will dry faster, wicking moisture away from your skin, and leaving you cool and comfortable for longer periods of time.

Polyester fabric is naturally wrinkle-resistant and will not shrink. A professional look is easily achieved with polyester scrubs.

So, the next time you are considering buying a set of scrubs, think of them as your endurance uniform. They need to withstand far more wear and tear than your average dress or shirt. Just like an athlete needs the very best garment for optimal performance, so do you!

As a leading manufacturer of performance medical textiles, PrionTex recommends scrubs that are manufactured from a high quality 100% polyester microfiber fabric.

Choose your scrubs, demand the best.

PrionTex

SUPPORTING FRONTLINE SUPERHEROES

STUDY OF QUALITY CONTROL IN CENTRAL STERILE SUPPLY DEPARTMENT
Of A Tertiary Care Teaching Hospital

By Sunil Kumar, Yatoo GH and Monica Malhotra

ABSTRACT

Hospital acquired infection (HAI) or nosocomial infection adversely affects both patients and hospitals. Impact of nosocomial infections ranges from increased length of hospital stay, emotional stress, disability, death of the patients as well as increased hospital cost for the patients and providers. Studies in India have reported nosocomial infection rates from between 8% to 58%. To combat these infections, hospital needs effective methods of disinfection and sterilisation which has been centralised into a single department called Central Sterile Supply Department (CSSD).

In our study, outcome was measures by two parameters:
a) User Satisfaction
b) Microbial Count

It was found that in user satisfaction, 70% of user end staff are satisfied with the services provided to them. In microbial count of different items sterilised showed that 89% samples are sterile whereas 11% samples show growth of three different organisms, for example *Coagulase-negative staphylococci, Klebsilla* and *Act. Baumannii*.

INTRODUCTION

Central Sterile Supplies Department (CSSD) is a service unit in a hospital that processes, issues, and controls the sterile stores supply to all departments of the hospital. It can be defined as that service, with in the hospital, catering for the sterile supplies to all departments, both to specialised units as well as general wards and OPDs. Ideally, CSSD is an independent department with facilities to receive, clean, pack, disinfect, sterilises, store and distribute instruments as per well-delineated protocols. The essentials of this department are correct design, appropriate equipment's, skillful operators and proper workflow[1].

CSSD is established to make reliably sterilised articles available at the required time and place for any agreed purpose in the hospital as economically as possible. It works in collaboration with the Infection Control Committee and other hospital programmed to develop and monitor policies on cleaning and decontamination of reusable equipment, contaminated equipment including wrapping procedures, according to the type of sterilisation and sterilisation conditions (for example temperature, duration, pressure, humidity). Efficiency of the sterilisation process totally depends on the results shown by the chemical and biological indicators incorporated during the process of sterilisation[2]. In order that the hospital may properly discharge its duty of

safeguarding human life that operative skills may be made as effective as possible, it is necessary that adequate sterilisation procedure be carried out. Infection is a health hazard of great exposure and significance affecting the final outcome of the treatment. The quality of life, both physical and psychological can be drastically altered, sometimes permanently by infection and associated 4D's that is delayed healing, discomfort, distress, dependency and dollars (rupees).

It is perhaps the C Introduction Department of Hospital Administration 2 single most important factor that adversely affects the performance and image of the hospital[3]. The current study was conducted to study the physical structure practiced in Central Sterile Supply Department of SKIMS, (Jammu and Kashmir) as Central Sterile Supply Department has central role in reducing hospital acquired infection.

OBJECTIVE

To Study Quality control in Central Sterile Supply Department.

METHODOLOGY

In order to study the quality of service provided by Central Sterile Supply Department (CSSD), the following parameters will be studied: **A.** User Satisfaction. **B.** Microbial Count.

User Satisfaction

To study the user satisfaction with CSSD a pre-designed questionnaire was administered to various staff working in the patient care area. The questionnaire was distributed to 100 staff personnel by simple random sampling. The categories of staff included doctors, nurses, theatre assistants, dresser and technician. The questionnaire was distributed by the researcher himself and collected them after completion. The questionnaire consists of 10 questions covering all aspect of User Satisfaction. A Likert Scale was used to grade the responses.

Microbial count

The Swab Samples for culture of sterilised sets/materials processed in Autoclave and Plasma sterilizer were taken on weekly basis for a period of three months with effect from 01 January 2019 to 31 March 2019 and sent to the microbiology department for investigation. The data regarding the sample and results were entered on predesigned Proforma.

Ethical approval: The study was approved by Institutional Ethical Committee (IEC) SKIMS.

DATA ANALYSIS

The data was received from the answered questionnaires and was plotted on Excel 2013. The data was analysed statistically with the help of statistical software SPSS v19. All the continuous variables of the study were represented by the descriptive statistics and all the categorical variables in the term of frequency and percentage.

RESULT AND DISCUSSION

The CSSD is the service responsible for receiving, storing, processing, distributing and controlling the professional supplies and equipment's (both sterile and non-sterile) for all user unit of

hospital for the care and safety of patient under strict quality control. HAIs or nosocomial infection adversely affects both patients and hospitals. Impact of nosocomial infections ranges from increased length of hospital stay, emotional stress, disability, death of the patients as well as increased hospital cost for the patients and providers. Studies in India have reported nosocomial infection rates from between 8% to 58%. To combat these infections, hospital needs effective methods of disinfection and sterilisation which has been centralized into a single department called Central Sterile Supply Department (CSSD).

In 1928, the American college of surgeons-initiated centralisation of all surgical supplies and dressings in one unit for supply to all departments of the hospital. Thus, the concept of Central sterile supplies department began in the hospitals. During the World War II, the British Army established a Central sterile supplies department in Cairo for supply of sterile items to mobile units. In India, one of the earliest Central sterile supplies departments was established by Safdarjung hospital, Delhi and Christian medical college, Vellore during 1957 to 1960. Central sterile supplies department in SKIMS is a centralised service and was commissioned along with the 1st phase of the hospital in December 1982. Central sterile supplies department is located on the ground floor (in services core area of the hospital).

QUALITY

The ultimate end result of any service is to deliver the desired process in the shape of finished product or service. In order to study the quality service provided by Central sterile supply department of the following quality dimensions were studied.

End User Satisfaction

The ultimate outcome of the services rendered in a hospital is judged by the level to which it satisfies its user. In our study 100 personnel working in various department of the hospital directly linked with the patient care were randomly selected and studied. The category of staff studied included doctors, nurses and other staff. In the study It was found that on an average 70% staff was satisfied with the services provided by the CSSD of SKIMS. This is in accordance with the study conducted by Amel *et al*[4].

Microbial Count

In our study it was found that 89% of items are sterile whereas 11% samples shows growth of three different organisms. Study shows that out of unsterile items.

