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Original Article

Counselling Patterns of Community Pharmacies when Dispensing Antibiotics in Galle DS Division, Sri Lanka

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Abstract

Antibiotic resistance has been identified as a significant health issue across the world. Inappropriate antibiotics prescribing by physicians, dispensing antibiotics without prescription and counseling by pharmacists, and the misuse of antibiotics by patients make them chief parties responsible for this global problem. Community pharmacists have a major responsibility to counsel the patients before dispensing antibiotics. The objectives of this study was to investigate the counselling patterns of community pharmacies when dispensing antibiotics and to examine whether the community pharmacists demand a prescription when dispensing antibiotics in Galle, Sri Lanka. This was a simulated patient study involving community pharmacists/ pharmacy assistants who work in community pharmacies in the Galle DS division (Divisional Secretary Division), Sri Lanka. Case scenarios of specific product requests (Erythromycin tablets, Ciprofloxacin tablets, Amoxicillin syrup) were presented by a simulated patient, and data were recorded after purchasing each product. Most of the pharmacists/ pharmacy assistants (72%) didn't demand a prescription for antibiotic dispensing. About 82% of the visited pharmacies had dispensed antibiotics without a prescription. Only 14% of community pharmacies in the area had taken medical and lifestyle history of simulated patients (investigators) before dispensing. Advice or counselling regarding antibiotics were given only by 24% of the community pharmacies. Counselling patterns of community pharmacies in the area were unsatisfactory. Major issues of dispensing antibiotics and, not demanding a prescription were common. These issues need to be addressed by health authorities and policymakers to safeguard patients.

Keywords: Antibiotics, Counselling, Dispensing, Pharmacy

Introduction

The medicines that are used to treat and prevent bacterial infections are called antibiotics (WHO, 2016). Antibiotics are molecules that inhibit the growth of bacterial cells or kill microorganisms.

Development of antibiotics is indeed a great achievement of modern medicine (Aminov, 2010). In the pre antibiotic era several , thousands of people were killed by serious diseases caused by bacteria However antibiotic use has to be done with uttermost care. Antibiotics at the right time, for the right indication, can cure many serious and life-threatening illnesses (Aminov, 2010). Although antibiotics are beneficial discoveries of science, their use carries risks and can affect patients adversely by causing direct toxicity, hypersensitivity, altering of normal bacterial flora, and development of antibacterial resistance (Emeka, Al-omar, & Khan, 2012).

The use of non-prescription-based antibiotics for self - limiting infections and inappropriate usage of antibiotics; drug - associated adverse drug reactions, and development of antimicrobial resistance have increased medical cost. (Shet et al., 2015).

Antibiotic resistance is one of the biggest threats to global health. It can affect anyone, of any age in any country (WHO, 2016). When bacteria changes, the response towards antimicrobial , antibiotic resistance occurs (WHO, 2016). Further, bacteria are becoming increasingly resistant to conventional antibacterial agents globally. New resistance mechanisms by bacteria are arising and spreading globally, reducing the ability to treat common infectious microbial diseases. Antibiotic resistance leads to a prolonged hospital stay, higher medical costs as well as an economic burden on societies, and increased mortality. Antimicrobial resistance is a natural process, which is accelerated by misuse of antibiotics. Thus there is an urgent need to intervene to ensure correct prescribing, dispensing of prescribed drugs and to stop misuse of antibiotics (Emeka st al., 2012).

In order to control the spread of antibiotic resistance, healthcare professionals should follow certain steps such as, only prescribe and dispense antibacterial agents according to the current guidelines, when they are needed, report information about antibiotic-resistant infections and adverse drug reactions, advice patients about dangers of misuse, how to take antibiotics correctly and advice patients on how to prevent infections (WHO, 2016) Pharmacists play a wider role in communicating with patients regarding health, as health educators and consellers than only as dispensing chemists. Further most countries in the world have adopted regulations to counsel all consumers and thus protect them (Coleman, 2003).

Pharmacists have a responsibility to provide health information and resources to patients, healthcare providers, and others who need that. Hence the working habits, education, attitudes, and knowledge about antibiotic resistance are very important (Coleman, 2003). Patient counselling regarding their medicines is an important part of pharmaceutical care and pharmacy practice. Pharmacists have a major responsibility to educate/counsel patients before dispensing the medication (Poudel, et al., 2009)

Around the world, millions of people visit community pharmacies, every day, for their healthcare needs. Currently, community pharmacists are much focused in their new role in developed countries such as United States, United Kingdom, and Australia (Poudel, et al., 2009). However the role in developing countries are sparse.

Many research reports from community pharmacists in other countries related to counselling patterns when dispensing antibiotics are available. However to date studies from Sri Lanka are scarce. Therefore, this study was

undertaken for future recommendation implementation of correct practices in relation to counselling patterns on antibiotics among community pharmacists in Sri Lanka. This study is aimed to investigate the counselling patterns of community pharmacies in Galle area when dispensing antibiotics.

Further the findings of this study would be beneficial to get an idea of counselling patterns of community pharmacies when dispensing antibiotics in a geographic location in Sri Lanka and to promote rational use of antibiotics among the general public.

Methodology

A cross-sectional study was conducted from 12th April to 17th October , 2019, to investigate counselling patterns of community pharmacies in the Galle DS division Sri Lanka, when dispensing antibiotics after obtaining ethical approval from the Ethical Review Committee of Faculty of Medicine, University of Ruhuna (Ref.No. 14.12.2017:3.6). A convenient sampling technique was used in this study. Five pharmacies among community pharmacies available in the Galle town area were selected randomly per day. Likewise, research was conducted for 15 days. A simulated client methodology was used. One investigator, who was a pharmacy student of the Faculty of Allied Health Science, University of Ruhuna visited the selected pharmacies. The investigators were simulated under three case scenarios.

Case Scenario 1- The sick sister was at home, and her sibling visited the pharmacy asking for ciprofloxacin 500mg five tablets for the sick sister. In the case, the pharmacist asked specific questions, and additional information was provided.

Case Scenario 2- The investigator having a sore throat visited the pharmacy asking for two tablets of erythromycin. In the case ,the pharmacist asked specific questions, and additional information was provided.

Case Scenario 3- The investigators' niece having a productive cough, runny nose, and fever visited the pharmacies asking for amoxicillin dry syrup 125 mg per 5 ml suspension. In the case, the pharmacist asked specific questions, and the investigator gave additional information.

In all three scenarios, if antibiotics were dispensed, it was checked whether they provide information on duration, direction for use, and other relevant information. If refused to dispense, did they suggest referring to a doctor were checked. After leaving the pharmacy, the investigator recorded whether the pharmacist/ pharmacy assistant dispensed antibiotics without prescription or not. Also the type of antibiotic, and if the required information provided was recorded. Pharmacists and pharmacy assistants were identified according to the pharmacy license which had been displayed in the pharmacy. Each pharmacy was visited only once, and the investigators visited approximately 50 pharmacies according to the sample calculation.

Results

Participation of pharmacists in community pharmacy practice

The descriptive statistics of participation of pharmacists in community pharmacy practice is shown in Table 1. According to the details collected 38 (76%) pharmacies were functioning without pharmacists at the time of visit. Only 24 (12%) pharmacists were present in the pharmacies at the time of visit. Among the persons who served the simulated patients in this study, most were pharmacy staff 46 (86%) and the rest were pharmacists 7 (14%). More than half of the respondents (52%) were female.

Variable	Frequency (%)
Pharmacist was present in the pharmacy at the time of visit	N= 50
No	38 (76.0)
Yes	12 (24.0)
Who served	N= 50
Pharmacist	7 (14.0)
Pharmacy staff	43 (86.0)
Gender of the pharmacist/ pharmacy staff who served	N= 50
Male	24 (48.0)
Female	26 (52.0)

Table 1: Participation of pharmacists in community pharmacy practice

Dispensing antibiotics without prescription

The descriptive statistics about dispensing antibiotics with or without prescription is described in Table 2 . Among them, most pharmacists/ pharmacy staff 36 (72%) didn't demand a prescription for antibiotic dispensing. Almost all the pharmacies 41 (82%) dispensed antibiotics without a prescription. Only 9 (18%) pharmacies rejected dispensing antibiotics without prescription.

Variable	Frequency (%)
A prescription was demanded by the pharmacist/ staff	N= 50
No	36 (72.0)
Yes	14 (28)
Was an antibiotic dispensed	N= 50
No	9 (18%)
Yes	41 (82%)

Table 2: Dispensing antibiotics without prescription

Asking questions about the health issue by the pharmacist/ pharmacy staff, before dispensing antibiotics

Descriptive statistics of the questions asked by pharmacists/pharmacy staff, in relation to the condition are shown in Table 3. According to findings, 35 (70%) respondents didn't ask for whom the medicine is purchased. Almost all pharmacists/ pharmacy workers didn't ask about the symptoms. Further 40 (80%) respondents didn't ask what the symptoms were and 48 (96%) respondents didn't ask about the period of the symptoms. According to the results, only 2 (4%) pharmacists/pharmacy staff asked about the action that had already been taken. Also no one asked about any other medicines, the patient was currently using before dispensing the antibiotic.

Variable	Frequency (%)
For whom is the medicine?	N=50
No	35 (70.0%)
Yes	15 (30.0%)
What are the symptoms?	N=50
No	40 (80.0%)
Yes	10 (20.0%)
How long have you had the symptoms?	N=50
No	48 (96.0%)
Yes	2 (4.0)
What action has already been taken?	N=50
No	48 (96.0%)
Yes	2 (4.0%)
Are you taking any other medicines?	N=50
No	50 (100%)

Table 3: Asking questions about the condition by respondents

Medical and lifestyle history taking

According to the descriptive statistics of medical and lifestyle history taking, 43 (86%) respondents did not take the medical and lifestyle history. Only 7 (14%) community pharmacies in the Galle area took the medical and lifestyle history of simulated patients. The descriptive statistics of questions regarding medical and lifestyle history, asked by pharmacists or assistances is reported in Table 4.

Only 7 pharmacists or assistants out of 50 took medical and lifestyle history during this simulated study. Out of that 7 respondents who had taken history by simulated patients, only 1 respondent had asked the gender of the patient and the allergies of the patient, before dispensing antibiotics without prescription. However none of

the respondents inquired about other diseases and medical conditions that the patient may have from past.

Variable	Frequency (%)
Medical and lifestyle history taking	N= 50
No	43 (86.0%)
Yes	7 (14.0%)
Under the lifestyle history, asking questions about,	
Age of the patient	N=7
Yes	7
Gender of the patient	N= 7
No	6
Yes	1
Allergies	N= 7
No	6
Yes	1
About other diseases	N=7
No	7

Table 4: Medical and lifestyle history taking

Advice or counselling upon dispensing

The descriptive statistics of giving advice or counselling upon dispensing antibiotics without prescriptions in the Galle area is described in Table 5. According to the data, advice or counselling regarding antibiotics was given by 12 (24%) community pharmacies in the Galle area during dispensing. However 38 (76%) community pharmacies didn't give any advice or counselling upon dispensing antibiotics without prescription. According to table 5, any kind of advice and counselling regarding antibiotics dispensing was given by 12 pharmacies out of 50 community pharmacies. Out of those 12 pharmacies, information on "how to take" was provided by 9 pharmacies. It was given verbally by 8 pharmacies and only one pharmacist gave both written and verbal. Information on "how often antibiotic should be taken" was given by 7 community pharmacies and almost all gave that verbally. Information on "when to stop taking antibiotics" was provided by 5 community pharmacies. It was provided verbally by 4 community pharmacies and only one provided as written information. Out of those 12 community pharmacies that were provided advice or counseling upon dispensing, 8 pharmacies recommended seeing a physician, rather than taking antibiotics without prescription. None of the respondants informed about the side effects of the antibiotics when dispensing during this simulated study.

Variable	Frequency (%)
Received any advice or counselling upon dispensing	N= 50
No	38 (76.0%)
Yes	12 (24.0%)
Under the advice and counselling, the information was provided on,	
How to take the antibiotic	N = 12
Verbally	8
Both (verbally and written)	1
Non	3
How often should it be taken	N = 12
Verbally	7
Non	5
When to stop taking antibiotics	N = 12
Verbally	4
Written	1
Non	7
Recommended to see a physician	N = 12
No	4
Yes	8
Informed about the side effects of the antibiotic	N = 12
No	12

Table 5: Advice or counseling upon dispensing

According to the results, only 12 (24%) pharmacies were working with professional pharmacists at visit time. Further only 7 (14%) pharmacists served as respondents to this study out of a total of 50 community pharmacies in the Galle area and only 14 (28%) pharmacies demanded a prescription to dispense an antibiotic.

Cross - tabulation between whether the responder was a pharmacist or pharmacy staff vs. whether they demanded a prescription or not

There was a significant association (P = 0.014) between whether the respondent was a pharmacist or pharmacy staff vs. whether they demanded a prescription or not. When a pharmacist served as the respondent, the prescription was demanded by 5 (71.4%) pharmacists out of 7 pharmacistes who served as respondents. However prescription was demanded by only 9 (20.9%) pharmacy staff when dispensing antibiotics without a prescription. Further 34 (79.1%) pharmacy staff didn't demand a prescription.

Cross-tabulation between who served as the respondent vs. giving advice or counselling upon dispensing of antibiotics

There is a significant association (P = 0.006) between who served as the respondent (pharmacist/ or pharmacy staff) and giving advice or counselling upon dispensing of antibiotics. When dispensing antibiotics without prescription, counselling, and advice were given by 5 pharmacists (71.4%) among 7 pharmacists who served as respondents. However only 7 pharmacy assistants (16.3%) gave advice and counselling regarding antibiotics when dispensing antibiotics during this study among 43 pharmacy assistants who served as respondents.

