

Market Assessment of Fast Moving Disposable Surgical Items, Sanitizers and Disinfectants

By

Yugendra Panwar

*Dissertation submitted for the partial fulfillment of the
MBA Pharmaceutical Management*

Academic year, 2015-2017



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TO WHOMSOEVER MAY CONCERN

This is to certify that **YUGENDRA PANWAR**, student of **MBA Pharmaceutical Management** from The IIHMR University, Jaipur has undergone internship training at **BAFNA HEALTHCARE PRIVATE Ltd.**, Delhi from **February 12, 2017 to May 2, 2017**.

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

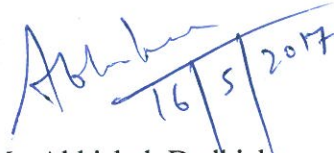
I wish him all success in all his future endeavors.



Dr. Ashok Kaushik

Dean - Academics and Student Affairs

The IIHMR University, Jaipur



Mr. Abhishek Dadhich

Assistant Professor

The IIHMR University, Jaipur

TO WHOM IT MAY CONCERN

This is to certify that Mr. Yugendra Panwar, Student of MBA Pharmaceutical Mgt. 2nd Year batch (2016-17), The IIHMR University has completed his industrial project at Bafna Healthcare Pvt. Ltd. For the project title "Market Assessment of Fast moving Disposable Surgical Items , Disinfectant & Sanitizers" in South & East Delhi region with effect from Feb 12,2017 to May 2nd ,2017.

During the project period he was found hard working, sincere & successfully carried out his part of work.

I wish him all the success in his future.

Abhilasha Pandey
Senior Associate Head, Delhi
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Original Literary Work Declaration

THE IIHMR UNIVERSITY, JAIPUR



CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **"MARKET ASSESSMENT OF FAST MOVING DISPOSABLE SURGICAL ITEMS, SANITIZERS AND DISINFECTANT": *Study based in Delhi***" and submitted by **Yugendra Panwar**, Enrollment No: **IIHMR-U/02/2015-17/0054**, under the supervision of **Mr. Abhishek Dadhich** for award of **(MBA in Pharmaceutical Management)** Postgraduate Diploma in Pharmaceutical of the University carried out during the period from **12th February, 2017** to **2nd May, 2017** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

A handwritten signature in blue ink that reads 'Yugendra Panwar'.

Yugendra Panwar
The IIHMR University



THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled: MARKET ASSESSMENT OF FAST MOVING DISPOSABLE SURGICAL ITEMS, SANITIZERS AND DISINFECTANT.

yugendra Panwar

Signature of student

Abstract

MARKET ASSESSMENT OF FAST MOVING DISPOSABLE SURGICAL ITEMS, DISINFECTANTS, AND SANITIZERS

Yugendra Panwar

Guide: Mr. Abhishek Dadhich

Keywords: Sterilizing services, fast moving Disposable surgical items, sanitizers, Disinfection.



Introduction

Different articles recognized contaminations after wrong reprocessed of reusable medicinal gear have been underlined the prerequisite though wellbeing couldn't care less administrations to utilize suitable sterilization strategies. The useful utilization of sanitization and cleansing strategies is significant use in forestalled social insurance related contaminations. Sanitizing administrations is in charge of disseminating possibly irresistible material on reusable gadgets, and arrangement out suitably prepared things all through the human services office. The imperative of the Sterilizing Service part is clear reusable medicinal instrument disgracefully took care of, cleaned, purified or sanitized as a wellspring of disease risk to both patients and staff. The disinfecting administration is in charge of get ready, managing out, and conveying clean and non-clean medicinal and surgical supplies are required for patient conclusion and care. This exhibits the significance of cleaning hands before each patient contact. Bumper finished that the utilization of a liquor gel hand sanitizer diminished contamination rates amid a 34 month time span and can permit an extra apparatus for a powerful disease control customized. A similar conclusion was come to. The gloves of medicinal staff are additionally effortlessly tainted from direct contact with a contaminated patient or, by implication by moving defiled surfaces, which fill in as a

bearer for pathogenic microorganisms. In a review concentrated on MRSA disease, 42% of faculty gloves that reached the furniture of a patient room yet had no immediate contact with tainted patients were sullied. Advance essentially; it was found that 65% of the nursing staff that had specifically treated a tainted individual polluted their garbs with the life form.

OBJECTIVE OF THE STUDY

OBJECTIVES

- To analyze awareness and perception of pharmacist of disposable surgical items, disinfectants and sanitizers in study area.
- To assess the competitors in study area.