Dressing Set:
33% of sample were cultures positive for *Acinetobacter Baumannii;*
Suture Sets:
33% were positive for *Coagulase-negative Staphylococci,*
Y-connectors:
33% were positive for *Klebsilla Pneumonia,*
Oxygen Masks:
33% were positive for *Coagulase-negative Staphylococci.*

A study carried out by Dara Singh *et al*[5]. on utilisation and quality control in linen and laundry services at a tertiary care hospital, SKIMS, Srinagar showed that frequency distribution of 87% culture reports of various samples from linen and laundry of tertiary care hospital were sterile. In

another study done by Mufarrih *et al*[6]. in 2019 shows that all 14 pre-operative samples did not culture any micro-organisms. Out of the 12 post-operative samples, four (33.3%) were contaminated. Those that were contaminated had a colony count between one and two colony-forming units. *Coagulase-negative Staphylococcus* was the only organism isolated.

SUMMARY

In our study outcome was measures by two parameters:

1. User Satisfaction

2. Microbial Count

It was found that in user satisfaction 70% of user end staff are satisfied with the services provided to them. In microbial count of different items sterilized showed that 89% samples are sterile whereas 11% samples show growth of three different organisms, *Coagulase-negative staphylococci, Klebsilla* and *Acinetobacter Baumannii.*

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HUMOUR AND LAUGHTER: Good Medicine For All

By Sheila L Allen, BSN, RN, CNOR, CRNFA(E)

The positive effects of humour and laughter in human beings have been well documented with benefits both physical and psychological. Studies show not only why humour is therapeutic, but also can be applied in healthcare settings to both patients and healthcare providers. Since the late 1970s, we have known the value of humour in the healthcare arena. Norman Cousins was one of the first to acknowledge and document the psychological and physiological benefits of humour. In his book, *Anatomy of An Illness*, he described the relief from his painful symptoms of ankylosing spondytitis gained from watching the humorous antics on the popular television show, *Candid Camera*. Subsequently, researchers in the field of psycho-neuro-immunology have studied and validated the value of humour and laughter in healing and, therefore, in healthcare. Having a sense of humour demonstrates that you have a sense of humanity.

What's the difference?

Although they have different definitions, humour and laughter are often used interchangeably. Humour refers to a positive emotion as a result of an inducement that stimulates a response, such as a joke or a funny story. To differentiate, laughter is a complex emotional response that is a physical reaction demonstrated by a vocal sound and facial expression. Studies have even distinguished five different kinds of laughter: spontaneous, induced physically or with drugs, and pathological. Humour can be used as complement to medical treatment to assist coping with illness or healing. This article will only present the positive aspects of humour and laughter. Spontaneous laughter has been widely studied with results that are quantifiable. Experiments with groups to study pain have clearly confirmed that laughter increased levels of pain tolerance. Cardio-vascular research indicated the body responds physiologically to a good, hardy stint of laughter in a similar manner to a stretch of exercise. Researchers agree there are five purposes that are employed in healthcare:

- Establish relationships - humour may be used to put someone at ease. 'Clown doctors' used in children's hospitals to increase cheerfulness and improve mood. It may also lighten the conversation regarding a hip replacement. When my orthopaedist was explaining what I would be able to do after surgery, I asked him, "Will I be able to play the piano?" To which he replied, "Of course." Which led me to smile and say, "Great! I've never be able to play before." That laughter helped to lighten the mood and make subsequent conversations easier
- Relieving anxiety - for example of exaggeration might be to come into the room and say, "I'm sorry about the long wait. So, the chart says you are 54…. Is that still the case or have you had a birthday since you got here?"
- Releases anger in a socially acceptable manner - a patient that was getting frustrated about the wait in the physician's office noticed a sign that said, Please describe your pain from one to stepping on a small toy car barefooted. How much pain are you in?

- Avoiding or denying painful feelings - when the nurse asked the patient if he understood what the doctor was going to do (orchiectomy), the patient replied, "Yes, indeed, the doc explained he would change me from a rooster to a hen"
- Facilitates learning – if you have ever had abdominal surgery or have abdominal surgery in your future, you might try this response. The nurse will instruct you to use a pillow to support your abdomen when she asks you to cough. When she asks you to do it, say "I know, I know. Ha! Ha! Ha!" and add, "It only hurts when I laugh." Likely you will get a laugh out of the nurse as well as have a good cough

Humour and laughter in the OR

Humour in the OR can be used beneficially among the staff and physicians. We've all experienced laughter in the workplace, such as sending the student nurse or resident to find the `Otis elevator', knowing they will look on the orthopaedic instrument shelf rather than call the bluff and tell you the transport elevator is in the next hallway or `just to the left of the OR entrance'. The same effects of establishing relationships, relieving anxiety, releasing anger in a socially acceptable way, avoiding or denying painful feelings, and facilitating humour. Actually, the same can be said for the use of humour by the leadership of a facility or any workplace for that matter.

In the OR where I worked for many years, there was an anaesthesiologist (Dr H) who had a photographic memory enabling him to quote limericks to keep spirits high and staff awake and alert even on long procedures. A funny story he used to tell was about the patient to whom he asked: "Have you ever had surgery before?" The man replied, "Yes, I had my both hernias fixed ... one in 1964 and one in 1967." Dr H. then asked the man: "Which one did you have first?" Straight-faced, the man said: "The one in 1964." Later Dr H. said the literal answer served him right because he should have asked a more specific question. However, we all remember the story and the patient and smile. Those stories connect us and help to build a firm relationship among the team.

An educator I met once told me she used 'Bathroom Briefs' to help to educate the nursing and medical staff members. The publication was posted in all the bathroom stalls on the unit. She always had a humorous question, riddle, or some catchy phrase that connected the team and stimulated conversations. In an OR, there seem to be perpetual supply chain issues. Whether it someone particular type of gown, gloves, or suture, items are sometimes simply not available to accommodate the surgeon's idiosyncrasies. On one such occasion, a particular suture was on 'back-order' (unavailable to anyone). Dr F. looked up and said, 'You know I always use this suture'. Without thinking (obviously), I looked him in the eye and said, 'I'm sorry, but we only run out of the things we use.' There was silence in the room. Then he laughed (fortunately). I explained that his was one of the sutures that we had been unable to obtain. I offered him a substitute which diffused his frustration and the surgery proceeded. Whew!

One of the examples sited in the Buxman article is one I have heard in our OR nurses' lounge. A colleague came in one day and was less than happy with the surgeon with whom she had just encountered. She came into the lounge and told us she just had evidence of the proof of the following joke: What's the difference between a surgeon and a puppy? Eventually the puppy grows up and quits whining. We all laughed, and she stated that she felt much better. This was a perfect example of expressing anger in a more socially acceptable manner.

Laughing at ourselves

Charting is one of the most important responsibilities a nurse has because it describes patient problems and the documentation of the care provided by the healthcare team. Nevertheless, we are human and sometimes misspell words or jumble our thoughts to create some rather humorous errors. These can be easily found on the websites listed in the resources.