Discussion

This is the first known study to be conducted in the Galle area to investigate counselling patterns of community pharmacies when dispensing antibiotics and also to investigate whether the community pharmacists demand prescription when dispensing antibiotics. This simulated patient study was used to assess community pharmacies regarding counselling patterns related to antibiotics.

At the time of visit, 76% of community pharmacies were functioning without pharmacists. Only 12% of pharmacies were working with pharmacists. Hence majority of pharmacies dispensed medicines without the supervision of a qualified pharmacist. A similar type of study done in Nepal, reported that 61% of dispensers who dispense medicines in community pharmacies, had only the orientation training regarding dispensing. In this study 30% of workers had orientation training followed by other qualifications. Only 9% of workers were pharmacists with B pharm or D pharm (Poudel, et al., 2009). This is an alarming finding and may be seen more commonly in developed countries as opposed to developed countries.

Among the persons who served simulated patients, most of them were pharmacy staff (86%) and the rest were pharmacists (14%). More than half of the respondents (52%) were female. But according to a study conducted in Nepal, 88.33% of pharmacy staff were males and 11.66% were females (Poudel, et al., 2009). Hence as seen in the current study it is seen that increasingly pharmacies are using staff in dispensing drugs especially so in the developing areas of the world. The staff in pharmacies are not trained and thus are not aware of the consequences in misuse of antibiotics. These factors when not addressed will result in increased antibiotic resistance among other drastric consequence of misuse of antibiotics.

Among respondents (pharmacists/ pharmacy staff) in this report, 72% didn't demand a prescription for antibiotic dispensing. Only 18% of pharmacies rejected dispensing antibiotics without prescription. Alarminly almost all the pharmacies (82%) included in this study dispensed antibiotics without prescription. According to the findings of the similar types of studies done in India, Indonesia, and also Al Ahsa, Abidjan like Arabic and African countries, the majority of pharmacies (91%-45%) have dispensed antibiotics without prescriptions. Also in a study in Syria, 87% of the pharmacies agreed to sell antibiotics without prescription (Al-Faham, Habboub, & Takriti, 2011). However in developed countiries such as New Zealand, Malaysia, and Greece which were at a higher socio economic state had a low rate of dispensing antibiotics without prescription (Puspitasari et al., 2011b; Soumya et al., 2016; Emeka et al., 2012; Hounsa et al., 2010; Fatokun, 2014; Dameh et al., 2012; Contopoulos-Ioannidis et al., 2001).

Similar to results observed in the current study several other studies including the study from Indonesia said, in case of purchase of antibiotic without prescription, the clients were never questioned (Hadi et al., 2010). Only about half, the pharmacy staff asked for information about the symptoms, frequency of symptoms, and age of the patient, while questions about medicines that had already been taken, feeding, and health status were rarely asked (10%) in studies done in Vietnam as

well as Thailand (Duong et al., 1997; Chalker, Ratanawijitrasin, Chuc, Petzold, & Tomson, 2005).

The purpose of purchase of antibiotics was asked by only 26% of pharmacists/ pharmacy staff from simulated patients during this study. According to the results of the study, the overall counselling process was not at a good level. One of the studies in Indonesia said no information leaflets or oral instructions were given. In case of purchase without prescription, the clients were never questioned or referred to a physician (Hadi et al., 2010). Further no one was informed about the side effects of the antibiotics when dispensing during this simulated study. When considering the results, pharmacists/ pharmacy staff in community pharmacies in Galle didn't engage in the counselling process properly. Further among the few community pharmacies who gave counselling, almost all gave it verbally. A similar study done in Vietnam also reported that, the advice given by pharmacy staff to purchasers was poor (Duong et al., 1997). In contrast findings of an Indonesian study report that, medicine information on the indication, dosing duration, and direction for use were provided more frequently in all cases (Puspitasari et al., 2011a).

There was a significant association between whether the respondent was a pharmacist or pharmacy staff vs. whether they demanded a prescription or not. When a pharmacist served as the responder, a prescription was demanded by 5 (71.4%) pharmacists from 7 pharmacists who served as respondents. This highlights that when qualified persons are engaging in dispensing drugs a better service is given as oppsed to when pharmacy staff dispense drugs in pharamcies which results in inadequate counselling and services renedered to the general public. Further as seen in this report services rendered by unqualified pharmacy staff where prescription was demanded by only 9 (20.9%) pharmacy staff when dispensing antibiotics without a prescription highights that lack of training and knowledge and mainly lack of education regarding the consequences of antibiotic misuse are reasons for the results seen. This highlights an important issue as to whether pharmacies employ unqualified people to dispense medicine looking for financial benefits and higher profits subjecting the public to danger. Interestingly this pattern on employment of non pharmacist to dispense drugs and thus leading to lack of standard services when dispensing antibiotics are seen also in other developing nations. A similar type of study done in Nepal reported that, only 31% of pharmacy assistants considered counselling as their duty (Poudel, et al., 2009). Similarly,the same kind of simulated patient study done in India reproted that none advised on potential side effects or possible drug allergies, during dispensing antibiotics without prescription (Shet et al., 2015). However in contrast in the developed countries and those with a higher socio economy follow rules and regulations in dispensing drugs very strictly. Hence current study highlgihts alarming practices being carried out in dispensing antibiotics in Sri Lanka

Conclusion

The counselling pattern of the community pharmacies in the area was very unsatisfactory. There was a significant association between who served as the respondent (pharmacist/ or pharmacy staff) and giving advice or counselling upon dispensing of antibiotics. When the pharmacist was the respondent, it increased the rate of demanding prescriptions as well as the rate of giving advice and counselling. Also, almost all community pharmacies didn't take the patient's medical and lifestyle history. Major issues of dispensing antibiotics such as not demanding a prescription were common and these issues need to be addressed by health authorities and policymakers to safeguard the patients. Community pharmacy service related to counselling on antibiotics is low in the Galle DS Division, Sri Lanka.

Limitations

During this patient-simulated study, one community pharmacy was visited only once.

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Ethical Statement

Ethical approval was granted from the Ethics Review Committees of the Faculty of Medicine, University of Ruhuna, in 2017 (Ref.No. 14.12.2017:3.6).

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Original Article

Impact of COVID-19 pandemic on patients seeking cancer therapy at a cancer hospital in Sri Lanka

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Abstract

Background: Every sixth death in the world is caused by cancer and it is estimated that nearly 10 million deaths in 2020 are attributed to cancer. Uninterrupted management is instrumental for the quality of life and prognosis of these patients. Delivering care for patients with cancer during COVID 19 crisis is challenging. Empirical evidence of the impact of COVID 19 in the management of cancer patients is vital for implementing appropriate measures to continue cancer care while battling COVID 19 pandemic.

Aim: To assess the impact of the COVID-19 pandemic on the management of cancer patients at Apeksha Hospital, Sri Lanka.

Methods: A descriptive cross sectional study was carried out at Apeksha Hospital from April 2020 to September 2020. Ethical approval was obtained from the Ethics Review Committee of KIU (KIU/ERC/20/60). A sample of 225 patients with cancer, aged 18 years or older were enrolled in the study. Critically ill patients or patients experiencing an acute psychiatric episode were excluded from the study. Pre-tested interviewer-administered questionnaire was used for data collection. Data were analyzed using descriptive statistics such as frequencies, percentages, means, and standard deviations. IBM SPSS version 25 was used as the data analysis tool.

Results: The mean age of the participants was 42±14 years. Majority of the participants were unmarried (n=151, 67.1%), females (n=158, 70.2%). The commonly reported cancers were, blood cancer (n= 50, 22.2%), breast cancer (n=43, 19.1%), ovarian cancer (n=29, 12.9%), sarcoma (n=23, 10.2%) and cervical cancer (n=22, 9.8%). The majority (n=222, 98.6%) reported that their treatment was delayed due to COVID-19. Withholding clinics (n=173, 76.9%), fear of COVID 19 (n=161, 71.6%), lack of chemotherapy drugs (n=90, 40.0 %), delay in CT/MRI scan (n=89, 39.6%), lack of transport facilities (n=68, 30.2%), lockdown condition (n=53, 23.6%), financial issues (n=31, 13.8%) and postponing surgeries (n=16, 7.1%) were the commonly reported reasons found for the delay in treatments. Only 16% (n=36) had sought alternative methods such as faith pacification, seeking ayurvedic treatments and getting temporary treatment from the family doctor to manage the progress of cancer during the COVID-19 period.

Conclusion: The COVID-19 pandemic substantially disrupted cancer management. The study highlights the necessity of appropriate provisions to continue cancer treatment during the COVID-19 pandemic.

Keywords: Cancer patients, Cancer management, Treatment default, a Treatment delay COVID 19 Pandemic

Introduction

Cancer is the 2nd leading cause of death and a significant barrier to life expectancy (Murphy et al., 2018). Globally, 19.3 million new cancer cases and nearly 10 million cancer deaths were reported in 2020 (Sung et al., 2021). According to the WHO statistics for Sri Lanka, in 2016, 23,530 cancer cases were reported and the premature death rate attributed to cancer was 23.4% (WHO, 2020). Further, patients who have cancer or who are on cancer therapy often have a substantial risk of getting an infection, which may be severe or and life threatening (Panghal et al., 2012).

The lifestyle of the global population has been completely changed since the beginning of the pandemic of novel coronavirus 2019 (COVID 19). The World Health Organization declared severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection as a global pandemic on March 11th, 2020 (Song et al., 2020). This is a highly infectious disease transmitted from human to human by respiratory droplets, close contact with diseased patients and, fecal-oral and aerosol contact (Hindson, 2020; Kuderer et al., 2020). The COVID-19 pandemic has an impact on the physical, social, and psychological functioning of individuals and societies (Algahtani et al., 2021). Patients with cancers diagnosed with COVID-19 have been vulnerable to greater morbidity and mortality (Javanmardi et al., 2020).

The infection rate of COVID-19 among patients with cancer was reported to be higher compared to patients without cancers (Yang et al., 2020). The prevalence of death was 21.2% among the COVID-19 patients with cancer in China (Yang et al., 2020). In addition to the higher risk of contamination from the virus, developing COVID-19-related complications are also seen in these patients. The reason for increased risk in cancer patients is attributed to the immunocompromised state due to effects of chemotherapy and supportive medications such as steroids (Kuderer et al., 2020). Frequent treatment and frequent visits to the hospital have also resulted in higher risk (Yang et al., 2020).

During COVID 19 crisis, delivering care for patients with cancer is challenging. Many patients with cancer have struggled to receive treatment due to cancelling or postponing surgeries and other procedures, social distancing, and lockdown measures (Buntzel et al., 2020). Regular monitoring and continuing treatment without delay are essential when managing cancer patients (Hanna et al., 2020). Alterations in usual cancer treatments might adversely impact the quality of life (Ciążyńska et al., 2020) and the mental health well-being of the cancer patients (Chen et al., 2021). There is a paucity of evidence regarding how COVID 19 influences cancer treatment in Sri Lanka. Therefore, this study was aimed to evaluate the impact of the COVID-19 pandemic on management of cancer patients at Apeksha Hospital, Sri Lanka.

Methodology

A descriptive cross-sectional study was carried out in Apeksha Hospital from April 2020 to September 2020 to assess the impact of the COVID 19 pandemic on management of cancer patients. The Apeksha Hospital is the only National Hospital in Sri Lanka that is dedicated to treat cancer patients (Patabendige et al., 2021). Ethical approval was obtained from the Ethics Review Committee of KIU (KIU/ERC/20/60) along with the written permissions by the hospital director and the chief nursing officer. Cancer patients seeking treatment from the Apeksha Hospital were invited to take part in the study. Volunteer patients who provided written informed consent were enrolled in the study. Patients who were critically ill or experiencing an acute psychiatric episode were excluded. Data were collected from 225 cancer patients using an interviewer-administered questionnaire which was pretested on a group of 10 cancer patients who sought treatment at Apeksha Hospital. The pretested questionnaire was modified based on the feedback of the participants.

Collected data were entered into a database created using Microsoft Excel 2019. After data cleaning, Excel database was exported into the IBM SPSS version 25. The data were analyzed

using appropriate descriptive statistics. Continuous variables are expressed as mean ± standard deviation and categorical variables are expressed as frequency and percentage. Salient findings were depicted using frequency distribution tables and bar charts.

Results

A total of 258 patients who sought cancer treatments from Apeksha Hospital, Sri Lanka were invited to participate in the study and 225 participants were enrolled in the study. The response rate was 87% (n=225). Gender, age, ethnicity, marital status, educational level, and employment status were assessed as demographic characteristics. Majority of the participants were Sinhalese (n=193, 85.8%) and females (n=158, 70.2%). The age of the participants ranged from 18 to 80 years and the mean age was 42 ± 14 years. Nearly 83.1% (n=187) of the participants had received education up to senior secondary level. However, 46.2% (n=104) were unemployed. Socio demographic characteristics of the participants were depicted in Table 1.