Methodology

Type of Study-	Primary data
Data Collection Tools-	Questionnaire with close-ended questions as used.
Data Analysis Tool-	MS Excel
Study Duration-	Three Months (12th February to 02 th May)
Study Area-	South-East Delhi

Conclusion

- By intervening It came to notice that **disposable surgical** items such as delivery kit, burn kit as well as **sanitizers** and **Disinfectants** etc guarantee totally clean and sterile environment for every patient, which is used once and disposed off, removing the need for prolonged decontamination processes. Majority of responses came for spring bliss in hand sanitizer while the majority of responses for **ambulance disinfectant** came for silver nitrate base solution. Moreover, Medical equipment products are growing exponentially in terms of Hand Sanitizers and Disinfectant. In fast moving surgical disposable items, BHPL Facing tough fight in market with Competitors likes **J&J** and **Baxter International**.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude towards BAFNA Pvt Ltd. for selecting me as a trainee for my dissertation project and giving me an opportunity to work on this project and also for providing a good working ambience for successful completion of this project.

I would also like to express my sincere gratitude towards my Mentor Mr. Abhishek Dadhich for helping me in my project. His guidance and teaching has been of a great help during my project.

Finally I would like to express special word of Gratitude towards Miss AbhilashaPandey (Senior Associate head) of BAFNA Healthcare Pvt Ltd. Without his guidance it wouldn't have been possible for me to look in to niche opportunities in my project.

Last but not the least; I would like to express my sincere thanks to my Institute IIMR for providing me all kind of support in my dissertation project at BAFNA Healthcare Pvt Ltd.

YugendraPanwar

Trainee at BAFNA Healthcare Pvt Ltd

Delhi



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CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled: MARKET ASSESSMENT OF FAST MOVING DISPOSABLE SURGICAL ITEMS, SANITIZERS AND DISINFECTANT.

yugendra Panwar

Signature of student

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Company Profile

BAFNA Healthcare PRODUCT PORTFOLIO CONSISTS OF 3 MAIN CATEGORIES OF PRODUCTS

- Pre -hospital care (BH-1)
- Mobile Health Solution (BH-2)
- Medical Equipments (BH-3)

Pre Hospital care BH-1	Mobile Health Solution	Medical Equipments
• Patient Transport Ambulance	• Mobile Hospital	• Emergency Equipments
• BasicLife support Ambulance	• Mobile OPD Unit	• ICU/ICCU/OT Equipments
• Advanced Life Support Ambulance	• Mobile Medical Unit	• Patient Handling Equipments
• Neo Natal Ambulance	• Mobile Diagnostic Unit	
• Mother and child Ambulance	• Mobile Dental Unit	
• Multi Patient Ambulance	• Mobile Dialysis Vehicle	
	• Mobile ophthalmology Unit	

INTRODUCTION

Different articles recognized contaminations after wrong reprocessed of reusable medicinal gear have been underlined the prerequisite though wellbeing couldn't care less administrations to utilize suitable sterilization strategies. The useful utilization of sanitization and cleansing strategies is significant use in forestalled social insurance related contaminations.

Sanitizing administrations is in charge of disseminating possibly irresistible material on reusable gadgets, and arrangement out suitably prepared things all through the human services office. The imperative of the Sterilizing Service part is clear reusable medicinal instrument disgracefully took care of, cleaned, purified or sanitized as a wellspring of disease risk to both patients and staff. The disinfecting administration is in charge of get ready, managing out, and conveying clean and non-clean medicinal and surgical supplies are required for patient conclusion, T/t a continuous care. Essential Sterilizing Services are incorporated not limits to being consulting in the following instances:

- Operating theatre schedule.
- Receipt of reusable instruments and equipment.
- Preoperativeexecutivemeeting.
- Preoperative education and training.
- Changes in model of care and processes across Preoperative.
- Plans for the refurbishment and redesign and commissioning of new operating technique and sterilizing services.

Multidrug resistance is a predictable part of microbial survival and has been a huge issue in the treatment of bacterial diseases. The development of bacterial resistance is a result of the unpredictable hold of anti-infection agents and of the transmission of resistance inside and b/w people. Additionally, the absence of new clinically significant classes of anti-toxins constitutes a tremendous danger to general wellbeing. The quantity of doctor's facility Acquired contaminations (HAIs) has been expanding exponentially worldwide since 1820, particularly because of the rise and spread of multidrug-safe (MDR) microscopic organisms.