Just for fun, here are only a few of my favourites:

- Shortness of breath on excretion
- Pt has been hospitalised for constipation twice within the last 60 days. Several tests were run, but nothing concrete came out
- She is numb from her toes down
- She was sick after coming back from the zoo as she had eaten too many penguins. (Chocolate bars)
- Discharge status: Alive without permission
- Skin: somewhat pale, but present
- Patient was alert and unresponsive
- Pedal pulses diminished - which was reasonable, as both of the patient's legs had been amputated
- While in the ER she was examined, x-rated and sent home
- Patient ambulates independently in hell with a front wheeled walker

Hopefully, these will at least make you smile and give you something to share with your team to appreciate our humanity.

Using music to learn and laugh

There are some unique groups of healthcare professionals who have discovered they could use their medical knowledge, wit, and musical skills to entertain and educate. The Laryngospasms are a group of American Certified Registered Nurse Anaesthetists who have written and recorded song parodies. They perform at medical conferences and for charity groups.

If you attended the 2008 AORN Congress in Anaheim, you enjoyed seeing President Mary Jo Steiert dance to the Laryngospasms' song parody to *Devil with the Blue Dress On*. Other hits include *Waking Up is Hard to Do, Anaesthesia Dreamin'*, and *Breathe*. The RNs of Rock, otherwise known as *Too Live Nurse*, entertain and educate us with their parodies and songs such as *Girl with Emphysema* and *Doin' the Incontinence Rag*. Their songs grouped as *Rockin' to the Algorithms* have likely helped many nurses pass their Advanced Cardiac Life Support exams by just singing those songs in their heads. I can personally attest to the help those algorithm songs provide.

Reward or Risk

I believe that most people who tell jokes would advise one to know the audience. There is a certain amount of risk involved in using humour. Using humour in the workplace is not for everyone and some people are better at the dispensing of humour than others. Some people are just inherently funny. Thinking about one's own experiences and considering the risk might be a good way to avoid the pitfalls before jumping into a situation. I often say that I can open my mouth to change feet (a play on the phrase, put your foot in your mouth). As a clinician, when using humour with patients, the best course of action is to listen and connect with

the patient. Then follow their lead before inserting humour. It is always safer to aim humour at common annoyances, such as a bad hair day or parts of the building in construction, rather than to aim it at specific people or groups. Buxman suggests using the acronym BET to keep the use of humour more positive and less offensive. The letters stand for bond, environment, and timing. By having a strong relationship with the other party, the humour will more likely be well received. Before injecting humour, one should know who else will hear what is being said. One must be aware that the person telling the joke or story is responsible for the manner in which it is received by the whole audience. Timing is important in many settings; however, it must be considered when dispensing humour. A remark that is very funny in one setting might not be nearly as funny in another. One could say that before applying humour make sure it is a safe BET. In any setting, humour does not require extra equipment and is very cost effective. A television personality often reminded children that one is never completely dressed until they put on a smile.

Conclusion

Humour and laughter may serve many purposes in our lives. They create positive emotions and can be both therapeutic and inoffensive. A saying that I have said out loud and to myself in the peri-operative setting on many occasions always makes me smile: Everybody brings joy to the room. Some when they come in; some when they go out. At times I am glad I am wearing a mask. One of the most effective ways to connect a team is to tell these stories that make us laugh and show us that we really are not so different. Nurse humourist, Melodie Chenevert summarises: "Some days you need tools. Other days you need weapons. You need your sense of humour every day."

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Sheila Allen served as the National AORN President between 2001 and 2002 and the IFPN Secretary between 2001 and 2007. She is a regular contributor to the APPSA Journal and offers contemporary studies and opinions of great value and interest. She wrote this paper specifically for the APPSA Journal.

SURGICAL POSITIONING: A Sub-Speciality Of Surgery?

Positioning a patient for a surgical procedure is a task that should never be undertaken lightly. Both the perioperative nurse and the patient are vulnerable to injury when positioning a patient on the operating room table. Safe patient positioning is the responsibility of the entire surgical team. In fact, Gefen, *et al.* states that "Surgical positioning is a sub-speciality of surgery that involves management of patient risks by the surgeon, anaesthesiologist, and nurse because of the combined effects of anaesthesia, trauma, blood loss and immobility"[1].

Poor patient positioning can result in "nerve injury, superficial skin injury, ischemic optic neuropathy, corneal abrasion, compartment syndrome, venous air embolism, rhabdomyolysis, burns, fractures, airway complications, loss of limb, and death"[2]. These types of injuries would be regarded as surgical never events. A never event is a serious but avoidable event or incident that would not have occurred if all the preventative measures had been implemented.

Surgical Never Events in South Africa

There is limited data or statics available with regards to never events in the South African setting. Having said that Howard Wain et al. did a retrospective review of never events (December 2012-December 2017) at a Major University Hospital in South Africa[3]. Of the never events that were identified, 59.5% of general surgery patients, 31.6% of trauma patients and 8.9% of paediatric patients experienced a never event. In addition to this 126 near misses of never events were identified. The most common never events related to pressure sores[3].

Are pressures sores really a problem?

Did you know that patients that develop a pressure sore are twice as likely to die in hospital then those that don't develop a pressure sore? 30% of these patients are more likely to be readmitted to hospital within 30 days of hospital discharge. Theoretically we should be able to prevent patients from developing pressure sores, but it is a complex issue. A multitude of factors are associated with the development of a pressure sore/ulcer in the operating room environment, and these include length of surgery, low body mass index, older age, vascular disease, diabetes mellitus and prone positioning[4].

What can perioperative staff do to prevent pressure sores or injuries in patients?

Patients who undergo surgery are at high risk for developing a pressure injury of some sort. In theatre, patients are not able to move or reposition for long periods of time and they need to lie on relatively hard surfaces. The incidence of operating room hospital acquired pressure injuries can be as high as 57%. As a result, according to Joyce Pittman *et al.* many hospitals are now monitoring and tracking pressure injuries associated with the operating room[5].

Did you know that boot type leg holders redistribute pressure over the leg and foot? They support the entire leg which reduces the potential for both nerve and pressure injury[6]. It seems that using boot type legs holders is one of the things that perioperative staff can do to prevent our patients from developing pressure sores or injuries.

Boot-type leg holders redistribute pressure over the leg and foot.

Kaitlen Woodfin *et al*. suggests that perioperative staff make use of mnemonics (a special word to help to remember something) as memory aid when positioning patients[7]. A suggested mnemonic for the Lithotomy position for example is **LEGGS.**

L = Leave the head in neutral alignment
E = Elbows padded
G = Gently raise the legs at the same time
G = Get fingers away from the bed
S = Support the common peroneal nerve

A pressure ulcer that is identified within 72 hours after surgery is regarded as an intraoperatively acquired injury. According to Amit Gefen *et al*. the rate of intraoperatively acquired pressure ulcers can vary from 12% to 66%[1]. Surgery that lasts longer than 4 hours in associated with an increased risk for developing a pressure ulcer. In research that was conducted only 5% of pressure injuries occur within 24 hours of the surgery and 58% occurred after the 5th day in hospital[1].