Table 1: Socio demographic characteristics (N=225)

Demographic characteristics		Frequency	Percentages %
Gender	Female	158	70.2
	Male	67	29.8
Age in years	Young (18 – 25 years)	152	67.6
	Middle-aged (26 – 60 years)	46	20.4
	Elderly (above 61 years)	27	12.0
Ethnicity	Sinhalese	193	85.8
	Tamil	15	6.7
	Muslim	10	4.4
	Burgher	7	3.1
Marital status	Single	151	67.1
	Married	56	24.9
	Divorced	14	6.2
	Widowed	4	1.8
Educational level	Never went to school	7	3.1
	Primary (Up to grade 5)	31	13.8
	Senior secondary (Up to O/L)	88	39.1
	Collegiate (Up to A/L)	65	28.9
	Tertiary (Diploma and above)	34	15.1
Employment status	Unemployed	103	45.8
	Self-employee	27	12.0
	Private sector employee	60	26.7
	Government sector employee	31	13.8
	Retired	4	1.8

Participants' clinical characteristics were assessed to investigate the disease burden. Past medical history of the participants revealed that 26.2% (n=59) of the participants were suffering from diabetes mellitus while 20.0% (n=45) had high blood pressure. The prevalence of Asthma among the participants was 12.9% (n=29) while 3.1% (n=7) of the participants had ischemic heart diseases. Inquiry into surgical history revealed that the participants had undergone mastectomy (n=18, 8.0%), bilateral oophorectomy (n=14, 6.2%), and thyroidectomy (0.9%, n=2) respectively. Few (n=2, 0.9%) of the participants showed food and drug allergy.

The majority (n=162, 72.0%) of the participants had been diagnosed within the last two years while 7.5% (n=17) of the participants included those with five years of survival after the diagnosis. The types of cancers reported by the study participants are shown in Figure 1.

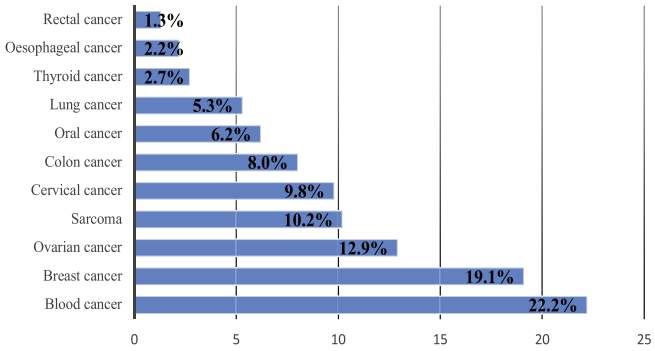

Figure 1: Types of cancer

All the participants received chemotherapy as a part of the treatment plan. Radiation therapy (n=92, 40.9%), surgical treatment (n=60, 26.7%), hormone therapy (n=7, 3.1%), and Iodine therapy (n=7, 3.1%) were the other reported treatments.

On inquiry from the participants about the impact of COVID 19 on their treatment plan, a vast majority (n=222, 98.7%) of the participants claimed that their treatments were delayed due to COVID 19 pandemic. The study further investigated the reasons for the delay in treatments and measures taken to continue the treatment plan. Withholding clinics (n=173, 76.9%), fear of COVID 19 (n=161, 71.6%), lack of chemotherapy drugs (n=90, 40.0 %), delay in CT/MRI scan

(n=89, 39.6%), lack of transport facilities (n=68, 30.2%), lockdown condition (n=53, 23.6%), financial issues (n=31, 13.8%) and delay in surgical management (n=16, 7.1%) were among the prominent reasons to delay in treatments. Participants stated that strategies like establishing a helpline, sending reports online, posting the drugs, encouraging private transport and support from the family will be helpful in continuing with treatment.

Most of the participants (n=157, 69.8%) stated that their nutrition level was compromised due to COVID 19. Further investigations on the reasons for this impact revealed that lack of food items due to curfew and lockdown (n=88, 39.1%), decrease in family income (n=85, 37.8%), and inability to get nutritional foods frequently (n=79, 35.1%) were prominent.

The Majority (n=221, 98.2%) stated that they have encountered complications due to delay of treatment during the COVID 19 pandemic. The study further investigated the types of complications experienced by cancer patients due to delay of treatment. Psychological effects (n= 221, 98.2%), worsening pain (n=84, 37.3%), and exacerbation of wounds (n=3, 1.3%) were the prominent complaints as perceived by the participants. Stress (n=179, 79.6%), separation anxiety (n=135, 60.0%), depression - like symptoms (n=193, 85.8%) and impending doom (n=109, 48.4%) were the most reported psychological problems. Among the participants, 16.0% (n=36) stated that they were using alternative methods to minimize the complications. Faith pacification (Spiritual performances) (n=20, 8.9%), seeking ayurvedic treatments (n=18, 8.0%) and getting temporary treatment from the family doctor (n=13, 5.8%) were the most reported alternatives.

Small proportion (n=2, 0.9%) of the participants have stated that establishing a helpline, sending reports online, posting the drugs, encouraging private transport, and getting support from the family has been implemented as measures to minimize the delay in treatment due to COVID 19 pandemic.

Delay in treatments was significantly associated with age ($p \leq 0.001$), gender ($p \leq 0.001$), marital status ($p=0.01$) and employment status of the participants ($p=0.016$).

Discussion

The study findings depict that majority (70%) of the participants were feminine in gender, but the global cancer statistics 2020 indicates that the incidence rate of cancers was 19% higher in men than in women. The variations can be expected in different regions due to the differences in exposure to risk factors (Sung et al., 2021). Another study in Wuhan, China observed equal distribution of cancers among participants of both genders (Yang et al., 2020). A study done in Canada revealed that health-seeking behavior in females was more prominent when compared to men (Thompson et al., 2016). A study done in three South Asian countries reveals that the women's autonomy in decision making on health care in Sri Lanka is 79.7%, which is a significantly higher value (Senarath & Sepali, 2009). These findings suggest that the heath-seeking population in Sri Lanka might consist of a higher proportion of females than males.

Findings of this study show blood cancer (22.2%), breast cancer (19.1%), ovarian cancer (12.9%), and sarcoma (10.2%) as the most prevalent types of cancer among the study population. The global cancer statistics 2020 reported that 58.3% of cancer deaths worldwide occurred in Asia which illustrates the cancer disease burden in Asia which further elaborates the estimated prevalence of cancer types which are different to the finding of this study. Lung (11.4%), colorectal (10.0%), prostate (7.3%) and stomach (5.6%) cancers are the most prevalent type of cancers according to the global cancer statistics 2020 (Sung et al., 2021). According to a study in Wuhan, China, the commonest cancer types are lung cancer (19.2%) followed by breast cancer (17.3%) and rectal cancer (15.4%) (Yang et al., 2020). The national cancer prevention programme in Sri Lanka reveals that the commonest types of cancers in Sri Lanka

are breast cancers, oral cancers, thyroid cancers, and lung cancers in 2015. Although blood cancers are less common among the population, the severity of the cancer and the increased case fatality ratio may have resulted in hospitalizing the patients for treatments even during the COVID 19 pandemic which in return created controversial distribution of cancer types among the study participants.

Almost all the participants (99%) in the current study states that their treatments were delayed due to the COVID 19 pandemic. A study done by Xia et al. (2020) also confirmed that COVID 19 outbreak can delay treatments and increase the risk among cancer patients due to the inability to receive medical services. Another study in California reveals that 65% of the participants had experienced changes in their treatment plan resulting in a delay in treatment (Wu et al., 2021). The reason for the delay in treatments in almost all the patients in Sri Lankan population may have resulted from poor planning and lack of preparedness to face a problematic situation like COVID 19 pandemic. Withholding clinics, fear of COVID-19, scarcity of chemotherapy drugs, delay in CT/MRI scan, lack of transport facilities, lockdown condition, financial issues and delay in surgical management were the common reasons to delay treatments as identified in this study. An Italian study reveals that fear of contacting the infection, flu-like syndrome, quarantine, living in red areas, and displacement problems due to closure of the region and province borders were the reasons that resulted in defaulting or delaying the treatment plan (Quaquarini et al., 2020). A study done in the UK shows that a 3 to 6 months delay in the treatment process may result in a 10% to 30 % reduction in the 10 years survival of cancer patients (Sud et al., 2020). It has been stated that strategies like establishing a helpline, sending reports online, posting the drugs, encouraging private transport, and support from the family as measures to minimize the delay in treatment. A study done by Hollander & Carr (2020) indicates the importance of telemedicine to continue the treatment plan without a delay. Therefore, it is vital to take prompt actions to continue treatments among cancer patients during COVID 19 pandemic.

Majority of the participants in the current study stated that their nutritional level had an impact due to various reasons such as lack of food items due to curfew and lockdown, decrease in family income, and inability to get nutritional foods frequently. A study done in Italy by Lobascio et al. (2020) indicates that a dramatic worsening of nutritional status can be observed in cancer patients due to possible delayed clinical assistance and difficulties in procuring nutritionally adequate quality food as a lock-down repercussion.

As far as the complications are concerned, more serious complications are reported among cancer patients in Wuhan, China. Liver injury, acute respiratory distress syndrome (ARDS), sepsis, myocardial injury, renal insufficiency, and multiple organ dysfunction syndromes were among the complications. A systematic review was done in December 2019 also states that COVID – 19 can modulate severe complications in 33% of cancer patients (Addeo, Obeid, & Friedlaender, 2020).

The findings of the current study reveal complications such as depression-like symptoms, impending doom, worsening pain, and exacerbation of wounds. However, the current study did not refer to secondary clinical data of the patients, therefore the comparison between the two studies may not be compatible. The nature of the reported complications may also be influenced by the age of the population. A study conducted by Xia et al. (2020) also states that older age can be associated with worse outcomes in cancer patients during COVID 19 pandemic.

Conclusion

According to the key findings of this study, the COVID-19 pandemic substantially delayed cancer treatment and it may result in negative consequences among cancer patients physically and psychologically. Only a limited number of participants had taken action for treatment disruption. Instantaneous actions are essential for patients with cancer to continue their treatment regimen while managing complications.

Telemedicine and appropriate treatment opportunities may be required for cancer patients during the pandemic to minimize exposure to an unsafe environment. In addition, it is vital to strengthen guidelines on managing cancer patients during the COVID-19 pandemic in Sri Lanka.

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Original Article

Perceived workplace violence reported by nurses enrolled in B.Sc Nursing degree programme at KIU, Sri Lanka

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Abstract

Background: Workplace violence (WPV) can be defined as a violent act directed towards workers, including physical assault, threat of assault and verbal abuse and it is widely recognized as having far-reaching consequences for workers' health and safety. Nurses are the most vulnerable group for WPV. In recent years WPV against nurses has significantly increased, becoming a nationwide phenomenon across the hospital settings. Furthermore, it can impact the quality of patient care and reduce the efficiency and quality of the entire health system. Therefore, this study aimed to determine the perceived workplace violence reported by nurses enrolled in the B.Sc Nursing degree programme at KIU, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 306 undergraduate nurses in KIU. A pretested self-administered questionnaire was used to collect data which consisted of demographic information, the prevalence of WPV and factors associated with WPV. Data analysis was done with descriptive statistics and chi-square test using SPSS version 23. Ethical approval was obtained from the Ethics Review Committee of KIU (KIU/ERC/20/05).

Results: The majority of participants were females (97.4%, n=298), aged between 20-30 years (61.4%, n=188) and had working experience of <5 years (63.7%, n=195). The prevalence of workplace violence was 75.5%, n=231. The commonest type of reported violence was verbal violence (87.8%, n=203) followed by emotional violence (65%, n=150), physical violence (15%, n=35), sexual violence (3.8%, n=9) and racial harassment (2.1%, n=5). Medical and Surgical wards (39.6%, n=91) were the most frequent working areas where nurses faced violent behavior. The perpetrators were found to be supervisors (73.1%, n=168), patients' relatives (53.2%, n=122), and patients (52.3%, n=120). The working unit of the nurses ($p< 0.001$), designation ($p<0.001$), number of night duties per month ($p=0.019$), and ability to access the ward without permission ($p=0.042$) were significantly associated with WPV among nurses.

Conclusion: The study concluded that the prevalence of WPV was high among nurses while verbal violence from nursing supervisors was the most common WPV. Therefore, it is mandatory to place appropriate measures to prevent the WPV among nurses.

Keywords: Workplace violence, Nurses, Occupational violence

Introduction

Violence has always been a part of the human experience. The impact of violence can be seen worldwide among all the professions. Each year, more than a million people lose their lives, and many more suffer non-fatal injuries as a result of self-inflicted, interpersonal, or collective violence (WHO, 2003). Workplace violence (WPV) can be identified as a violent act directed towards workers, including physical assault, the threat of assault, and verbal abuse and it is widely recognized as having far-reaching consequences for workers' health and safety (Morphet et al., 2018). It has been a global public health issue and has caused a serious threat to the physical and mental health of the healthcare workers. Moreover, WPV against health professionals has increased in recent years, becoming a nationwide threat across hospitals and clinical working environment. Furthermore, WPV has an adverse effect on the workplace behavior of healthcare workers and impacts on medical personnels, hospitals and society, causing issues such as diminished job performance, decreased job satisfaction, and negative effects on their own physical and mental health (Cheung, Lee, & Yip, 2017).

Among the healthcare professionals, nurses are the regular front-liners who are intersected inline with the patients and their families. As a result of providing patient care to the people who are often in medical and emotional crises, nurses are more predisposed to WPV from patients and their kinfolks (Gabrovec, 2017). Earlier research conducted by Adams et al. (2019) indicated that WPV is an epidemic among nurses in Sri Lanka. Although several employees face WPV in the work setting, this issue is almost ignored due to lack of empirical evidence. A study conducted in Sri Lanka by Liyanage, Hewaitharana, De Silva & Dissanayake (2018) reported that 58% of the participants had been either attacked or threatened with physical violence at the workplace, and most of the victims were nurses and ancillary staff. Study by Liyanage et al. recommends to conduct further studies with a view to enable health care administrators to comprehend the problem better and to establish guidelines that could increase the security of the workplace of nurses and thereby, to increase job satisfaction, quality care, and patients' safety. This study aimed to determine the prevalence of WPV and to evaluate the factors associated with WPV as reported by nurses enrolled in the B.Sc Nursing degree programme at KIU, Sri Lanka.