HAIs are among the real reasons for setback and enlarged bleakness among hospitalized patients, with at least 175 003 passings consistently in industrialized nations. A few examinations demonstrated that >60% of overall HAIs have been connected to the connection of various pathogens to restorative inserts and gadgets, for example, venous and urinary catheters, arthroprostheses, break obsession gadgets and heart valves. As an immediate outcome, the substitution of inserts, which involves noteworthy expenses. Also, it has been exhibited that the enhanced occurrence of HAIs is identified with cross-contaminations from patient to patient or doctor's facility staff to persistent and to the nearness of pathogenic microorganisms that are chosen and kept up inside the healing center condition (counting hardware).

Poor disease oversee practices may encourage patient-to-patient transmission of pathogens; for example, in the convenience of numerous patients in a similar room. Be that as it may, disappointment of the invulnerable framework because of disease or the utilization of immunosuppressors and other restorative medications can build the patient's powerlessness to contaminations. The utilization of anti-toxin can unexpectedly choose anti-toxin safe microorganism. New items and advancements with "perpetual" antimicrobial action without the threat of producing safe microorganisms are required. Thus, this original copy permits data on the principle pathogens creating HAI and the significant being used and emanant systems for their control.

The introduction of optimized disinfection products and processes is vital to control and prevent the spread of nosocomial infections, cross-resistance and persisted cells. Within recent decennary, requirements concerning the antimicrobial activity of disinfectants in the medical field have been defined in different European standards. Since the environment serves well as an important reservoir for infectious organisms, the control of hospital infections is a matter of good concern and a major challenge. Guidelines have been highly developed by the CDC, which recommend hospitals to thoroughly clean and disinfect environmental and medical equipment surfaces on a fixture basis. However there is a variety of products available on the market with moderate or even insufficient antimicrobial action.

The most as often as possible unhygienic surfaces are floors, doorknobs, TV control gadgets, bed-outline lockers, beddings, bedside tables and latrine situated in rooms already drawn in by a tainted patient. Found that half of cabinets latrine floors and bed outlines tested at a healing facility were debased with *C. troublesome*. Restorative gadgets, including stethoscopes and otoscopes, are exceptionally inclined to be debased with microscopic organisms and have been involved as potential vectors of cross-transmission. Microbes were found on different plastic things in the healing facility, including pagers and phones. Given suggestive proof that tainted ventilation barbecues were wellsprings of MRSA flare-ups in doctor's facilities Barker demonstrated that nor infection is reliably exchanged by means of the fingers to melamine surfaces and from that point to other run of the mill hand-contact surfaces, for example, taps, entryway handles and phone recipients. Pessoa-Silva showed that hands turn out to be progressively defiled with commensally greenery and potential pathogens amid neonatal care and that glove don't completely shield the laborers' hands from pollution. Pitter et al. inferred that bacterial tainting intensified straightly with time on ungloved hands amid patient care. The white coats, shirts and ties of specialists have additionally been found to contain control full pathogenic vegetation.

This exhibits the significance of cleaning hands before each patient contact. Bumper finished that the utilization of a liquor gel hand sanitizer diminished contamination rates amid a 34 month time span and can permit an extra apparatus for a powerful disease control customized. A similar conclusion was come to. The gloves of medicinal staff are additionally effortlessly tainted from direct contact with a contaminated patient or, by implication by moving defiled surfaces, which fill in as a bearer for pathogenic microorganisms. In a review concentrated on MRSA disease, 42% of faculty gloves that reached the furniture of a patient room yet had no immediate contact with tainted patients were sullied. Advance essentially, it was found that 65% of the nursing staff that had specifically treated a tainted individual polluted their garbs with the life form.

SURGICAL EQUIPMENT MARKET KEY BENEFITS

Analysis of the worldwide surgical hardware advertises with current patterns and future estimations to explain the fast approaching venture pockets in the market.

- A quantitative investigation from 2014 to 2022 to empower the partners to gain by surely understood market openings.
- Widespread investigation of the worldwide surgical hardware advertise, by item, helps in understanding the different sorts of instruments utilized amid different surgical systems.
- Competitive insight highlights the business rehearses taken after by driving business sector player crosswise over different geographic areas.
- Key advertise players inside the surgical gear market are profiled in this report and their techniques are investigated completely, which helps in understanding focused standpoint of worldwide surgical gadgets showcase.

SURGICAL EQUIPMENT MARKET SEGMENTS

The global surgical equipment market is segmented by product type, application, and geography.