There are multitude of devices, accessories and fittings that can be used to position patients in the operating room. They include devices that help to prevent patients from slipping off the table, and devices that keep the patient immobile. The patient needs to be on a stable surface and must not wobble during a surgical procedure. When positioning a patient, it is important to aim to decrease pressure and shearing on the skin and soft tissue throughout the surgical procedure,

and of course post operatively. Using advanced positioners and accessories that mould to the shape of body contours will help to prevent pressure sores and injuries. These types of accessories "maximise the contact areas for body weight force transfer", thereby reducing the risk of pressure injuries[1].

It stands to reason that it is not ideal to use pillows, rolled towels, sheets and blankets as patient positioners. Amit Gefen *et al* states that the use of pillows, rolled towels, sheets and blankets does still occur but that this is considered as unsafe practice. These types of devices have not been designed to conform to body contours, they don't maintain shape and will flatten under bodyweight. It is equally as important to replace aged or damaged gel positioners as they will bottom out when used during surgery.

In conclusion

It can be concluded that positioning patients for surgery is a risky business, it should not be undertaken lightly and can almost be regarded as a surgical sub speciality. The perioperative team should do everything in their power to prevent patient injury and should use all the positioning aids at their disposal to do so. If the team members do not have the required equipment or positioning aids or their equipment is aged or damaged, it would be advisable to motivate to acquire or replace positioning aides and accessories.

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CONSIDERATIONS FOR ASSESSING OPTIMAL REGIONAL ANAESTHESIA AND ANALGESIA
In Paediatric Surgical Patients

By A Torborg

Adequate analgesia is a core component of peri-operative care and post-operative recovery. The treatment of peri-operative pain in paediatric patients can be challenging, especially as young children may be unable to adequately communicate the type and severity of the pain that they are experiencing. The use of regional anaesthesia as part of the multimodal approach to peri-operative analgesia in paediatric patients may obviate some of these difficulties, and its safety is well established[1 - 3].

The caudal block has been the default block in paediatric practice for many surgical procedures below the umbilicus for a long time. It is versatile, relatively easy to perform (with or without ultrasound guidance), safe, and effective. With the increased use of ultrasound, anaesthesiologists are now exploring novel ways to target more peripheral nerves. One peripheral regional technique which has become increasingly popular in children is the interfascial plane blocks (IFPB). IFPB are easier to perform than central neuraxial blocks and are relatively safe[4, 5]. The question is: "Do IFPB perform as well (or better), and do they achieve adequate analgesia when compared to caudal blocks?" In this issue of the journal, Reddy *et al.* present the results of a prospective randomised trial comparing ultrasound-guided transversus abdominis plane (TAP) block and ultrasound-guided caudal block for post-operative pain in children undergoing lower abdominal surgeries[6]. We welcome well-conducted randomised trials which add to the body of evidence supporting the use of appropriate regional anaesthesia techniques for peri-operative pain relief in children.

The main controversies in paediatric regional anaesthesia (PRA) have been addressed by the European Society of Regional Anaesthesia and Pain Therapy (ESRA) and the American Society of Regional Anesthesia (ASRA) with published evidence-based guidelines[7, 8]. Two of the controversies addressed were the use of adjuvants in PRA and dosing of local anaesthetics in PRA[7]. Reddy *et al*[6]. provided single-shot techniques, with a standard dose across groups, and the use of a standard dose adjuvant of dexmedetomidine. Any single-shot block is limited by the duration of that block. Once the block has worn off, other analgesics, such as opioids, may be required depending on the type of surgery and the resultant pain. A single-shot regional technique which is associated with a longer duration of analgesia is therefore preferable, provided it is safe. In the study by Reddy and colleagues, the TAP block was associated with a longer duration of analgesia than the single-shot caudal. For procedures which result in severe and more prolonged pain, post-operative catheter techniques are appropriate. The ability to prolong a single-shot block is useful to improve post-operative analgesia especially in cases where a catheter is inappropriate but more prolonged analgesia is required. Adjuvants can prolong the duration of blocks, and contribute to a smoother, more comfortable peri-operative course. There is evidence of improved post-operative analgesia with the use of a preservative-free alpha-2 adrenoceptor agonist (clonidine or dexmedetomidine) as an adjuvant for both caudal and

peripheral nerve blocks, as recommended in the ESRA/ASRA guidelines[7]. The decision by Reddy *et al.* to include dexmedetomidine in their regional blocks was therefore appropriate. The only other option, is preservative-free ketamine which is also effective in prolonging audal blocks but should be avoided in neonates and infants as there is a potential risk of neuronal apoptosis[7]. No other adjuvants for peripheral nerve blocks have shown improvement in post-operative analgesia[7].

It is difficult to directly compare some of the randomised trials of caudal versus TAP block as different local anaesthetic volumes and doses are used, and different TAP injection techniques are used (lateral or posterior approach)[9 - 11]. It is important to use an optimal dose of local anaesthetic for adequate analgesia while ensuring toxic levels aren't reached. The volume of local anaesthetic used for a caudal block determines the dermatomal level of cover. The ESRA/ASRA guidelines recommend the following volumes of local anaesthetic for caudal block: 0.5ml/kg for sacral dermatomes; 1ml/kg for lumbar dermatomes; and 1.25ml/kg to reach thoracic dermatomes[7] (with appropriate adjustment in concentration to avoid a potentially toxic dose). It is possible that the volumes used by Reddy *et al.* in the caudal block group did not adequately cover all dermatomes for lower abdominal surgery, as they used a dose of 0.5ml/kg (lumbosacral procedures) and 0.75ml/kg (thoracolumbar procedures), and rescue analgesia use was more common in the caudal block group.

Testing the level of the block is difficult intra-operatively as PRA is performed under general anaesthesia, but it is not impossible. Lundblad *et al.* have done cutaneous testing of the level of a caudal block in patients under general anaesthesia. The skin was pinched for five seconds with a > 15% increase in the heart rate and/or blood pressure from baseline or movements of extremities indicating a positive response[12]. One could visualise the level of spread of local anaesthetic within the caudal space using the ultrasound, though this requires a second pair of expert hands to direct the ultrasound probe while local anaesthetic is being injected. Post-operative cutaneous testing, although potentially difficult to perform in children, can be done using non-verbal pain scores. The use of any of these techniques may have helped document the adequacy of the caudal block in the study.