Methodology

A descriptive cross-sectional study was conducted to determine the prevalence and factors associated with WPV reported by nurses enrolled in B.Sc Nursing degree programme at KIU, Sri Lanka. Ethical approval (KIU/ERC/20/05) was obtained from the Ethics Review Committee of KIU. The data were collected from May 2020 to August 2020 and there were nearly 1300 nurses registered for B.Sc Nursing degree programme at KIU at the time of data collection. The sampling method was cluster sampling. B.Sc Nursing batches were selected randomly by using the lottery method, and all the B.Sc Nursing students from those selected batches were enrolled till the sample size was reached. The sample size was calculated by using Yamane formula (Yamane, 1967). A sample of 306 nurses who were willing to participate and who gave written informed consent were included in the study. The participants were assessed using a researcher-developed pre-tested self-administered questionnaire. The questionnaire was pretested with 10 nurses who are following the B.Sc Nursing degree programme at KIU and they were excluded from the main study. The questionnaire consisted of three subsections, demographic and work-related factors of the participants (Section 1), prevalence and types of WPV (Section 2), and factors associated with WPV (Section 3). Collected data were entered into a database created using Microsoft excel 2019. After data cleaning, the excel database was exported into the IBM SPSS version 23. Data were analyzed using descriptive statistics. Categorical variables are expressed as frequencies and percentages. The Chi-square test was performed to assess the factors associated with WPV.

Results

In this study, a total of 306 participants completed the questionnaire. The majority of participants were females (97.4%, n=298), aged between 20-30 years (61.4%, n=188). The majority of participants were from teaching hospitals (63.7%, n=195) and medical and surgical wards (35%, n=107). The majority of participants were grade III nursing officers (72.2%, n=221) and had working experience < 5 years as a nursing officer (63.7%, n=195) (Table 01).

Table 01: Sociodemographic information of the participants

Variable	Frequency (n=306)	Percentage (%)
Age		
20-30	188	61.4
31-40	98	32.0
41 years and above	20	6.6
Gender		
Male	8	2.6
Female	298	97.4
Working Hospital		
Teaching Hospital	195	63.7
District Hospital	30	9.8
Base Hospital	46	15.0
Divisional Hospital	9	2.9
Other Hospital	26	8.5
Designation		
Matron/Special Grade	8	2.6
Sister	9	2.9
Nursing officer Grade I	19	6.2
Nursing officer Grade II	49	16.0
Nursing officer Grade III	221	72.2
Area of practice		
ETU	24	7.8
OPD	12	3.9
ICU	48	15.7
Surgical Ward	44	14.4
Medical Ward	63	20.6
Pediatric Ward	12	3.9
Other	103	33.7
Years of experience		
0-5	195	63.7
6-10	59	19.3
11-15	26	8.5
16 years and above	26	8.5

Among the participants, 75.5%, (n=231) were reported being exposed to WPV. Verbal violence was the most common type of violence experienced by the nurses (87.8%, n=203), followed by emotional violence (64.9%, n=150), physical violence (15.1%, n=35), sexual violence (3.8%, n=9) and racial harassment (2.1%, n=5) (Figure 1).

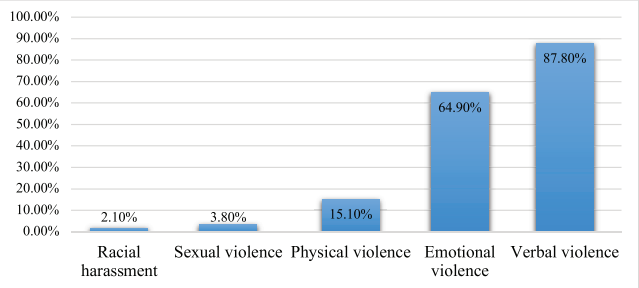

Figure 01: Types of WPV

When considering the nurses who encountered WPV (75.5%, n=231) during their entire working period, majority of the violence was encountered in medical wards and surgical wards (39.6%, n=91) followed by other healthcare units (60.4%, n=140) which includes psychiatric wards, operating theatre, neuro department, ICU, ETU, and pediatric wards. Most of the WPV was experienced by the grade III nursing officers (72%, n=166). Nursing sisters (3%, n=7) and matrons/special grade nursing officers (2%, n=5) were the lowest among those who experienced the violence.

The supervisors/seniors (73.1%, n=168), followed by patient's relatives (53.2%, n= 122), patients (52.3%, n=120), doctors (25.6%, n=59), bystanders (22.9%, n=53) and colleagues (16.8%, n=39) were the main perpetrators of WPV. WPV was higher during the first 5 years of work (87%, n=201).

Statistically significant associations were observed between working unit ($p<0.001$), designation of the nurses ($p<0.001$), number of night duties per month ($p=0.019$), ability to access the ward without permission ($p=0.042$), the inadequacy of nurses in the duty shift ($p=0.022$) and WPV (Table 02).

Table 02: Factors associated with WPV

Factor	P Value
Demographic factors	
Working Unit	<0.001*
Designation	<0.001*
Years of experience	0.830
Organizational factors	
Number of nurses per shift	0.484
Total number of beds per unit	0.333
Patient-related factors	
Delays in attending the patient's/relative's complaints	0.728
Consultations/treatment get delayed	0.126
Nurse related factors	
Heavy workload	0.714
Physically unwell	0.552
Poor communication between coworkers	0.784
Inadequacy of nurses in the duty shift	0.022*
Environmental factors	
Number of night duties per month	0.019*
Ability to access the ward without permission	0.042*
Number of security personnel at the work unit	0.214

*p<0.05

Discussion

Nearly 76% of the nurses have been exposed to the WPV at least once during their entire working period. It is considerably a higher percentage when comparing to the prevalence of WPV reported in developed countries [25% in USA (Gacki-Smith et al., 2010), 44.6% in Hong Kong (Cheung & Yip, 2017)] and even higher than the prevalence of WPV in other low and middle income countries [64.2% in Bangladesh (Latif et al., 2019), 64.5% in Nepal (Pandey et al., 2017)]. There are multiple reasons behind this higher number of WPV cases reported in Sri Lanka. Lack of staff and higher number of patients which elevates the number of shift duties especially night shift duties, physical arrangement of the hospitals where easy access for patients' relatives and outsiders to the working units and more female employment within the nursing profession are some of the contributing factors for this higher number of WPV incidence in Sri Lanka. A study conducted by Liyanage, Hewawitharana, De Silva, & Dissanayake (2018) in Sri Lanka revealed that, 58% were reported of being either attacked or threatened with physical violence at the workplace. When considering the type of violence, verbal violence was identified as the most common type (87.8%), followed by emotional violence (64.9%), physical violence (15.1%), sexual violence (3.8%) and racial harassment (2.1%). This coincides with the study by Lu et al. (2018) that the estimated prevalence of verbal abuse (61.2%), psychological violence (50.8%), physical violence (13.7%), threats (39.4%), and sexual harassment (6.3%), respectively. Another study conducted by Tsukamato et al. (2019) revealed the same result as Lu et al. (2018) that the prevalence of verbal abuse (59.1%), physical violence (20.2%), and sexual harassment (12.8%) among nurses in the Southern region of Brazil. When considering the findings reported in Sri Lanka as well as in the other countries, verbal violence is more common among the types of WPV.

In present study, perpetrators were identified as supervisors/ seniors, patient's relatives, patients, doctors, bystander and colleagues. According to the findings, verbal violence from supervisors has been the commonest type of WPV. Negative attitudes towards the junior staff members and intentionally undermining the work performed by the junior staff may be the leading factors for verbal violence among nurses. In addition to the reasons mentioned above, shortage of staff may also be a contributing factor for this. The data collection of this study was conducted during the COVID-19 pandemic. While managing a pandemic situation with the available minimum facilities in the health care sector, higher degree of stress among the nurse administrators may also impact the verbal violence towards their staff members. The second commonest perpetrator was the patients' relatives. High stress among the relatives as their loved ones are being hospitalised , miscommunication between the health care workers and the relatives, unsatisfactory services from the health care facility might be the major contributing factors for WPV in health care sector in Sri Lanka. However, a study done by Tsukamoto et al. (2019) on WPV, emphasized that work colleagues (38.4%) are the main perpetrator followed by supervisors (35.7%), patients and their families (26.9%) and these results differ from the current findings. Further, the current study manifested that the nursing officer grade III had

encountered more WPV than matrons, sisters, nursing officers grade I and grade II. A study in Nepal supports the finding of this study which indicated that staff nurses had encountered more violence than seniors (Shi et al., 2017). Nursing officer grade III is in the lower level of hierarchy with less experience. Lack of experience seriously affects the decision-making abilities of nurses which is directly affecting the quality of patient care. This leads to the errors in patient care and end up with verbal violence from the nurse managers. In the current study, nurses who work in medical and surgical wards (39.6%) were mostly exposed to WPV. These findings are similar to the study done by Kamchuchat, Chongsuvivatwong, Oncheunjit, & Sangthong (2008) which revealed that staff working in high-risk wards such as the outpatient unit, emergency unit, operating room, medical and surgical ward is more likely to experience WPV. The current study found that the night shift staff encountered more WPV when compared to other shifts. This coincides with a study done by Yang et al. (2018) in China which revealed that night shift is significantly correlated with higher frequency of violence. Moreover, study done by Emam et al. (2018) indicated that nurses on the night shift had reported significantly higher incidence of sexual harassment and reported that male patients were more likely to harass them than female patients. Another study conducted in Nepal by Pandey, Bhandari & Dangal (2017) revealed similar results, that the majority of the nurses who worked at the time of 6 pm to 7 am (75%) and in the Intensive Care Unit (84.6%) had experienced more WPV. When considering the above findings, the fact that nursing as a profession with more female employment cannot be ignored. Females are considered as a vulnerable group who are always at risk of being harassed. In addition to that, because of the shortage of staff, nurses have to do frequent night shift duties which will expose them to more WPV. On the other hand, usually unmarried female nurses do more night shift duties than the other nurses and therefore they are more exposed to the WPV by male co-workers as well as male patients.

This study further revealed that, ability to access the ward without permission had an association with WPV. The result was consistent with a study done by Martinez (2016) which proclaimed that, poor security, delay in service, and working closely with potentially dangerous individuals were the most common environmental risk factors. Similar findings were unfolded in a study conducted by Emam et al. (2018) among nurses in Iran and concluded that the lack of security facilities were a predisposing factor for violence (26.5%). It is being observed that during the patient visiting hours the hospitals are overcrowded in most of the hospitals in Sri Lanka as the number of visitors are not limited. All the visitors of the patients are permitted to enter the premises at the same time and security personnels do not restrict the number of visitors in the unit. This severely affects the occurrence of WPV among the health care workers.

Current study findings emphasize that, it is vital to implement appropriate measures to prevent the WPV among nurses in Sri Lanka. Uplift the knowledge on WPV management through continuous education is one of the pillars of preventing WPV among nurses. Even though Sri Lankan nurses have good attitudes towards the continuous education, there are various existing barriers (Jayamaha et al., 2021). Identifying institutional and environmental risk factors for workplace violence (Shi et al., 2017), recognizing behavioral warning signs of violence, employing communication and teamwork skills to prevent and manage violence (Hartley et al., 2019), empower the nurses to report violence incidents promptly and accurately (Locke et al., 2018) and identifying appropriate resources to assist injured nurses are the other known strategies to prevent the WPV among nurses (Hartley et al., 2019).

Conclusion

Majority of the nurses encountered WPV in their work settings, including verbal, emotional, physical and sexual violence which is a major issue in the health care sector in Sri Lanka and it is essential to take the necessary preventive measures. This study revealed that the most

common types of WPV against nurses are the verbal and emotional violence. Further, verbal violence from the supervisors is the commonest WPV among nurses under five years of working experience. Working Unit, designation, number of night shifts per month and ability to access the ward without permission were the determinants of WPV among nurses. Therefore, increasing the number of staff in a working unit, creating necessary security plans especially during the visiting hours are essential in reducing the WPV in Sri Lanka. Further, large scale studies are required to assess the WPV throughout the country.

Furthermore, clear violence reporting procedures must be established by the institutions, and nurses must be encouraged to report the violence against them. Hence, reports of violence must be acted upon in a timely manner, and necessary support should be provided to the affected nurses.

Unfortunately, WPV will probably continue to be a fact for the foreseeable future. Hence, it is the responsibility of everyone who were potentially affected by WPV to collaborate on the eradication of this problem and to make the healthcare institution a safer place to work.

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Original Article

Mupirocin Resistance of *Staphylococcus aureus* in Clinical Isolates of National Hospital and in the Nasal Carriage of Healthy Undergraduates in Colombo, Sri Lanka

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Abstract

Introduction and Objectives : Mupirocin resistance in *Staphylococcus aureus* is increasingly reported in many parts of the world. This study was conducted with the objective of describing high-level and low-level mupirocin resistance of *S. aureus* in clinical isolates and nasal carriage.

Materials and Methods : A descriptive study was conducted including 45 nasal isolates of *S. aureus* collected from healthy university students in Colombo and 249 clinical isolates of *S. aureus* from the patient specimens in National Hospital of Sri Lanka. All of the confirmed *S. aureus* strains were tested for methicillin resistance using cefoxitin disc (30µg). *S. aureus* isolates were considered methicillin-resistant if the diameter of zone of inhibition was 21 mm or less (CLSI, 2017). The *S. aureus* isolates were then tested for mupirocin resistance. Disk diffusion method was utilized with 5µg and 200µg mupirocin discs to determine low-level and high-level resistances respectively. The criterion employed for interpretation of mupirocin resistance was a combination of the widely accepted criterion described by Finlay, Miller, and Poupard (1997) for low-level mupirocin resistance and CLSI (2017) criterion for high-level mupirocin resistance. If both inhibition zone diameters for 5µg disk and 200µg were ≥14mm, the isolate was considered mupirocin sensitive. If 5µg disc displays <14mm and 200 µg disk displayed ≥14mm inhibition zone diameter, the isolate was considered to be mupirocin low level resistant. If there is no inhibition zone in 200µg disk, the isolate was considered as mupirocin high level resistant.