MARKET BY PRODUCT TYPE

- Surgical Sutures and Staples
 - Surgical Suture
 - Surgical Staple
- Handheld Surgical equipment
 - Forceps and Spatula
 - Retractor
 - Dilator
 - Grasper
 - Auxiliary Instrument

MARKET BY APPLICATION

- Neurosurgery
- Plastic and Reconstructive Surgeries
- Wound Closure
- Urology
- Obstetrics and Gynecology
- Thoracic Surgery
- Micro vascular
- Cardiovascular
- Laparoscopy
- Others

INDIAN MARKET TRENDS AND SCENARIO

The medicals item industry in India was esteemed at \$6.36 Billion in 2013 and is quickly advancing with a normal CAGR of 17 – 19% throughout the following 5 years. This quick development can be ascribed to components, for example, enhanced social insurance framework, expanded human services spend, expanded therapeutic tourism, developing medicinal services protection and expanded entrance of private division. Private players in this industry have seen a sharp ascent over the recent years, given the absence of administrative confinements; just 14 of the 2,000 odd restorative gadgets accessible in the residential market have been advised under the Drugs and Cosmetics Act prompting the nearness of countless players in the market. This has likewise been helpful for new contestants to enter the market.

Certain surgical classes like Orthopedics, Cardiology and Neurology are pioneers in the therapeutic inserts classification. Orthopedic joint substitution surgery is developing quickly at 15-20% and subsequently there is more utilization of the inserts for knee and hip substitution surgeries. Urbanization and way of life movements have added to increment in cardiovascular and neurological issues prompting an ascent in restorative embeds in these categories.

TECHNOLOGY TRENDS CATEGORIES

Auto disposable needle/ syringe	▪ Needle free injection ▪ Most important developments include prefilled syringes, multi-chamber syringe and silicone-free technology for
---------------------------------	--

	lubrication of syringe component.
Healthcare textile are getting integrated with medical device	▪ Advancement in fiber and other textile technology specifically designed for use inside the human body ▪ Medical Smart Textiles: integration with electronic devices, including sensing, monitoring and information processing tools, able to react to the conditions and stimuli, including mechanical, thermal, chemical transmitted by the wearer ▪ 3D textiles are used to prevent contact irritations and wound infection ▪ These technologies are not present in India yet, hence are a big opportunity area
Negative pressure is latest wound care therapy	▪ Highly specialized industry ▪ Designing products that extend wear time, reducing the expense of labor while preserving quality of care ▪ Newer clear products to allow visualization of the wound beneath the dressing ▪ Nanotechnology enabled drug delivery to wound
Digital devices are more user friendly and at lower price	▪ Wireless medical devices are coming up ▪ Bluetooth and Smart phone connectivity to devices is happening ▪ Post-operative monitoring technology is 3 smarter and easy to use ▪ Better monitoring systems, and more comfortable scanning equipment are allowing patients to spend less time in recovery ▪ Collaboration and precision need small change technically, hence existing products do not become obsolete
Surgical consumables and device are getting smarter and smaller	▪ Ultrasonic devices and other bipolar devices are combined into one resulting in minimum heat/ thermal spread to damage neighbouring tissue ▪ Better cuff materials, secretion management tools, antimicrobial coatings, and other biofilm removing tools for invasive airway device ▪ Use of Stealth technology to perform complicated neurosurgeries for back and spine results in smaller

	incisions, greater accuracy, reduced surgery time
Implants are getting more specialized	▪ class is high specialization oriented ▪ Development of ceramic-on-ceramic bearing surfaces for spinal total disc replacement ▪ Micro-needles to safely and effectively deliver drugs into eye are coming up ▪ By Neuro-modulation, the brain can be regulated using a number of different factors and all these can now be modulated by devices implanted in the neural network

Literature review

1. **THE FAST PROGRESSING MEDICAL PRODUCTS MARKET IN INDIA – MARKET OVERVIEW & CATEGORY INSIGHTS;** By Ashish Sharma , Tanvi Gupta (Research analyst); 16 March, 2015

- Medical devices and equipments largely include surgical, digital and diagnostic devices. India has seen a rapid rise in the demand for surgical devices and hence a massive adoption in surgical technology has been seen lately. Even small surgical devices such as knives, scalpel are becoming highly specialized in nature. The surgical sutures market is growing at CAGR 7% and is predicted to expand to \$4.5 billion by 2016. Overall, sutures will make up to 60% of the surgical device market in the next 5 years. Increasing demand for cosmetic surgery is also driving the need for surgical equipment. Thus surgical devices have the highest potential in this segment.

2. **GLOBAL MARKET FOR FAST DISPOSABLE DISINFECTANTS AND SANITIZERS;** By Euromonitor reports, 2016

In expansion to refreshed suggestions, new subjects tended to in this rule incorporate 1) inactivation of anti-infection safe microbes, bioterrorist specialists, rising pathogens, and blood borne pathogens; 2) toxicologic, ecological, and word related concerns related with sanitization and cleansing practices; 3) purification of patient-care hardware utilized as a part of mobile settings and home care; 4) new cleansing procedures, for example, hydrogen peroxide gas plasma and fluid peracetic corrosive; and 5) sterilization of complex therapeutic instruments (e.g., endoscopes).