It has been suggested by Lonnqvist and Karmakar that IFPB, such as the TAP block, have more of a systemic effect rather than a local effect.13 For example, with the TAP block, local anaesthetic is deposited in a large vascularised area where it can be readily absorbed. This would essentially have the same effect as giving local anaesthetic as an intravenous infusion. Local anaesthetic infusions are used for peri-operative analgesia and are known to have other systemic effects including anti-inflammatory effects and reducing ileus. Pharmacokinetic studies in adults have shown that the use of doses of local anaesthetic considered safe in TAP blocks result in local anaesthetic plasma concentrations that exceed the threshold for neurotoxicity[14 - 16]. In paediatric pharmacokinetic studies of the TAP block, with one[17] using a dose (0.4mg/kg levobupivicaine) within the recommended dose range for IFPB (0.25mg/kg to 0.75mg/kg bupivacaine or ropivicaine[7]), and one done in neonates using a higher dose of 1.25mg/kg bupivacaine[18], all of the plasma levels of local anaesthetic remained below the toxic threshold. In another paediatric study, using a dose within the recommended range (0.4mg/kg levobupivicaine), no patients had signs of toxicity and one third of patients had an inadequate block[19]. It was suggested that this was a dose-related effect. However, one should interpret these studies with caution because the numbers are small. Reddy *et al.* used a total dose of 1.25mg/kg of bupivacaine for the TAP

blocks[6]. When conducting randomised trials comparing IFPB with other blocks, a control group with intravenous infusion of local anaesthetic could be an important arm to add to a trial to address this controversy. Although potentially challenging, prospective randomised trials can be performed in children, as shown by Reddy *et al*[6]. Large, prospective, randomised trials are needed to provide good evidence for the analgesic efficacy of the newer regional anaesthesia techniques. It is important that these trials use comparable doses of local anaesthetic and adjuvants, and ensure that they use well described standard techniques. To understand the relationship between efficacy and safety, more evidence for the most effective doses that don't result in toxicity in children is required. This means future studies should investigate plasma local anaesthetic concentrations where possible, when studying the efficacy of the newer blocks in children. Ideally, we need to also consider the impact of regional anaesthetic techniques on long-term outcomes, such as persistent post-operative pain.

In children requiring single-shot regional analgesia for lower abdominal surgery, it appears that TAP blocks may be marginally preferable due to the need for less rescue analgesia in the early post-operative period, and a longer duration of analgesia than when compared to a caudal block[6]. However, the limitation to this conclusion, may be related to a caudal dose which could have been inadequate in some patients. In our quest to provide adequate peri-operative analgesia and good patient outcomes, we need to continue reassessing our practice, continue to get patient (and/or parent) feedback and try to provide solid evidence for best practice. Until we have further evidence, we need to remain aware of the available evidence, the limitations and the controversies of the chosen block and technique for the patient and their surgery.

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NEEDS OF CRITICALLY ILL CANCER PATIENTS AND THEIR RELATIVES: Nursing Perspectives

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INTRODUCTION

Care of patients in intensive care units (ICUs) need highly qualified healthcare team including nurses. Critical care nurses provide highly skilled, evidence-based care for all admitted patients to critical care units (CCUs). Patients are admitted to CCUs for many reasons as they have or at risk for life-threatening problems mainly; respiratory, circulatory, neurological and renal. Patients with cancer are exposed to different treatment modalities such as surgery, chemotherapy, radiation and others. Taccone *et al*[7]. studied the characteristics and outcomes of patients with cancer in CCUs and reported that a large proportion of patients in ICUs had cancer. It was reported that every sixth to eighth CCU patient admitted because of the underlying malignant disease[1,2]. Patients with cancer may be admitted to ICUs for treatment of the associated side effects of cancer management or for follow-up treatment[2]. Many cancer-related complications such as malignancy-related airway obstruction, hyperleukocytosis, tumor lysis syndrome, drug reactions to immune and/or chemotherapy, stem cell transplant-associated conditions, haemorrhagic, electrolyte disturbances, and thrombotic micro-angiopathies are considered causes for admission of patients with cancer to ICUs. Cancer was not considered from the admission criteria to ICUs, in the past. However, patients with advanced complications related to cancer may develop multiple distressing symptoms which result in admission to ICUs[3-5].

Despite the advances in technology and science which aid in the prevention, early detection, management of cancer, the incidence, consequences of cancer on the patients, their families/relatives and the society is still high. Studies reported that the mortality rate because of cancer is higher than all types of stroke and cardio-vascular diseases. In addition, the mortality rate is high in hospitals especially in ICU[3-6]. Azoulay *et al*.[4], studied the prevalence and factors of ICU and found that conflicts in the care of critically ill patients with cancer may have a negative impact on the patient, their family, and the ICU team members. The nature of cancer and its consequences, and the uncertainty about the future, make the patients and their relatives suffer from a lot of physiological, and psychological problems. Therefore, they need extra care to meet their physiological, psychological, and spiritual needs[4]. A nurses' role in the care of critically-ill cancer patients focuses on assessing, educating the patients, co-ordination of care, provision of direct care, symptom management, and supportive care[7-9]. Critically-ill cancer patients - despite the innovative therapies - may be near to the end-of-life care, and this can have several episodes of clinical deterioration because of increasing tumour burden or as a side-effect of therapies. Hillman[10] and Jones *et al*[11]. stated that aggressive interventions may not always be in the preferred measure. Similarly, Khan *et al*[12]. revealed that goals of care in this stage of life, should be focused on decreasing suffering and distress by alleviating the symptoms.

These interventions are recognised as critical components of excellent end-of-life care for patients, family and nurses, and can be implemented in ICUs. Care of patients with cancer require nurses to be expert in providing high quality care. It is essential to understand the needs of patients with cancer in order to provide effective ways of caring. Care of patients with cancer is based on many aspects of care, such as emotional and the moral, cognitive aspect, perception, and knowledge. Cancer affects family members and relatives. The diagnosis of cancer precipitates complex feelings and changes in the lifestyle which become as overwhelming for patients', family and relatives. Relatives of critically-ill cancer patients may have many physiological, psychological changes as they support, help, and provide care for their patients. The relatives were suffering from many unexpectedly bad experiences with these patients during their journey of treatment from cancer. When patients with cancer are admitted to ICUs, the sufferings of their families increases as they may have little experience with life-threatening illness, they even feel that they do not know how and what to do for their patients. Recognising the relatives' needs and meeting them will have an important role in improving the quality of patient care and the quality of their life[8 - 10].

Patients with cancer and their families often need to understand what is happening in the CCU. They need to discuss - and understand - the reasons and advantages of being on mechanical ventilation, renal replacement therapy, vaso-active agents, or other life-sustaining treatments modalities in ICUs. They also have unsolved queries about whether part or all of these supportive therapies can be administered with cancer-specific treatments, including chemotherapy at the same time. More recently, the lack of survival benefit in a patient with cancer who is admitted to ICUs with multiple organ failure has raised concerns about the timing of ICUs admission[4, 5] . Han *et al*[13]. investigating the coping styles and social support among relatives of patients with cancer and reported that both patients and their relatives need support in order to care for patients during this challenging time and to cope with presence of this disease.

Many studies reported that effective care of critically-ill cancer patients rely on identifying and meeting their needs[14 - 16]. There are few studies that have examined the needs critically ill cancer patients and their relatives from the nursing perspectives. Therefore, this study was specifically conducted to identify critically-ill cancer patients and relatives' needs purely from a nursing perspectives. In order to achieve this aim, the following research question was addressed; what are the needs of critically-ill cancer patients and their relatives in intensive care units?