Results : From the 45 nasal carriage isolates, 33 (73%) were Methicillin sensitive *Staphylococcus aureus* (MSSA) and 12 (27%) were Methicillin Resistant *Staphylococcus aureus* (MRSA). Among the clinical isolates, majority (n=158, 63%) were MRSA while only 91 (37%) MSSA. An overall mupirocin resistance rate of 4.4% among *S. aureus* was observed. Low-level mupirocin resistance was observed in 3.7% *Staphylococcus aureus* isolates and high-level mupirocin resistance was observed in 0.7% isolates. Mupirocin low-level and high-level resistance in MRSA isolates were 5.3% and 0.6% respectively. MSSA isolates demonstrated 1.6% (n=2) and 0.8% (n=1) mupirocin low-level and high-level resistances respectively. None of the nasal isolates were resistant to mupirocin while 6% (n=15) mupirocin low-level resistance and 0.8% (n=2) mupirocin high-level resistance was observed in clinical isolates.

Conclusion : This initial survey of mupirocin resistance among *S. aureus* in a country with fairly high usage of mupirocin emphasizes that although the overall mupirocin resistance is relatively low in this population, regular surveillance of mupirocin resistance remains a necessity.

Keywords: Mupirocin, *Staphylococcus aureus*, Nasal carriage, MRSA

Introduction

Staphylococcus aureus is a common pathogen, which also acts as a commensal (Tong et al., 2015). It is one of the most frequently isolated bacteria in the hospital and community setting (Joshi et al., 2013; Stryjewski & Corey, 2014). Within the hospitals and health care institutions, *S. aureus* strains are transmitted from patient to patient principally through hand carriage by health care personnel and by means of fomites. It is responsible for the majority of post-operative surgical wound infections (Guyot & Layer, 2006; Shukla et al., 2009). The spectrum of disease continues to change with the emergence of antimicrobial resistance. In the past two decades, there were clear shifts in the epidemiology of *S. aureus* infections: first, a growing variety of health care associated infections, and second, an epidemic of community-associated skin and soft tissue infections. According to ongoing studies, clinical infections with *S. aureus* will be a common and serious infection in the modern world (Tong et al., 2015).

Nosocomial Methicillin-resistant *Staphylococcus aureus* (MRSA) outbreaks have been a major issue for hospital infection control during the past decade (Fanoy et al., 2009; Harris et al., 2013). Nasal carriage of MRSA by patients as well as health care workers is the primary cause behind this situation (George et al., 2016; Kakhandki & Peerapur, 2012).

Decolonization of nares of patients and healthcare workers has become a necessity in hospital environment, especially in operating theaters to improve the patient outcomes (Kakhandki & Peerapur, 2012). Mupirocin can be effectively utilized to decolonize anterior nares and to treat skin infections caused by *S. aureus* and MRSA (Wertheim et al., 2005; Mody et al., 2003).

Mupirocin (Pseudomonic acid A) is structurally analogous to isoleucine, which allows it to competitively bind to isoleucyl-tRNA synthatase and inhibit protein synthesis leading to a bacteriostatic or bactericidal effect (Hughes & Mellows, 1978). Mupirocin resistance plays a vital role in successful *S. aureus* or MRSA eradication. Additionally, it is vital in the management of patients prior to surgical procedures to reduce post-operative MRSA infection, and the presence of mupirocin resistance significantly reduces the effectiveness of MRSA eradication regime.

Two levels of mupirocin resistance phenotypes called low level (MuL) and high level (MuH) mupirocin resistance are defined for *Staphylococci* (Poovelikunnel, Gethin, & Humphreys, 2015). Presence of high-level mupirocin resistance renders mupirocin ineffective against MRSA decolonization or treatment. Low-level mupirocin resistance indicates previous exposure to mupirocin with probable incomplete decolonization or persistent carriage of MRSA (Poovelikunnel, Gethin, & Humphreys, 2015). Thus, it is crucial to detect and differentiate between MuH and MuL in the clinical laboratory setting.

There is a paucity of scientific studies conducted regarding the rate of mupirocin resistance in Sri Lanka. Lack of available knowledge regarding the mupirocin resistance may lead to uncontrolled use of the drug, which will eventually render it almost completely ineffective against MRSA. Therefore, the present study is undertaken to determine mupirocin resistance of *Staphylococcus aureus* in clinical isolates and nasal carriage.

Methodology

A descriptive study was conducted including 45 *Staphylococcus aureus* nasal carriage isolates kept stored from a previously conducted study at the University of Sri Jayewardenepura and 249 clinical isolates of *Staphylococcus aureus* collected from the National Hospital of Sri Lanka from 15/03/2019 to 15/05/2019 using convenience-sampling method. Ethical approval was obtained from the ethics review committee of KIU (KIU/ERC/18/30). Both nasal and clinical

isolates were inoculated to blood agar and incubated aerobically for 24 hours at 35±2°C. Identification of *S. aureus* was done by standard biochemical identification techniques (Collee et al., 1996). All of the confirmed *S. aureus* strains were tested for methicillin resistance using cefoxitin disc (30µg). *S. aureus* isolates were considered methicillin-resistant if the diameter of the zone of inhibition was 21 mm or less (CLSI, 2017). The *S. aureus* isolates were then tested for mupirocin resistance. Disk diffusion method was employed with 5µg and 200µg mupirocin discs to determine low-level and high-level resistances respectively. Mupirocin resistance level was determined using the criteria given in Table 1. This criterion was chosen since it is a combination of the widely accepted criterion described by Finlay, Miller, and Poupard (1997) for low-level mupirocin resistance and CLSI (2017) criterion for high-level mupirocin resistance. Descriptive statistics, chi square test and Fisher's exact test were utilized for data analysis and SPSS version 23 was employed as the statistical analysis tool.

Table 1: Interpretative criteria for disk diameters

Inhibition zone diameter		Interpretive criteria
5 µg disc	200 µg disc	
≥14mm	≥14mm	Mupirocin susceptible
<14mm	≥14mm	Low-level mupirocin resistance
Not relevant	No Inhibition zone	High-level mupirocin resistance

Results

Among the 45 nasal carriage isolates, 33 (73%) were Methicillin sensitive *S. aureus* (MSSA) and 12 (27%) were MRSA. In contrast, among the clinical isolates, majority 158 (63%) were MRSA as shown in Table 2.

According to the results obtained, there is a statistically significant difference between methicillin resistance among the clinical isolates and the nasal carriage isolates ($p<0.001$).

Table 2: Methicillin resistance among the *Staphylococcus aureus* isolates.

		Methicillin resistance		Total
		Sensitive	Resistant	
Sample Type	Nasal Carriage	33 (73%)	12 (27%)	45
	Clinical Isolate	91 (37%)	158 (63%)	249
Total		124	170	294

The level of mupirocin resistance is shown in Figure 1 and it indicates that, both low level and high-level resistance could be observed among less than 5% of the samples.

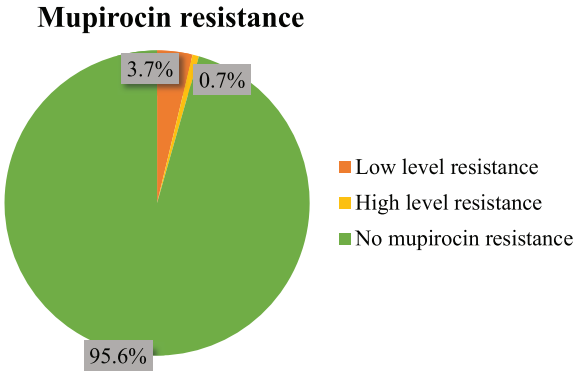

Figure 1: Mupirocin resistance in *Staphylococcus aureus* isolates

Majority (97.6%, n= 121) of MSSA isolates were sensitive to mupirocin while 2.4% (n=3) were resistant. Among the MRSA positive isolates 94.1% (n=160) were sensitive to mupirocin while the rest 5.9% (n=10) were resistant.

Table 3: Mupirocin resistance in MSSA and MRSA

	Methicillin resistant (MRSA) total number	Methicillin sensitive (MSSA) total number
Low-level resistance	9(5.3%)	2(1.6%)
High-level resistance	1(0.6%)	1(0.8%)
No mupirocin resistance	160(94.1%)	121(97.6%)

There was no significant association between methicillin resistance and mupirocin resistance according to Fishers exact test (P=0.25). Hundred percent (100%) of nasal isolates were sensitive to mupirocin and 93% (n=232) of clinical isolates were sensitive to mupirocin as described in Table 4. There was no significant difference in mupirocin resistance between clinical isolates and nasal colonizing isolates (p=0.0849) according to Fisher's exact test.

Table 4: Mupirocin resistance in nasal carriage isolates *vs* clinical isolates

	Nasal Carriage	Clinical Isolates
Low-level resistance	0(0%)	15(6%)
High-level resistance	0(0%)	2(1%)
No mupirocin resistance	45(100%)	232(93%)

Discussion

Majority (95.58%) of the *S. aureus* isolates in this study were mupirocin sensitive. Among the 4.4% mupirocin resistant isolates, 0.7% demonstrated high-level resistance and 3.7% showed low-level resistance to mupirocin. These results indicate that the overall mupirocin resistance is not very high in the study population, but even this low rate is a cause for concern since the rate can rapidly increase with time.

In similar studies, low-level mupirocin resistance and high-level mupirocin resistance of 17% and 8.2% in India (Rudresh et al., 2015), 2.9% and 11.7% in USA (McNeil et al., 2011), 0% and 2% in Ireland (O'Shea et al., 2009) have been reported. The low-level resistance rate in this study is lower than India but higher than USA and Ireland. High-level resistance in this study is lower than most of the other studies reported previously.

Presence of high-level mupirocin resistance causes decolonization failure. Presence of low-level mupirocin resistance causes temporary suppression of the growth of organisms, however does not eradicate the colonization (Poovelikunnel et al., 2015). Over-the-counter availability of mupirocin, widespread prescription for the general patient population (nasal and skin lesions), and repeated use in peritoneal dialysis (nasal and exit site) are recognized as common reasons behind the emergence of mupirocin resistance. Evidence suggests that the usage in perioperative prophylaxis, limited use to control of outbreaks/recurrent infections, and routine nasal use in hemodialysis patients rarely cause emergence of mupirocin resistance (Fanoy, 2009). In this study, only 27% (12/45) of nasal isolates collected from university students were MRSA while 63% (158/249) of clinical isolates were found to be MRSA. It was observed that 5% were resistant and 94.1% were sensitive for mupirocin among 170 MRSA isolates while 2.4% were resistant and 97.6% were sensitive to mupirocin among 124 MSSA isolates in this study.

A previous study conducted in Sri Lanka reported a MRSA rate of 15.4% in nasal carriage of the patients before admission (Thevanesam et al., 2013). India has reported 28% of MRSA rate in outpatients (Joshi et al., 2013) and a 9.2% MRSA percentage was reported from a study in Nashville (Creech, Kernodle, Alsentzer, Wilson, & Edwards, 2005). A study from Spain reported a MRSA rate of 3.1% (Chaves, García-Martínez, de Miguel, & Otero, 2004). When comparing with the previous studies, MRSA rate in nasal carriage is relatively high in the current study.

In this study, 63% of clinical isolates were detected to be MRSA. Similar studies have disclosed MRSA rates of 22.4% in India (Rudresh et al., 2015) and 43.8% in the children from china (Tan, Wan, Wang, Zhou, & Shu, 2019). Further 42% and 43% MRSA rates were reported from inpatients and ICU patients in India (India, Indian Network for Surveillance of Antimicrobial Resistance (INSAR) group - Joshi et al., 2013). MRSA rate observed in the clinical isolates of this study stands out to be higher than all the rates disclosed from previous studies. High MRSA rates in both clinical and nasal isolates showcase an increasing trend over time in Sri Lanka leading to an issue that needs to be addressed immediately.

Current study revealed 5.3% of low level and 0.6% high level mupirocin resistance in MRSA isolates. In a study conducted in Belgium 2.1% and 3.1% resistance rates were observed (Nagant et al., 2016), while a study from USA outlined 2.7% and 10.1% rates (McNeil et al., 2011) respectively for low level and high level mupirocin resistance. Yet another study from Ireland reported 0% and 3% rates (O'Shea et al., 2009), and an Indian study revealed 0.71% and 0.71% (Kaur & Narayan, 2014) rates for

mupirocin low-level and high-level resistances. Therefore, this study brings out higher percentage of mupirocin low-level resistance than Belgium, USA, and India. However, high-level mupirocin resistance is lower than Belgium, USA and India.

In the current study, 1.6% and 0.8% mupirocin low-level and high-level resistances were significant from MSSA isolates. In similar studies conducted in Belgium a rate of 0.1% and 0.6% (Nagant et al., 2016), in USA a rate of 3.5% and 17.8% (McNeil et al., 2011) were disclosed while 0% and 1% were reported in Ireland (O'Shea et al., 2009) for low-level and high level mupirocin resistances respectively. This study delineates a lower rate of mupirocin low-level resistance than USA. However, the rate is higher when compared to Belgium and Ireland. The high-level resistance rate is lower than USA and Ireland, but it is higher than Belgium in the current report.

It was observed that the mupirocin resistance rate identified in this study is higher in MRSA isolates than MSSA isolates. This needs to be taken into consideration, since mupirocin has a significant role as a topical agent in eradication of MRSA.