3.Modern and developingstrategy for disinfection of hospital environments.

By Ana C. Abreu Rafaela R. Tavares Anabela Borges Filipe Mergulhão Manuel Simões

JAntimicrobChemother.

By this article it finished that the rise and across the board of multi restricted to types of a few microorganisms has prompted a circumstance where few mixes can repress or slaughter the irresistible operators. Various techniques to sterilize both clinical gear and the earth are accessible, frequently including the utilization of antimicrobial chemicals. A critical number of healing facility obtained contaminations happen because of wasteful purification of doctor's facility surfaces, instruments and rooms this audit gives refreshed data on the present and new cleansing procedures for clinical conditions. .All the more naturally, examinations concerning gas plasma, antimicrobial surfaces and vapor frameworks have picked up enthusiasm as shows potential other option to preservationist disinfectants.

RESEARCH DESIGN

OBJECTIVES

- To analyze the awareness and perception of pharmacist towards disposable surgical items, disinfectants and sanitizers in study area.
- To assess the competitors in study area.

RESEARCH PLAN

Information was collected through various sources which include medical journals, Textbooks and websites.

Following information was collected:

1. The surgical equipment market is segmented by **product type** and **application type**.

- **PRODUCT TYPE**

Surgical Sutures and Staples

Surgical Sutures

Surgical Staple

- **MARKET BY APPLICATION**

First aid kit

Burn dressing kit

Delivery kit

2. **Sanitizers base among in the market.**

- Sterlium base
- Alcohol free base
- Alcohol base

3. Disinfectants base in the market.

- Qt. ammonium base
- Alcohol base
- Silver nitrate base solutions

After a proper understanding, a questionnaire was designed.

2. PRIMARY RESEARCH

TYPE OF DATA	:	Primary data.
TOOL OF DATA COLLECTION	:	A market Research Questionnaire with close-ended questions was used for data collection.
TYPE OF QUESTIONNAIRE	:	Structured.
INTERVIEW TECHNIQUE	:	In depth interview
SAMPLING METHOD	:	Non-probability sampling.
TYPE OF RESEARCH	:	Qualitative research.
RESEARCH AREA:		South-East Delhi areas (Nehru Place, Kalkaji Phase-1, Kalkaji, Phase-2, Kotla Mubarakpur, Lajpat Nagar, Greater Kailash, Phase 1, 2, South Extn-1 and 2)
SAMPLE SIZE	:	Covered 177 Pharmacy (Responded- 118 pharmacy)
TARGET RESPONDENTS	:	Pharmacists (Hospitals as well as private pharmacies)
ANALYSIS OF DATA	:	Was performed in Microsoft Excel and Coding method was used for the purpose of data entry.

LIMITATIONS

- The interviewer wrong attitude was a major limitation in the research. There could have been dissimilarity between the in sequence generated and the information wanted due to the way in which the respondent must have interpreted the question.
- The research was carried out in South Delhi and its surrounding areas. The primary data collected may not be a representative of other geographical areas.
- Some subjects were less loyal and showed frosty attitude.

OPERATIONAL PLAN

- Step 1** : After the proposal got awarded, the proposal had been submitted to the Institutional ethics Review Board for their approval of BHPL.
- Step 2** : Followed by the approval the data collection tools had been developed in English and later on translated in to Hindi.
- Step 3** : The tools had been pre-tested in drug retail stores, other than the sampled stores. The final tools had been peer-reviewed.
- Step 4** : Mentor's permission had been sought for the respective study.
- Step 5** : First visit had been done on 15th of feb2017and initiation of the data collection process. The data collection had been done by interviewing the Pharmacists by me.
- Step 6** : The data thus collected had been screened & accumulated by data entrymethods. The data cleaning acceptance of only data which is good in quality had been involved in assessment. Partial/incomplete data had been rejected.
- Step 7** : The analysis of data in the form of frequency table/ charts had been done and forwarded as Draft Report to BHPL.

Data management

The data once collected had been securely stored. This had been done after the satisfaction with the data quality. All the identifiers had been removed and the transcripts had been coded to ensure the confidentiality of data. Screening of the data had been done to check the data quality. Data entry had been done in MS Excel followed by Cleaning of data Analysis of the data is to find the variation/ frequencies and variability of the data gathered had been done.