METHODS

A. Study design:

A descriptive study design was used in this study.

B. Setting:

The study was conducted in 10 intensive care units (ICU) in Alexandria: two ICUs in a university teaching hospital, two ICUs of a health insurance hospital, six ICUs in private hospitals

C. Participants:

The participants were chosen through the purposive sampling technique who were providing care for critically-ill cancer patients and communicating with their relatives. 60 critical care nurses working in the previously mentioned ICUs agreed to participate in the study. Nurses were distributed as per their working ICU; 9 from ICUs of the university teaching hospital, 6 from ICUs of the Health Insurance Hospital, and 45 nurses from ICUs of the private hospitals.

D. Tool:
Care needs of critically-ill cancer patients and their relatives semi-structured interview schedule, this tool was developed by the researchers based on reviewing the related literature[14 - 20]. It was used to describe the needs of critically-ill patients and their families in ICUs. This tool covered 26 items geared towards caring for critically-ill cancer patients and 30 items related to relatives' needs in ICUs. These items were distributed into six main broad categories of **CANCER** including the following: **C** - **Criteria and causes** for admitting cancer patients to ICUs; **A** - **Action** the medical/surgical actions performed to the critically-ill cancer patients in ICUs; **N** - **Nursing** interventions performed to the critically-ill cancer patients in ICUs; **C** - **Communication** needs for the critically-ill cancer patients in ICUs, the **E** - **End-of-Life Care** performed to the critically-ill cancer patients in ICUs; and **R** - **Relative's** needs, this part measured nurses' perceptions of the needs of relatives of critically-ill cancer patients.

All parts were scored using five points - the Likert scale - ranging from 0 to 4 (0 = not important at all, to 4 = Absolutely Essential). The tool also includes open questions to make nurses express their perceptions freely and strengthen the data collected. Tool preparation, validity, and reliability: The tool of the study was developed by the researcher based on reviewing the related literature[14 - 20] and tested by five academic experts (three from the Faculty of Nursing and two from the Faculty of Medicine of University of Alexandria), and 10 nurses from hospitals for content related validity and the necessary modifications were done accordingly. The tool was tested for its reliability using inter-rater reliability. The reliability co-efficient was (r) = 0.83). A pilot study was conducted on five nurses to test the clarity, applicability and feasibility of the tool (those nurses were not included in the study). Appropriate modifications were performed prior to data collection for the actual study.

PROCEDURE

To collect data, semi-structured interviews were held from the beginning of June 2018 to the end of August 2018. Each nurse was interviewed individually once by the researchers using the tool. Nurses were interviewed in the morning, afternoon, and at the beginning of the night shift during their break time. Each interview lasted from 20 to 30 minutes. Data were coded and entered in statistical program to be analysed.

Administrative design and Ethical considerations:
A letter was submitted to the ethical committee and hospitals directors that contains the purpose, the required participants, the tool, and methods of data collection of the study to obtain their approval. Before starting the interviews, an explanation of the study aim was done and the confidentiality, anonymity, rights, refusal to participate, or withdraw from the study were emphasised to them. Consent was taken from nurses - all of whom agreed to participate in the study.

STATISTICAL ANALYSIS

The data were entered into SPSS system files (SPSS Package Version 20) using PCs. Output drafts were checked against the revised coded data for typing and spelling mistakes. Finally, analysis and interpretation of data were conducted. Descriptive statistics including frequency and distribution were used to describe different characteristics.

RESULTS

The results of the study are illustrated in two parts: nurses' perception of care of critically-ill patients with cancer and regarding their role toward relatives of critically ill patients with cancer.

Part I: Nurses' perception of care of critically-ill patients with cancer. Nurses stated that ICUs accept admission of critically-ill cancer patients. Regarding criteria/reasons of admission to ICUs; the more common reason is performing surgery (80%) followed by respiratory emergencies (70%), shock (50%), bleeding 40% and electrolyte disturbance (30%). As for the medical/surgical actions performed to the critically-ill cancer patients in ICUs; the most performed actions were administration of analgesics (70%), initiation of mechanical ventilation (60%), and monitoring effects of chemotherapy and radiotherapy (50%) as shown in Table 1.

Table 1: Criteria for ICU admission and Medical/surgical actions performed to critically ill cancer patients in ICUs as reported by nurses.

Criteria for ICUs admission	Total (60) No. (%)	Medical/ Surgical actions	Total (60) No. (%)
Surgery	48(80%)	Analgesics	42(70%)
Respiratory emergencies	42(70%)	Intubation	36(60%)
Shock	30(50%)	Chemotherapy	30(50%)
Bleeding	24(40%)	Radiotherapy	30(50%)
Electrolyte disturbances	18(30%)	Blood transfusion	24(40%)
Others	12(20%)		

Table 2: Nursing interventions performed to the critically ill cancer patients in ICUs.

Nursing interventions	Total (60) No. (%)	End of life care	Total (60) No. (%)
Care of mechanically ventilated patients	60(100%)	Pain relief medication	60(100%)
Oxygen administration	36(60%)	CPR termination	60(100%)
Monitoring during Chemotherapy & Radiotherapy	30(50%)	Providing basic nursing care	48(80%)
Psychological support	36(60%)	Spiritual support	36(60%)
Blood transfusion	24(40%)	Psychological support	36(60%)
Others	12(20%)	Extra family visits	42(70%)
Special considerations			
Psychological support	60(100%)		
Spiritual care	60(100%)		
Communication/information	60(100%)		
Infection control measures	42(70%)		
End of life care	24(40%)		
Control bleeding	18(30%)		

Regarding the nursing interventions performed for the critically-ill cancer patients in ICUs -as seen in Table 2, nurses agreed that care of cancer patients is the same care for any critically-ill patient in general as they provide care of mechanically ventilated patients (100%), oxygen administration (60%), blood transfusion (40%), in addition to cancer-related care such as monitoring during chemotherapy and radiotherapy (50%), and they need psychological support (60%). There are special considerations for care of critically-ill cancer patients as reported by nurses such as psychological/spiritual care and communication and information (100%), strict infection control measures (70%), and control of bleeding (30%). As for the end-of-life care, many aspects are performed for critically-ill cancer patients such as administration of pain relief medications and termination of CPR (100%), basic nursing care (80%), psychological/spiritual care (60%), and allowing extra visits for relatives (70%) were provided to the critically-ill cancer patients in ICUs as end-of-life care measures.