None of the nasal isolates was resistant to mupirocin but 7% of clinical isolates were resistant to mupirocin in this study. In a similar study conducted in Lebanon, 0% resistance was highlighted for mupirocin in nasal colonizers (Halablab, Hijazi, Fawazi, & Araj, 2010). A study conducted in Spain reported 14.8% of MRSA and 0.6% of MSSA from nasal samples resistant to mupirocin (Chaves et al., 2004). This study revealed that, mupirocin resistance is not yet detectable in the community. However, it sends out an alert since the MRSA rate in the community studied, was relatively high.

Further, it was apparent that, there were 6% and 0.8% mupirocin low-level and high-level resistance in clinical isolates respectively. An Indian study revealed 1% and 5% low-level and high-level mupirocin resistances respectively (Gadepalli et al., 2007) while an USA study reported 14.3% low-level and 85.7% high-level mupirocin resistance out of the 31.3% of mupirocin resistant isolates (Antonov et al., 2015). In addition, an Ireland study has reported 0% low level and 2% high level resistances to mupirocin in clinical isolates (O'Shea et al., 2009). These results indicate that the low-level mupirocin resistance rates identified in the current study are higher than other countries and the high-level mupirocin resistance rate is lower than that of other reported countries' rates.

Conclusion

This is an initial survey of mupirocin resistance among *S. aureus* in a country with a fairly high usage of mupirocin. Mupirocin resistance is higher in MRSA than in MSSA and in clinical isolates than in nasal isolates. Even though the overall mupirocin resistance is relatively low in this population, regular surveillance of mupirocin resistance remains a necessity.

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Original Article

Women with Split Identity; A Literary Analysis based on the selected Female Portrayals in Literature

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Abstract

Female characters in Literature are portrayed through diverse dimensions such as heroic figures, objects of desire, rebellious individuals, icons of female liberation and individuals with fragmented identities. Those potrayals reflect the the feminine self which is surrounded by the awareness of her negated existence, stereotyped images of womanhood, the sense of lack of belonging, and repressed individuality. Thus the study focuses on analyzing the female literary portrayals like 'Nora Helmer'in 'The Dolls House' by Henric Ibsen, 'Adela' in 'The House of Bernarda Alba' by Federico Garcia Lorca and 'Emma Bovary' in 'Madame Bovary' by Gustave Flaubert, 'Maggie Tulliver' in 'The Mill On the Floss' by George Eliot and 'Kattrin' in 'Mother courage and Her children' by Bertolt Brecht with the objective of bringing to the surface the socially determined fatal end and the symbolic disappearance of the feminine figure. In analyzing and elaborating the perspectives which are discussed within the research paper the theoretical perspectives of Simon de Beauvoir ('The second sex'), Sigmund Freud, ('Civilization and its Discontents',)and Slavoj Zizek, ('Looking Awry') are referred with a thorough consideration. Consequently the woman figure whose identity is negated and given less vitality is identified as an inferior and vulnerable social figure within the existing social order and thus the literary characters like Adela, Nora, Emma, and Maggie Tulliver portray the antagonism between the social principle of 'Repression' and the feminine ' Liberation'. In contrast to the characters such as Adela, Emma and Nora who negate the social other in pursuing their determined routes towards the self-satisfaction, the feminine portrayals like Kattrin and Maggie Tulliver adopt the self-denial and renunciation of desires for the betterment of the social other. Thus the characters like Nora, Emma and Adela become capable of gratifying their intense abomination towards the social order while Kattrin and Maggie Tulliver with their self-sacrifice and altruistic motives achieve a serene satisfaction. In that sense it can be identified that their self-annihilation leaves behind a symbol of identity rather than nihilistic reality implying a more psychological vitality without being just a physical deterioration.

Keywords: Feminine figure, Repression, Liberation, Individuality, Self-annihilation

Introduction

Woman as a nebulous human figure who is segregated and devalued pertaining to her organic and social differentiation from the masculine self has to concede herself to be identified and defined as an embodiment of mythical, phallic and natural elements. Locating herself within the intersection of the negation and acceptance woman becomes incapable of realizing her true self and her actual essence tends to remain obscured. The images of the 'feminine figures' which are reflected through the socially and culturally coloured mirrors appear as the fragmented bodies thus allowing the feminine self to be surrounded by the awareness of her nonexistence, the sense of lack of belonging and repressed individuality. Observing their own psychical desires, instincts and expectations which are projected onto the fantasy texture of the masculine psyche, the feminine beings are reluctantly induced themselves to become objects of those masculine realms. The social relations which associate with diverse socio cultural norms, customs and value systems place the woman as the focal component though the given position seems to become narrowed and confined to a specified hole.

In spite of the fact that the feminine figure is positioned within a social network of numerous affiliations, the sentiment of alienation which arises and circulates around her life sphere makes her comprehend the vague destiny which exists obscured to her perception. Black and white spheres between which the image of woman oscillates characterize her in accordance with the views and attitudes they hold towards the female being. Thus, what the social other or the big other desires and demands her to be neglecting her actual self inspires an immediate repulsion within her towards the dominant other. With this psychical interruption which stimulates her depression and the awareness of her barrenness of the self, she instinctively becomes narcissistic and an imposter. In another social reality, it can be perceived that owing to the symbolic identity which replaces her actual self, the self-consciousness of the woman induces her to abandon the complex whole where her 'self' is altered to be the object of desire and demand.

"...man represents both the positive and the neutral, as is indicated by the common use of man to designate human beings in general; whereas woman represents only the negative, defined by limiting criteria, without reciprocity...And she is simply what man decrees; thus she is called 'the sex',..." (Beauvoir, 1953)

The literary portrayals of women figures representing the social reality which is assigned to the feminine sphere address the unsolvable fictitious mystery which wraps her and infiltrates into her naturality. Thus, 'Nora Helmer' in the play 'The Dolls House' by Henric Ibsen, 'Adela' in 'The House of Bernarda Alba' by Federico Garcia Lorca and 'Emma Bovary' in 'Madame Bovary' by Gustave Flaubert,'Maggie Tulliver' in The Mill on the Floss by George Eliot and 'Kattrin' in Mother Courage and Her Children by Bertolt Brecht; the feminine characters whose individuality and instinctual essence are repressed and attributed a nihilistic value, bring to the surface the socially determined fatal end and the imagined symbolic disappearance of the feminine figure. Nora, Adela and Emma accept their symbolic annihilation in resisting the perennial disturbance and repression which the 'power' of the masculinity imposes upon them. Thus, their revolutionary deviation from the prison shaped life whole, the family circle, turns out to be a narcissistic escape rather than a symbolic expedition towards the attainment of absolute emancipation. They have been identified as the feminine figures whose anti-social endeavours and the pervasive ventures influence on the persistent patriarchal construction. On the other hand, the approaches that Maggie Tulliver and Kattrin have adopted make them appear as feminine figures whose intentions and the efforts stand in enhancing the well- being of the social other irrespective of the disparities and discriminations.

The symbolic annihilation of those feminine figures during the pursuit of their fulfillment of the

innate desires and the independent motives defines their selves and identities through both negative and positive light. The social boundaries which are demarcated by the cultural necessities and assumptions strive to induce these feminine individuals to become incapable of moving out of the constricted whole and their revolutionary steps which disrupt the orderly conservative social texture accompany them towards their self-objectives.

The ambiguity of their steps which unchain them from the repressive linkage that they hold with the dominant social order persuades the observer to question and assess the productivity and the cogency of those self-determining efforts.

The culturally determined frame from which the feminine figure persuades her 'self' to deviate, designs her identity with the features as inferiority, vulnerability, irrationality, fragility and passivity. Continuing their regular life cycle within this constricted domain, these feminine characters which are portrayed in these literary texts have to succumb to the masculine demands and fantasies while concealing her desires and self - determinations with a false reality.

Along with these societal modifications, the repression of the woman (both physical as well as psychological) evolves narrowing down her identity in front of the authoritative appearance of the masculine figure.Thus, she is thrown into a continuum of conflicts where her actions and reactions in the face of the imperative cultural dominance are viewed as valueless, nihilistic or destructive by the socially prejudiced perceptions.

'We have seen what poetic veils are thrown over her monotonous burdens of housekeeping and maternity: in exchange for her liberty she has received the false treasures of her femininity. (Beauvoir, 1953)

Whether she has pursued the dichotomous routes such as rebelling for her repressed desires or renunciation of her desires, the societal observations and the adjudications have defined their endeavours and the motives as irrational and illusory.The social situation of the feminine figure where she plays the role of the adolescent girl, young woman, married woman, divorced woman and a widow has forced her to remain under the societal fetters which are fortified by the religious, mythological and patriarchal concepts.

Methodology

Field Setting of the research

The research focused on comprehensively analyzing the image and the life route of a feminine figure who exists within the diverse social strata amidst the cultural demarcations, socio cultural and commercial trials and tribulations pursuing her real self-identity combating with the imposing societal authorities. Thus, with the objective of developing an in-depth observation of the inner psychical struggle that the woman encounters as well as the dichotomy between the natural instincts and the cultural demands within which she is confined, some foremost feminine portrayals in literature were selected and analyzed.

Consequently the study focused on analyzing the female literary portrayals like ' Nora Helmer' in the play 'The Dolls House' by Henric Ibsen, 'Adela' in 'The House of Bernarda Alba' by Federico Garcia Lorca and 'Emma Bovary' in 'Madame Bovary' by Gustave Flaubert, 'Maggie Tulliver' in The Mill on the Floss by George Eliot and 'Kattrin' in Mother Courage and Her Children by Bertolt Brecht with the objective of bringing to the surface the socially determined fatal end and the imagined symbolic disappearance of the feminine figure.

The fundamental concepts which are highlighted within the philosophical realms such as feminism and psychoanalysis were utilized in developing the analyzing process and the several studies that relate with literature, sociology and gender studies were examined. Specifically, in analyzing and elaborating the perspectives of the study the

theoretical perspectives of Simon de Beauvoir ('The second sex'), Sigmund Freud, ('Civilization and its Discontents',) and Slavoj Zizek, ('Looking Awry') were referred with a thorough consideration.

The process of data collection and analysis

The data collecting procedure was conducted utilizing the secondary data collection methods. Accordingly, the content analysis (conceptual analysis, relational analysis), discourse analysis and structural analysis were used in collecting and analyzing the relevant data.

Through content analysis, the contents of the referred texts were thoroughly analyzed in relation to the basic themes that were elucidated within the study. Thus, the relevant texts were examined based on the portrayal of the individual characters, their behavioral and thinking pattern, pertinent concepts, themes, ideologies, theories and criticisms. Accordingly, through utilizing the main two types of content analysis; conceptual analysis and relational analysis, the fundamental concepts, their relationship and the meanings they imply, their relation to the thematic perspectives of the study and rational assumptions they evolve, were identified and analyzed.

Consequently, the discourse analysis was employed in critically analyzing the selected texts concentrating on the dialogues within the text, most essentially, the conversational pattern and the manner in which certain words were used. Through this analytical method, the individual, psychological, social and cultural characteristics, the communal beliefs, the interactive and conflicting relationships were cautiously examined in analyzing the conversations in the text and the outer socio- cultural forces which influence on the situation and the communication.

Pursuing the means of structural analysis the relevant texts were studied scrutinizing the characters, the active details (motifs, symbols), themes and the perspectives that were developed and connoted by the author through the portrayal of characters, setting and the language.

Discussions

Repression, Rebellion and liberation

'History has shown us that men have always kept in their hands all concrete powers; since the earliest days of the patriarchate, they have thought best to keep woman in a state of dependence; their codes of law have been set up against her; and thus she has been definitely established as the other.' (Beauvoir, 1953)

Repression which is initiated and established as an influential societal principle within the socio cultural domain approaches and imposes its irrational ascendency over the individual considering the role of gender. Thus, the omnipotent role of repression has developed an imposing linkage with the gender differentiation and discrimination manipulating the feminine identity. Adopting and imbibing the ingredients of this role of repression, the cultural authorities tend to utilize it as a psychological tool in practicing dominance over the individual whose existence and the attitudes appear to be challenging and nonconformist.

'Freud recognizes that there is a struggle between civilization which attempts to repress an individual's instincts and the individual who wants to liberate them.
(Bergen, 1999)

Consequently, amidst this conflicting confrontation 'antagonism' erupts between Repression and Liberation. Being confined to a narrowed space where several religious and communal taboos surround her existence, the feminine figure has become the focal point upon which the repression cultivates its domination. Thus, it obstructs her inner strength and self-determination that she possesses in advancing towards her liberation of identity.

'Man has succeeded in enslaving woman; but in the same degree he has deprived her of what made her possession desirable. With woman integrated in the family and in society, her magic is dissipated rather than transformed; reduced to the condition of servant, she is no longer that unconquered prey incarnating all the treasures of nature'
(Beauvoir, 1953)

Woman whose identification of the actual self and identity remain to be dependent upon the masculine power, has to succumb the reality of her life to the fantasies and passion of the masculine world. In the quest of securing her real identity, she has to wrestle with those egotistic, disparaging and injurious approaches of those authoritative figures revealing her hidden identity through rebellious departures.

The appearance of the femininity and the masculinity within a conjugal proximity maintains an inconstant equilibrium through their exterior as well as interior selves. 'Nora', the nucleus of the fantasized psychical formation of Helmer, functions as the constant irrational object which beautifies the fantasizing elements of Helmer's world. The implementation of Nora as a deprived object which the dominant, 'big' masculine other desires within the romanticized conjugal frame reproduces her feminine identity as a nullified yet rainbow coloured element which exists based on the groundless fallacious reality.