Ethical Concerns

Informed consent form was attached with the questionnaire. Voluntary participation of the stakeholders is must to be included in the study. Privacy confidentiality has been maintained for the sake of keeping anonymity and safeguards the right of each respondent; only initials had been taken of each respondent instead of the full detail of the stakeholders. Risk involved in the study is the privacy of the organization and its working culture along with stakeholders. Benefits involved in the study are the assessment of the quality of the reporting system included in the facility.

Data Analysis

1. Distribution of hand sanitizer mostly sold for hospital use.

Alcohol base	26
Alcohol free	17
Sterlium base	51
all	13
none	11

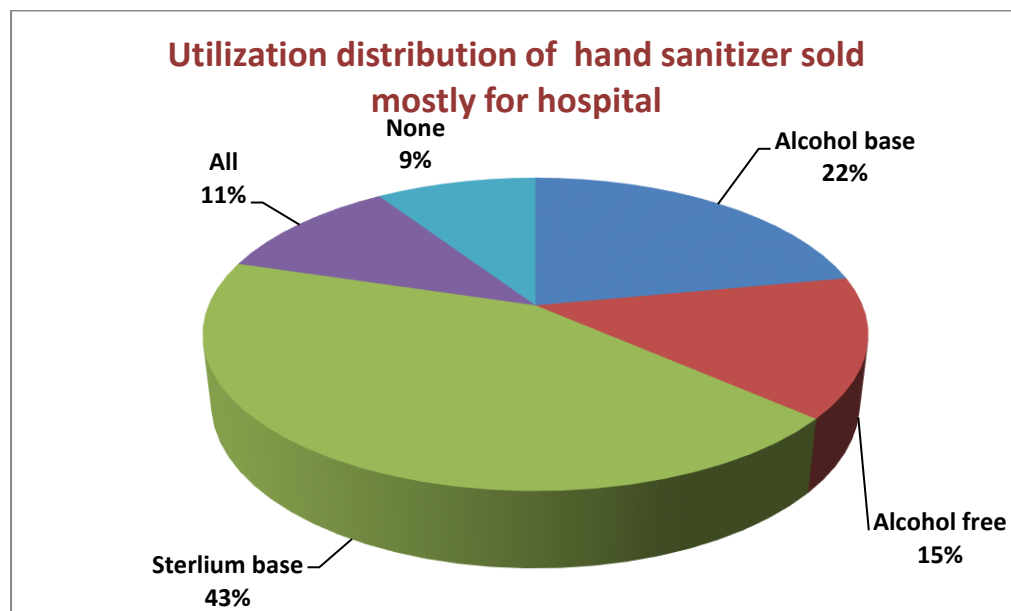


Fig-1: Distribution of hand sanitizer sold mostly for hospital

INFERENCE:

Out of 118 respondents, 43% of the respondents were came in favor of Sterlium Base followed by 22% with Alcohol base followed by 15% Alcohol free base followed by 11% All and 9% none from these.

2.Frequency of Sanitizers was sold.

Weekly basis	67
oftenly	30
rarely	9
never	12

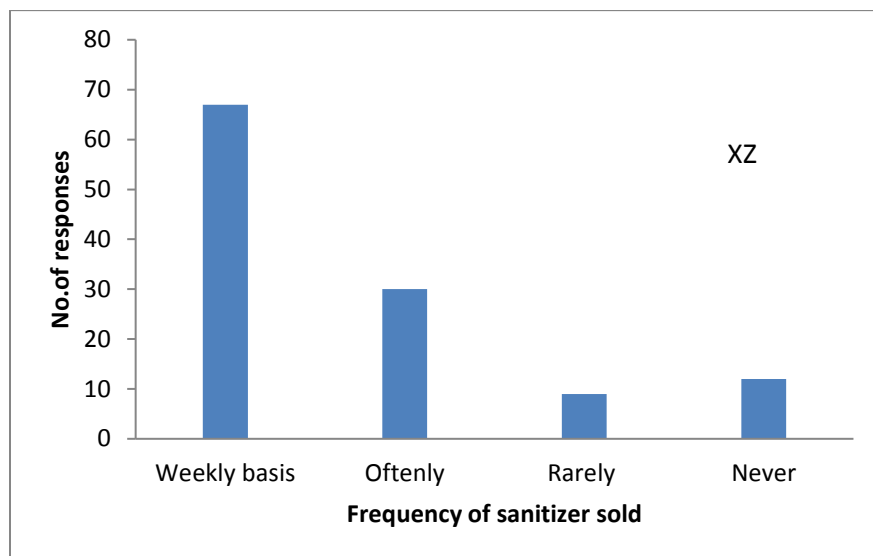


Fig-2: Frequency of sanitizer sold in study area

INFERENCE:

Out of 118 respondents, 67 responses came in favor of Weekly basis followed by 30 responses for Oftenly followed by 9 responses for rarely and 12 for never. There is very less no. of responses come in favor of G.P and C.P i.e. 9 and 7 respectively.