Part II: Nurses' perception regarding their role toward relatives of critically-ill patients with cancer. Nurses stated that admitting cancer patients to the ICUs means a lot of cost, stress, and depression to their relatives. As stated by nurses, relatives had feelings of sadness, depression and were crying and over-caring of their patients. Nurses reported that relatives of critically-ill cancer patients have many needs; all nurses (100%) reported that relatives' needs to have questions answered honestly, to know how the patient was being treated, frequently see their patient, and feel that the ICU healthcare team cared about their patient, are essential for relatives from their point of view. Most nurses reported that the essential relatives' needs are to know the prognosis, talk with the nurse each day (98.33%) followed by understanding the reasons behind the especial management performed for their patient, be informed about any changes in the patient's condition even when they are at home, and that their patient is receiving the best possible care (96.67%) and receive information daily regarding the condition of their patient, have adequate explanations in understandable terms related to their patient that are able to talk to the doctor every day (90%). However, some relatives' needs are of little importance or not important at all from the nurses' perspectives such as having a telephone in the waiting room (13.33% and 48.33%), regarding social support; relatives need to be told about other hospital staff who could help with their problems (20% and 30% respectively), know types of ICU staff who are taking care of their patient (20% and 30% respectively), and have explanations/ orientation of the ICU environment before admission (18.33% and 20%) as shown in Table 3.

Table 3: Needs of critical cancer patients as perceived by nurses.

Needs	Absolutely Essentia No (%)	Very Important No (%)	Of Average Importance No (%)	Of Little Importance No (%)	Not important at all No (%)
Have questions answered honestly	60(100%)	-	-	-	-
Know the prognosis	59(98.33%)	1(1.67%)	-	-	-
Talk with the nurse each day	59(98.33%)	1(1.67%)	-	-	-
Know how the patient was being treated	60(100%)	-	-	-	-
Know why things were done for the patient	58(96,67%)	2(3.33%)	-	-	-
Be called at home about changes in the patient's condition	58(96,67%)	2(3.33%)	-	-	-
Receive information about the patient once per day	54(90%)	6(10%)	-	-	-
Be assured that the best possible care was being given to the patient	57(95%)	3(5%)	-	-	-
Have explanations given in terms that are understandable	54(90%)	6(10%)	-	-	-
Feel there was hope	48(80%)	6(10%)	6(10%)	-	-
Know exactly what was being done for the patient	53(88.33%)	4(6.67%)	3(5%)	-	-
Talk to the doctor every day	54(90%)	3(5%)	3(5%)	-	-
Be told about transfer plans	45(75%)	4(6.67%)	6(10%)	2(3.33%)	3(5%)
Know specific facts about the patient's condition	44(73.33%)	6(10%)	4(6.67%)	3(5%)	3(5%)
See the patient frequently	60(100%)	-	-	-	-
Feel that hospital personnel cared about the patient	60(100%)	-	-	-	-
Feel accepted by the hospital staff	37(61.67%)	5(8.33%)	3(5%)	3(5%)	12(20%)
Have visiting hours or restrictions changed for special conditions	48(80%)	9(15%)	3(5%)	-	-
Have someone concerned with the family member's health	36(60%)	6(10%)	3(5%)	3(5%)	12(20%)
Have a telephone in the waiting room	12(20%)	6(10%)	5(8.33%)	8(13.33%)	29(48.33%)
Have directions regarding what to do at the bedside	48(80%)	6%	3(5%)	4%	3(5%)
Talk about the possibility of the patient's death	30(50%)	6(10%)	5(8.33%)	7(11.67%)	12(20%)
Have a specific person to call at the hospital when not there	48(80%)	4(6.67%)	3(5%)	3(5%)	2(3.33%)
Be told about other people who could help with problems	18(30%)	10(16.67%)	2(3.33%)	12(20%)	18(30%)
Know about the types of staff taking care of the patient	18(30%)	10(16.67%)	2(3.33%)	12(20%)	18(30%)
Have explanations of the environment before going in	42(40%)	29(48.33%)	6(10%)	11(18.33%)	12(20 %)
Have visiting hours start on time	48(80%)	11(18.33%)	1(1.67%)	-	-
Have friends nearby for support	36(60%)	6(10%)	8(13.33%)	3(5%)	7(11.67%)
Help with the patient 's physical care	30(50%)	9(15%)	7(11.67%)	9(15%)	5(8.33%)
Talk about feelings	42(70%)	7(11.67%)	5(8.33%)	4(6.67%)	2(3.33%)

DISCUSSION

Intensive care unit (ICU) admission of critically-ill cancer patients have had many challenges in the past two decades. Many ICUs were refusing the admission of cancer patients because many with suffering from this chronic disease at this stage, options of treatment are limited, patients spend a little time in ICU and then die before ICU discharge. In-hospital mortality rates for cancer patients are less than mortality rates of critically-ill patients[3]. However, the survival rates of critically-ill cancer patients are less than other critically ill patients. In this study, nurses accepted the rights of critically-ill cancer patients to be admitted to ICUs and have the required care. This is in line with Azoulay *et al*[9]. who reported acceptance of critically-ill cancer patients' admission to the ICUs which lead to improvement in the survival rates of these critical-ill patients. This improvement in survival rate was reported in many studies for patients who needed management with vasopressors, mechanical ventilation, and renal replacement therapy. Studies found that appropriate admission of critically-ill cancer patients helped improving their disorders and their survival rate[2, 4, 5].

The findings of this study revealed that the criteria for admitting cancer patients to ICUs from nurses' point of view are surgery, respiratory emergencies, shock, bleeding, and electrolyte disturbance. Several studies agreed with our results and revealed that managing cancer patients in ICUs through using of more targeted therapeutic regime, providing intensive chemotherapy treatments and innovative therapeutic approaches especially for cancer-related complications resulted in improving the cancer cure rate. Cancer-related complications can lead to organ dysfunction mainly respiratory failure which necessitates ICU admission. Management of cancer patients with organ dysfunction requires specialised skills and holistic care which is received in ICUs[3].

Critically-ill cancer patients receive many ICU actions as they conditions require. In this study, nurses stated that critically-ill cancer patients admitted to ICUs to receive analgesics, intubation, chemotherapy and radiotherapy, and blood transfusion. This was also reported by many studies, who is stated that cancer patients admitted to ICUs for mechanical ventilation support, renal replacement therapy, and vasopressors and monitoring for chemotherapy and radiotherapy[5 - 13]. In this regard, a general improvement in CCUs mortality of cancer patients was reported over time, the reason for this improvement may because of improvement of ICU management, development of more targeted therapies, using more intensive chemotherapeutic treatments, and advances in supportive care[3, 12, 20]. Soares *et al*[4]. stated that advances in oncology and intensive care are probably being translated into a better outcome[21].

Care of critically-ill cancer patients, is the same as care for any critically-ill patients, as nurses stated in this study - and added that those patients need more psychological support and communication. Critically-ill cancer patients most important needs include management of manifestations, psychological, emotional, and social spiritual needs. Meticulous care of these patients during the ICU period is essential to ensure successful outcomes. Critical care nurses must identify and interpret patients' manifestations for formulating the required plan of care[22 - 24]. Critically-ill cancer patients may be admitted post-operative, intubated, have multiple connections need continuous monitoring and high-quality nursing care. Nurses reported that, cancer patients have many aspects of care in ICU such as management for the artificial airway, care for patients with mechanical ventilation, management of pain, electrolyte disturbances and others. Critically-ill patients have many psychological and emotional problems such as anxiety, fear, and depression. Therefore, they need support and reassurance[24, 25].