The superficial reality which colours Nora's outer pretentious appearance makes Helmer, Nora's masculine other oblivious to her actual reality. Thus, since her life depends on the falsity in securing her social survival, involuntarily she has to enclose herself with symbolic existence. As an element of an illusory reality which fills the fantasized psychical world of Helmer, she continues to be frivolous and inconsequential.

"Nora is a carefully studied example of what we have come to know as the hysterical personality-bright, unstable, impulsive, romantic, quite immune from feelings of guilt, and at bottom, not especially feminine" (Templeton, 1989)

Nora with the strict determination of doing the most sacred duty to one's self induces herself to become liberated from the dependence on Helmer with whose identification her 'self' is defined and recognized. As a mere skylark with a vain glory, a play thing which colours herself to impress the other who holds the symbolic fetters around her, Nora is subtracted from the cultured formula which is constituted of variables such as the realm of mental, rationality, masculinity, reality and authority. In this sense her independent departure and the resolution to find her true self are not viewed as a sincere effort with vitality, but as an undignified deed wrapped with insensitivity.

Viewing 'Adela' as a human being who is extrinsically tamed yet intrinsically irrepressible, her feminine role can be defined as an unconventional individual whose motive is to escape the restrained family whole with the intention of securing the imagined autonomy .The repressed instincts within a human psyche constantly tempt her to eliminate her submission towards that forced repression in exploding that fettered frame through the negation of the principles of the conservative social sphere.

'Richard Seybolt said about 'The house of Bernarda Alba,'

'La Casa de Bernarda Alba may be viewed as the dramatization of a conflict between a repressive social code (Bernarda) and the blind, instinctual forces of nature (Adela)…….Bernarda appears larger than life as a wicked and tyrannical mother, and Adela throughout the play portrays rebellious instinct.' (Bergen, 1999)

Thus, Adela whose direct confrontation with the deeply- rooted social norms and the symbolic taboos makes her an abominable appearance in front of the authoritative order, is denied her anticipated survival. The maternal super ego which strives for filling the void which is created by the absence of the paternal authority tends to be a tragic failure. The female repression by another dominant other of the same sex evolves a tension within the psychical structures of the repressed thus allowing the equilibrium of the hierarchical

structure created by the paternal order within the complex of family to be interrupted.

"…Until I leave this house feet first, I will control my own affairs and yours…In the eight years this mourning will last not a breeze will enter this house. Imagine we have sealed the doors and windows with bricks."
(Kline, A.S.2007)

Consequently, the organic flow of emotion is thwarted thus forcing the five single women whose inner fantasies are pulsating with anxiety, desire, frustration, anticipation and illusion to circumscribe their selves within symbolic rationality which in true sense remains to be the intense irrationality. Thus, the repression they feel induces them to become violent within their inner space. If this milieu is viewed through Freudian concepts, it can be analyzed that the strict repression of Adela's pleasure principle and Eros, the life instincts compel her to absorb and engulf herself with the death instincts, Thanatos. Through this psychical disturbance, the aggressive impulses which are erupted within her inspires Adela to express the antipathy she feels towards the dominant social other by annihilating her 'self.'

'Adela's suicide also stresses the irreconcilable dynamic of the struggle between Eros and Thanatos. Adela arrives at the conclusion that there is no absolute freedom in life. The only freedom, which is part of Eros, can be found in death, Thanatos. Moreover, Adela's suicide proves Freud's claim that an individuals' instincts cannot be repressed beyond a certain level. Adela cannot live without asserting her Eros, and therefore she embraces its twin, Thanatos.' (Bergen, 1999)

Pursuing the same tragic end yet encountering and witnessing another life trial, 'Emma Bovary represents the victimization of the feminine figure within the demands and value system of the bourgeois social structure. Perceiving through the illusory and fictitious images which are depicted by the romantic literature; the heroism, passion, beauty etc, she becomes transferred to a fantasized entity in which she imaginatively lives anticipating the impossible to become possible. Being stimulated by the necessities and desires which are evolved by the bourgeois behavioural and value patterns, Emma becomes fixated within a hollow dream world which provides her neither gratification nor survival. Constantly yearning for the fulfillment of her desired love she is turned into an object which is comprised of an symbolic exchange value thus forcing her 'self' to be remained passive without resisting the approach of the dominant other whose sole purpose is to derive what she has to offer for the return of their ' Love'. Here the perfection of love for the sake of which Emma abandons what the social value system demands from her feminine figure, more explicitly from her mother figure, makes her oblivious to the deceitful mechanism which the masculine power performs. Thus, within this continuum of her quest in search of essence of true love through which her true self will emerge, she is obstructed by the phoney and superficial devotion of the masculine desire which appears in the disguise of sincere adoration. In this sense the tragic end towards which she approaches with her repressed, disgraced, disappointed and repudiated self, absorbs each particle of her existence leaving her to be interpreted as a symptom of the deformed femininity.

Repression, Renunciation and liberation

According to Freudian perspective,

'Civilization is built upon a renunciation of instinct…It is not easy to understand how it can become possible to deprive an instinct of satisfaction. Nor is doing so without danger. If the loss is not compensated for economically, one can be certain that serious disorders will ensue. The id cannot be controlled beyond certain limits. If more is demanded of a man, a revolt will be produced in him or neurosis, or he will be made unhappy' (Bergen, 1999)

During the journey towards the destination of her self-emancipation, Maggie Tulliver follows a path where the self-love is replaced by the compassion towards the social other whose emotional satisfaction and the survival become a source of

spiritual victory in her life. The route that Maggie Tulliver follows in fulfilling her earthly anticipations, bestows her with the serene and spiritual pleasure along with the self-approval.
The destiny of Maggie is incarcerated within a continuum of dichotomies between the societal repression which encroaches upon her feminine life and mind structure. Thus, while encountering the injurious and prejudiced repressive approaches of the social other she has to succumb to the repression which evolves within her mind structure by suppressing her intuitive anticipation and securing the emotional survival through renunciation of her hidden desires.

'The individual comes to the traumatic realization that full and painless gratification of his needs is impossible. And after this experience of disappointment. And after this experience of disappointment, a new principle of mental functioning gains ascendency. The reality principle supersedes the pleasure principle: man learns to give up momentary, uncertain and destructive pleasure for the delayed, restrained, but "assured" pleasure. Because of this lasting gain through renunciation and restraint, according to Freud, the reality principle "safeguards" rather than "dethrones," "modifies" rather than denies, the pleasure principle.'(Marcuse, 1956)

In perceiving the Freudian exemplification it can be observed that the psychical conflict that Maggie has to endure induces her anticipations, anxieties and desires to oscillate between her pleasure principle which stimulates her desires and the reality principle which governs the individualistic pleasures in leading her to realize her emotional survival. (Freud, 1962; Marcuse, 1956)

Thus, being engrossed in the religious teachings of Thomas a Kempis (Christian year) Maggie wraps her solitude with the spiritual instinct of renunciation amidst the temptations which are evolved through the masculine advances of Philip and Stephen. (Eliot, 1979) The self -love which obscures her observation into the sufferings of the social other and the unjustifiable moral injustice that underlies her self-interested anticipations persuade her towards the romantic destination that her pleasure seeking instincts yearn for. In contrast to that psychical process, the repression and renunciation of desires through which her hidden yearnings have become diminished convince the moral justification to accept her as a spiritual heroine who alters her life journey through self-denial for the betterment of the other.

'In a Literature of their own….Elaine Showalter concurred, calling Maggie a 'heroine of renunciation in contrast to rebellious Jane Eyre.' (Fraiman, 1993)

As a frustrated victim of war Kattrin appears in 'Mother Courage and Her Children' with disfigured and disable features connoting her negated and neglected situation in the society. Though Mother Courage acts as the courageous mother with vigor and determination in saving her children, her endeavours encounter the disappointments and agonies. In parallel to that, the materialistic perspectives and the traumatizing war scenarios make her an incapable of protecting her children from the victimization. Yet Kattrin though remains as a voiceless and disabled feminine figure, goes beyond the boundary that the society indicates with the overwhelming maternal affection to save the children from becoming victims of war sacrificing her 'self 'and thus turning her to be the symbolic mother courage.

'The mother is the root which, sunk in the depths of the cosmos, can draw up its juices; she is the fountain whence springs forth the living water, water that is also a nourishing milk, a warm spring, a mud made of earth and water, rich in restorative virtues.' (Beauvoir, 1953)

Negating her 'self' and deviating from the self-centered objectives, Kattrin embraces the role of the universal mother who sacrifices her life for securing the survival of the victimized children.

Consequently, Maggie Tulliver and Kattrin appear as the heroines whose self-strength and spiritual victory recognize them as the independent

women. Their sacrificing and the negation of self-gratification induce them to turn away from the materialistic and physical pleasures and embrace the serene satisfaction of the altruism and humanity. Amidst the societal and psychical repression which is forced upon their life routes, they step forward with the self-determination and courage inspired by the maternal warmth and sisterly affection rather than succumbing their 'self" for the demands and dominant role of the socio cultural authorities.

Conclusion

'Simone de Beauvoir's classic statement that 'one is not born, but rather becomes, a woman' is indicative of the view that a woman's biological, psychological and social locations are not significant as the influence of 'civilization' which produces woman. The social constructionist's position on the woman's body emphasizes the view that a woman experiences her body, sexuality and feminine identity as a social being located in a particular cultural setting with its dominant values and norms' (Thapan, 1997)

Consequently, the woman figure who is interpreted as the signifier of the 'nothingness' (Thapan, 1997, Zizek, 1992)) appears to be the defective hole which disrupts the existing social order and thus the literary characters like Adela, Nora, Emma, and Maggie Tulliver portray the antagonism between the social principle of 'Repression' and the feminine ' Liberation'. (Fraiman, 1993) The repression of the instinctual impulses of a human being generates an intense psychical energy within them inducing them to attain the repressed gratification.(Fraiman, 1993; Freud, 1962) The prejudiced social scale elevates the masculine figure towards the upper stratum while measuring the feminine self as the mere bodies which should be placed under the domination of the masculine superiority. (Beauvoir, 1993) As the afore mentioned characters reveal, the feminine existence within those discriminated social structure becomes framed thus assigning them their self-denial. In contrast to the characters such as Adela, Emma and Nora who negate the social other in the pursuing their determined routes towards the self-satisfaction, the feminine portrayals like Kattrin and Maggie Tulliver adopts the self-denial and renunciation of desires for the betterment of the other. Viewing these characters through that ideological dimension it can be elucidated that their deliberate acceptance of the death which signifies as a 'radical self-annihilation' (Zizek, 1992) becomes capable of enhancing their revolutionary psychical gratification. The characters like Nora, Emma and Adela become capable of gratifying their intense abomination towards the social order while Kattrin and Maggie Tulliver with their self-sacrifice and altruistic motives achieve a serene satisfaction. In that sense it can be identified that their self-annihilation leaves behind something rather than nothing implying a more psychological vitality without being just a physical deterioration.

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Original Article

Practice of Skipping Breakfast and Associated Factors among Nursing Officers in A Selected Hospital in Colombo District

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Abstract

Background: Breakfast is the most vital meal of the day, which helps to start metabolism by providing the energy and nutrients required by the body. Skipping breakfast by nursing officers can negatively affect their health and also patient care. Hence, the study aimed to assess the practice of skipping breakfast and its associated factors among nursing officers.

Methods: A descriptive cross-sectional study was conducted using a randomly selected sample of 384 nursing officers of the Colombo South Teaching Hospital, Kalubowila. A self-administered questionnaire and validated measuring scales were used to collect data. Data were analyzed using descriptive statistics and Chi-square test using IBM SPSS version 25.

Results: Among the nursing officers, 53% were in the normal BMI category, while 36% were reported as overweight or obese and 10% were underweight. Of the participants, 12% (n=47) skips their breakfast as a practice while 48.2% (n=185) skipped sometimes. During the 14 days prior to data collection, 42.7% (n=164) and 40.0% (n=154) of nursing officers had skipped their breakfast 1-3 times and > 4 times, respectively. The main reason for skipping breakfast was lack of time (77.3%, n=119). Age (p=0.042) and marital status (p=0.007) were significantly associated with the practice of skipping breakfast.

Conclusion: The study revealed that most nursing officers skip breakfast as a practice. Age and marital status were the significant predictors for skipping breakfast. Appropriate interventions are needed to improve the good practices related to breakfast and extensive assessments are required to evaluate the consequences of skipping breakfast.

Keywords: Skipping Breakfast, Nursing officers

Introduction

Breakfast is the most important meal of the day, which assists to start the metabolism and provides the energy and the nutrients required by the body. It is the first meal of the day, which is predicted to be taken after 7-8 hours of sleep (Darshini, Hasanain & Maged, 2017).

A healthy breakfast consists of a variety of foods that supply an adequate amount of essential nutrients (Rampersaud et al., 2005). It should provide an adequate amount of calories to meet the required energy level to maintain an optimal level of body activities and processes (Marangoni, et al., 2009). Furthermore, according to the "Eat Well Guide, UK" a healthier diet consists of fruit and vegetables, starchy foods as potatoes, bread, rice, pasta, and other starchy carbohydrates. Also, it includes protein-rich non-dairy products as beans, pulses, fish, eggs, meat, and other proteins, dairy and alternatives, and oil and spreads (Buttriss, 2016). It is documented that including food from each of these categories makes a healthy diet and further infrequent and small amounts of saturated fats, salt, and carbohydrates help to maintain good health (WHO, 2019).