2. Frequency of Fast moving disposable surgical items.

Delivery kit	46
Burn pack	10
First aid	31
All	19
None	12

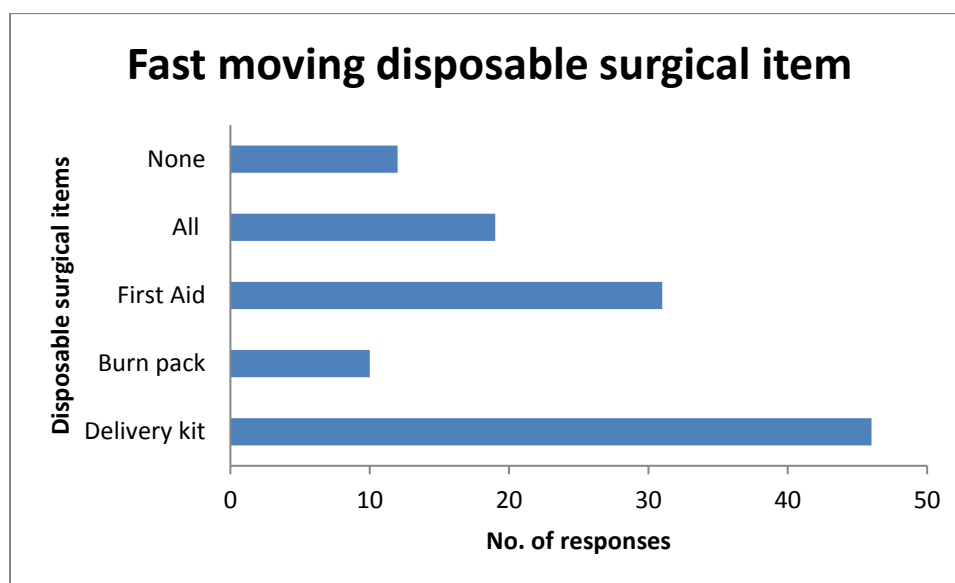


Fig-3: Frequency of Fast moving disposable surgical items.

INFERENCE:

Out of 118 respondents, 46 responses came in favor of Delivery kit followed by 10 responses for Burn pack followed by 31 responses for First aid followed by 16 for All and 12 responses for none.

3. Most preferred hospital chemical in Ambulance disinfectant.

Qt ammonium	27
Silver nitrate	31
Ethanol + proponol	25
all	19
None/others	16

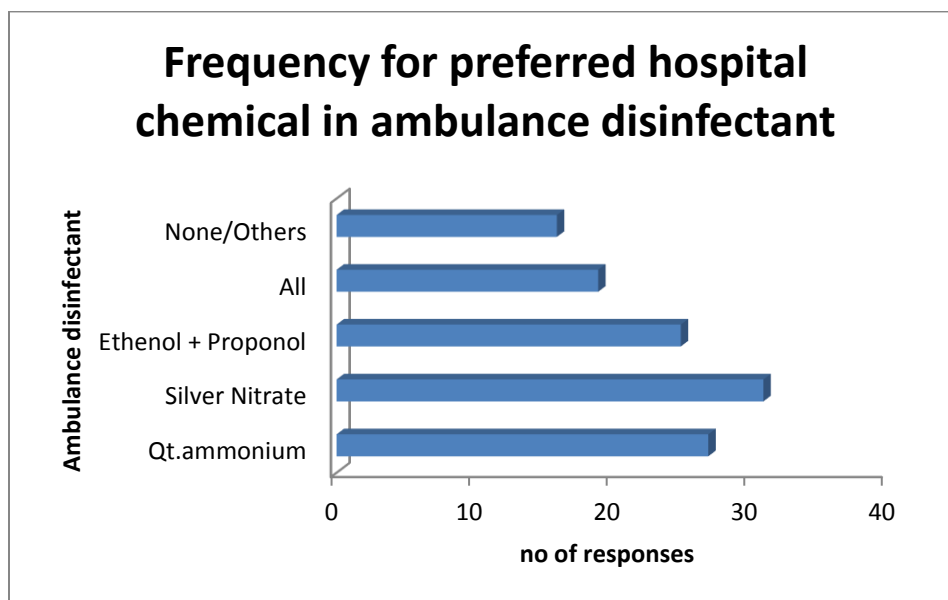


Fig-4: Frequency for preferred hospital chemical in ambulance disinfectant

INFERENCE:

Out of 118 respondents, 46 responses came in favor of Delivery kit followed by 10 responses for Burn pack followed by 31 responses for First aid followed by 16 for All and 12 responses for none.