Relief of pain, providing emotional and psychological support are main aspects of care of critically-ill cancer patients as perceived by nurses. Collins *et al*[17]. stated that the five important roles of care of critically-ill cancer patients are being with the patient, vigilant respiratory system assessment, patient education and support of family or caregivers, care co-ordination, and pain management. There are significant communication exchanges between patients and non-physician health professionals[26]. Critically-ill patients in general have a low immunity because of many factors; their disorders, age, invasive lines and machines, and malnutrition. Critically-ill cancer patients may be under chemotherapy which make them at-risk for many complications. Critical care nurses present all the time with patients and see their suffering and the effects of therapy on them which result in alterations in their self-esteem and body image[3, 25, 26]. Therefore, nurses reported that there are special considerations for their care, which are infection control measures, communication/information spiritual care, psychological support, and end-of-life care.

These considerations were assured by many studies. Communication needs are essential for critically-ill cancer patients because they suffered a lot from cancer and cancer-related management and complications. These patients be afraid, suffer from anxiety, depression and may lose their hope to retain their lives. ICUs are full of machines, noise, life-threatening conditions, and resuscitation efforts, which precipitate stress for patients. In addition, ICU admission make them think that their life will end in the ICU. All patients need to have an explanation for everything that is being done for and to them, they need to practice their right to decide what will be done for them if they can, they can participate in their care and they need everyone to deal with them with trust in their own power and respect[3, 25 - 28]. Nurses must allow the critically-ill cancer patients to express their thoughts, and talk freely about their fear, sadness, and anxiety. Critically-ill cancer patients need to have the care provider to be with them in all their suffering and help them to combat their disease and cancer related-complications[25].

Termination of CPR is performed for terminally-ill cancer patients as our results revealed. This agrees with Gendt *et al*[27]. who reported that nurses may decide not to start CPR for a patient without do-not-resuscitate (DNR) status as it is considered a futile procedure for them. Providing a good death was the major theme of the result of Beckstrand[28] study and specific suggestions were offered to ensure death with dignity and peace. His study listed critical care nurses' suggestions to improve end-of-life care in ICUs which are: management of pain and discomfort; recognising and following the patient's wishes regarding end-of-life care; promoting of earlier termination of aggressive treatment; not allowing the patient to die alone; communicating effectively as a healthcare team; and educating others about quality end-of-life care[28]. A major ethical issue facing nurses in ICUs is DNR. Many critically-ill cancer patients have DNR orders which means providing care - including all medical interventions - except vasopressors, and CPR but providing spiritual care, pain relief management, comfort measures, and other basic patients' needs[29 - 31].

The most technologically sophisticated care is provided for patients in ICU, to manage their life-threatening problems, while restoring the quality to their lives. Many studies have reported that nurses participate in end-of-life decision-making with the other healthcare team and provide care for patients and their relatives in this stage. In this study, nurses reported that patients' needs for spiritual and psychological care. They need to feel that while other people care of them, they need to see their relatives and close ones. Nurses stated that they try to allow more flexible

visiting hours. In the same line, Carlson *et al*[32]. reported that nurses allow as much free visiting hours as they can and, in some cases, nurses tend to decrease the visiting time as the patients' condition allows. Some studies revealed that nurses may restrict relative's visit hours if the ICU is very busy[33 - 35]. However, in other studies, nurses insist on restrictions in the visiting hours because they see that ICU is a busy work area, too small to care for patient and allow for extra-visitation at the same time. Paediatric nurses were very resistant to allow parents to visit their children despite those who perceived themselves as family friends[36]. Relatives of critically-ill cancer patients have many emotional and psychological problems. They are with their patients in all the disease processes. Relatives of critically-ill cancer patients are always present and share in making crucial decisions about the patients' care and management. Studies have found that the most important relatives needs are to be present with their patients as much they can; constant and informed information needs, and being able to ventilate their feelings.

The top important relatives' needs as reported by Ghabeesh *et al*[31]. are being certain that the care given for their patients is the best; that health team members are caring about their patients; and the health team members answer their questions honestly. In our study nurses' perceived relatives' needs are more than important for them, they express their understanding of their sufferings with their patients. Nurses demonstrated that the most important relatives' needs are: **information needs** - answering the questions honestly, knowing the progress of how the patient is doing frequently, can be informed about any changes in their patients' conditions even if they are at home; **security and assurance needs** - such as know how their patients was being treated and managed in the ICU; assure that the **healthcare team care about their patients**, that they can talk with the healthcare team as and when they need to, and have/be given adequate explanation for what is being done for their patients; and **support and comfort needs** such as being able to see the patient frequently; and **have support from others**, and they can express their feelings openly about what they are feeling and going through.

Results of the study are consistent with many studies. Maxwell *et al.* revealed that the most important relatives' needs are, assurance, and information regarding management of patients in ICU. Safety and information needs are the most important relatives' needs as reported by Padilla-Fortunatti *et al*[29]. Ashrafian *et al*[30]. described the relatives' needs as social, cognitive, and psychological needs and stated that relatives' needs are important. However, some of these needs are not perceived valuable by the healthcare team and not met effectively, such as giving the relatives the needed explanation and information, understanding of the healthcare team of their feelings and sufferings, and communication needs. Many important decisions are taken by the critically-ill cancer patients' relatives in ICUs, therefore, relatives of these patients need enough information, explanation of difficult complex medical issues, empathy, psychological support to relieve their anxiety and help them to have at least a comfortable life while their patients are in the ICU[37 - 42].

This study raises the issues of needs of critically-ill cancer patients and their relatives in ICU regarding support either through giving adequate clear information, effective communication and psychological support. This study described the needs of critically-ill cancer patients and their relatives from the nursing perspectives. Data collection in this study was conducted in different hospitals including private, health insurance and university hospitals which is considered a strength for this study. However, there are some limitations of this study, identifying critically-ill cancer patients and relatives' needs from only the nurses' perspectives, it may be

more relevant to take the perceptions of critically-ill cancer patients and their relatives to determine their needs. In addition, limited studies performed regarding needs of critically ill cancer patients and their relatives made the discussion difficult.

CONCLUSION

The management of critically-ill cancer patients is a challenging task. Nurses stated that the criteria for admitting cancer patients to ICUs are surgery, respiratory emergencies, shock, and bleeding, and electrolyte disturbance. Critically-ill cancer patients admitted to ICUs to receive analgesics, intubation, chemotherapy and radiotherapy, and blood transfusion. Care of critically-ill cancer patients is the same as the care of any critically-ill patient. Critically-ill cancer patients need special approaches for communication. Relatives of critically-ill cancer patients have many needs - include information, communication, and psychological needs.

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