People are more likely to skip breakfast with their busy life schedules (Tharindu, 2014). Previously before the 18th-century, people had a simple lifestyle, engaged with nature, however this changed drastically with industrial revolution and mass production from about 1784 onwards (Carrera-Bastos et al., 2011). This change in lifestyle led to increased workload and lack of time for personal attention (Clayton et al., 2015). The trend of skipping breakfast among adults is markedly higher in Western and even in developing countries (Munmun, Saiful & Shatabdi, 2014).

Skipping breakfast is a major issue among nursing officers as (Wong et al., 2010), almost every nursing officer is working in a busy schedule which requires providing 24 hours continuous care for the patient.

Meal skipping at work has been associated with a high workload (Amy et al., 2018), further nursing officers need to be ready for any emergency situation as they are responsible and accountable for patients' lives. This in turn leads to less time available for fulfillment of their own requirements, especially the diet. Further, barriers to healthy eating are found to be related to adverse work schedules, individual barriers, aspects of the physical workplace environment, and social eating practices at work (Christine et al., 2017). Research has revealed that skipping breakfast is also associated with unhealthy behaviors, poorer diets, and lower physical activity (Ruxton & Kirk, 1997).

It has been reported that skipping of breakfast is associated with higher metabolic risk, higher body mass index (BMI), larger waist circumference (Timlin et al., 2008), higher fasting insulin, and increased cholesterol and LDL levels which lead to a higher risk of diabetes type 2 (Mekary et al., 2012) and cardiovascular diseases (Uzhova et al., 2017). The health of the nurses and health care professionals is significantly associated with patient care. Therefore, nurses need to maintain their health in order to become efficient at work and provide effective nursing care to patients (Mojoyinola, 2008). Appropriate interventions are needed to improve the good practices related to breakfast and extensive assessments are required to evaluate the current state of skipping breakfast. Hence, the study aimed to assess the practice of skipping breakfast and its' associated factors among nursing officers.

Methodology

A descriptive cross-sectional study was conducted to identify the prevalence of skipping breakfast and its associated factors among nursing officers in Colombo South Teaching Hospital (CSTH) Sri Lanka. Ethical approval was obtained from the KIU ethics review committee (KIU/ERC/018/29) and the CSTH ethics review committee (Application No 703). According to sample size calculation, 384 nursing officers who worked in the CSTH during the data collection time period

were included in the study and were selected using the systematic random sampling method. Data was collected using a self-administered questionnaire which was developed by researchers using published literature and translated into Sinhala and Tamil languages. Validated height and weight measurement scales were used in the measurement of height and weight of the participants as body mass index (BMI) was calculated by standard BMI calculation formula. World Health Organizations South Asian cut-off values were used as the reference values for the BMI categorization (Lim et al., 2017). Before the data collection, the questionnaire was pretested by 30 nursing officers who were not included in the main study sample, and minor language modifications were made in accordance with the feedback. Data collection was conducted during a three-month time period in 2018 from August to November. Questionnaires were distributed as paper copies after providing all relevant information and written informed consent was obtained by ensuring the anonymity of the participants. Survey questionnaires were provided to participants, in their preferred language.

The participants were recognized only from the identification number given by the researchers and privacy and confidentiality were fully enforced during the data collection process. Height and weight measurements were obtained at the same convenient place for all the participants by two allocated research team members.

The primary outcome of the study was the prevalence of breakfast skipped during the last two weeks time period prior to the data collection date. It also included the frequency of breakfast skipped, methods of taking breakfast, and practices related to the breakfast.

Data were reported as frequencies, percentages, means, standard deviation (SD) as appropriate. Pearson chi-square test was performed to find out the associated factors for breakfast skipping. Data were analyzed using Microsoft Excel 2016 and IBM SPSS (version 25).

Results

Among the 816 nursing officers who are working at CSTH, 388 were selected by systematic random sampling method. Data collection commenced after confirming the eligibility criteria of the selected participants.

The study consisted of 384 nursing officers who are working at CSTH – Kalubowila. Nearly fifty percent (n = 172) of them belonged to the age group of 23 – 30 years. The majority (97%, n = 369) of them were female nursing officers. Fifty-seven percent of them were married. The majority of them were Sinhala; (99.2%, n = 381) Buddhist; (98.2%, n = 377) (Table 1).

Table 1: Participant characteristics

Demographic Characteristics	Percentage (%)
Age group	
23 – 30	44.8
31 – 40	38.0
41 – 50	12.5
51 – 60	4.7
Gender	
Male	3.9
Female	96.1
Marital status	
Married	57.0
Unmarried	43.0
Race	
Sinhala	99.2
Tamil	0.8
Religion	
Buddhist	98.2
Hindu	1.3
Islam	0.3
Christian	0.3

Considering the education level of the participants, it was observed that 71% (n = 273) of the nursing officers had a nursing diploma and only 8% (n = 30) of participants had a Nursing Bachelor's degree. Most of the participants (60%, n = 229) were Grade III nursing officers. More than half (n = 185) of nursing officers had a monthly income between LKR 40,000 – 50,000. Forty-six percent (n = 175) of them were living in

their own residence and 22.9% (n = 88) of them were residing in nurse's hostel.

It was found that 39% (n = 150) of nurses had a bodyweight between 56 - 65 Kg and more than a half (64%, n = 221) of them had a height between 151 – 160 cm. Only 53% (n = 205) of nurses belonged to the category of normal BMI (Figure 1).

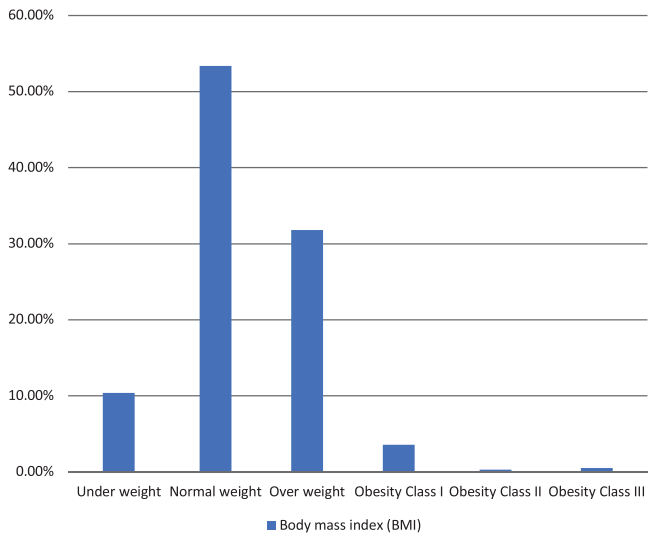

Figure 1: Distribution of BMI

In the assessment of the practice of preparing breakfast, half (51%, n = 197) of nursing officers consumed self-prepared breakfast and 33.1% (n = 127) of nursing offers consumed breakfast prepared by another person at the residence. Only 14% of the participants consumed their breakfast which was purchased from outside vendors and shops. The present study also describes the details on the practice of skipping breakfast and the frequency of skipping breakfast during the previous two weeks from the date of data collection. Of the participants, 12% (n=47) skips their breakfast as a practice while 48.2% (n=185) skipped sometimes (Table 2).

Table 2: Practice of Breakfast Skipping

Practice of Breakfast Skipping	Percentage (%)
Daily	12.2
Sometimes	48.2
Occasional	21.4
Never	18.2

Considering the previous two weeks from the data collection date, the highest frequency of participants who missed their breakfast 1-3 times was 42.7% (n = 164) while 26% (n = 100) of the participants missed their breakfast 4-6 times. Only, 17.3% (n = 66) of the participant had never skipped their breakfast.

The major cause for skipping breakfast was "lack of time" and as a percentage, it was 77.3% (n =119). Another 18% (n = 31) of participants skipped breakfast due to other causes such as the unavailability of food outlets, lack of tasty meals, and having accommodation facilities without food. Further, nurses mentioned that the necessity of traveling far to reach food outlets, negligence, and prolonged sleep after long hours of shift duties also affected the intake of breakfast (Figure 2).

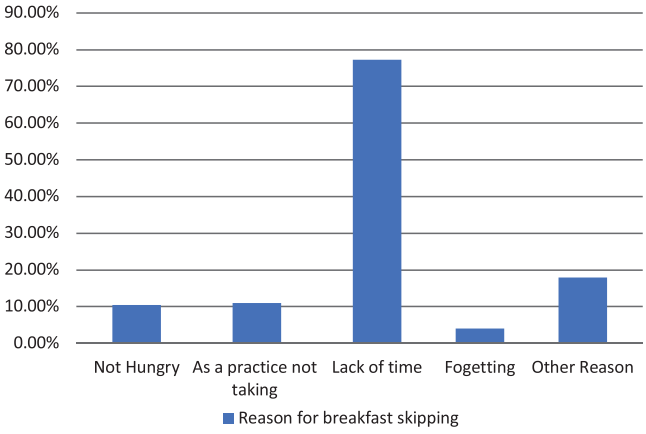

Figure 2: Reasons for breakfast skipping

Nurses were also questioned on the next meal after having missed breakfast. Thirty-seven percent (n =141) of the participants had a habit of having a snack and 48% (n = 174) reported having brunch instead of breakfast.

When associated factors like demographic factors for breakfast skipping were considered, it was observed that age (p=0.021), marital status (p=0.042), and type of accommodation (p=0.037) of the participants were significantly associated with the practice of skipping breakfast. Further increased age (p=0.042), marriage (p=0.007) were significantly associated with the increasing

frequency of skipping breakfast. There was no significant association between the practice of skipping breakfast and BMI.

Discussion

This study mainly assessed the practice of skipping breakfast and its associated factors among nursing officers at Colombo South Teaching Hospital – Kalubowila, Sri Lanka. Nearly 50% of the nursing officers have skipped breakfast in considerable frequency and the main reasons for skipping breakfast were lack of time, oversleeping due to the prolonged shift duty hours, negligence, and lack of tasty food. Giftkins et al., support the finding in the current study and have reported that prolonged duty hours may lead to excessive fatigue and long sleeping hours which in turn strongly influence the time, quality, and quantity of the food consumed (Gifkins et al., 2018). Further, it has been reported that people who work in shifts have a high risk of developing obesity, high triglycerides, low concentrations of HDL cholesterol, and metabolic syndrome (Karlsson et al., 2001). In the current study, it was found that nearly half of the participants had a snack or brunch meal when they skipped their breakfast. Nurses are more prone to have a snack in between the meal times when they are busy with work. Irregular patterns in taking main meals have also lead to overweight and abnormal body parameters (Nicholls et al., 2017). Further supporting the current study it was observed that unhealthy snacking behaviors in between meals lead to bad dietary habits and subsequent eating of large amounts of food may result in developing metabolic disorders (Esposito et al., 2014).

According to the observations of the present study, it was found that nearly 40% of the participants had skipped breakfast 1-3 times in the previous two weeks. Similarly, in another study, a 51% prevalence of skipping breakfast among nursing students was reported from Mangaluru (Benny et al., 2019). Another study conducted in Korea among young adults also reported the same percentage of skipping breakfast (Yun et al., 2010). If the practice of skipping breakfast is continued, as a practice among the young adult population, it will lead to the development of metabolic disorders such as diabetes mellitus, hyperlipidemia, and ischemic heart disease (Perera & Samarawickrama, 2017). Further, in the present study, the main reason for skipping breakfast was stated as not having enough time for taking food and preparing food. Similarly, a Korean study conducted amonge adults also revealed that the main reason for skipping breakfast is the lack of time for food preparation and consumption. In yet another study on nursing students at Mangarulu revealed that having breakfast early in the morning, use of other snacks or supplements, early timing of breakfast, and lack of variety of food as reasons for skipping breakfast (Benny et al., 2019). The finding in the current study can be related with these findings as nursing officers are also a group, who work on shifts and further the high percentage of participants are individuals in the young age group. Benny et al., further concluded that lack of nutrition education among nursing students as the main reason for the skipping of breakfast (Benny et al., 2019). Therefore, it is important to add nutritional knowledge and dietary education as a part of higher education for Sri Lanka nursing professionals as Sri Lankan nurses have a good attitude towards continuous education (Jayamaha et al., 2021).

Nearly half of the nursing officers were within the normal range of BMI, but a considerable percentage of overweight category was also present and researchers could not find any significant association between the practice of skipping breakfast and the BMI of the nurses. Similar results were found in a study conducted among nurses in New York and have concluded low or moderate physical activity level and imbalanced dietary behaviors which leads to the overweightness, were seen among the nurses (Ku et al., 2019). As a solution for this condition, it will be important to monitor and make necessary changes in physical activity level among nurses parallelly to the maintaining of a healthy diet.

Interestingly the current study revealed a relationship between the practice of skipping breakfast and young age, marital status, and type

of accommodation. Also, the frequency of breakfast skipping had relationships with age and marital status. A study conducted in China on a group of medical students has revealed that breakfast consumption was associated with many factors, most importantly monthly expenses and hours of sleeping (Sun et al., 2013). In a study by Keski among adults, skipping breakfast was observed to be significantly associated with the higher BMI, male gender, level of education, and low exercise which is different to the findings of the current study (Keski-Rahkonen et al., 2003). In this study majority of the participants were female, therefore a greater frequency in the breakfast skipping practice may have been observed among them in this study . In order to observe the difference between the gender groups further studies need to be planned and conducted. However it was observed that married nurses were significantly associated with skipping breakfast. This might be due to their tight schedules which result from balancing work-family obligations. Research in the area of skipping breakfast among nurses are sparse, and are much needed with a view to implementing remedial measure in correcting the dietary practices of nurses. These findings will be instrumental to facilitate future health policy planning and further research in this avenue.

Conclusion

Skipping of breakfast can be considered as a problem among the nursing officers mainly due to the lack of time and heavy workload. Marital status was significantly associated with the practice of skipping breakfast. The findings of this study can be used to encourage nurses to make behavioral changes in having breakfast and improve accommodation facilities with food access.

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