5. Mostpreferred hospital disinfectant

Qc125	43
Ed25	19
silpox	16
silvox	18
cidex	21

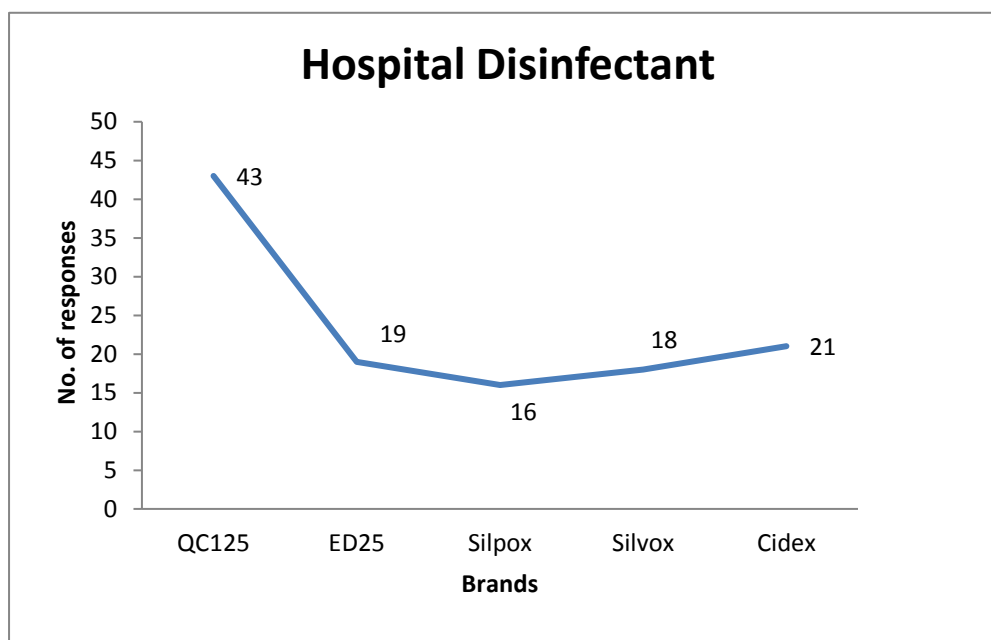


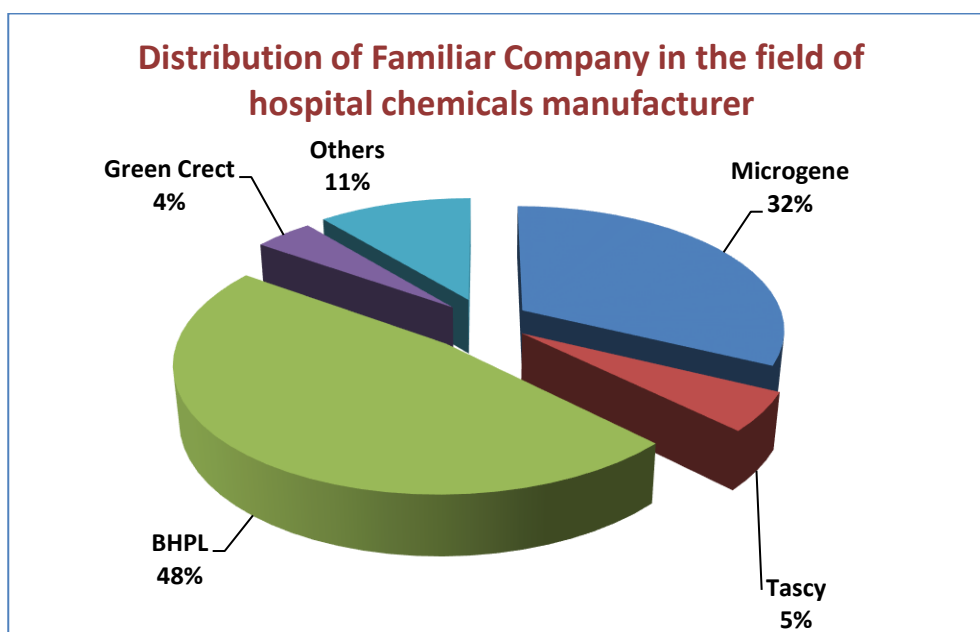
Fig-5: Most preferred hospital disinfectant.

INFERENCE:

Out of 118 respondents, 43response came in favor of QC-125 followed by 19 response for ED25 followed by 16 response for silpox. For Silvox 18

6. Familiar company in the field of hospital chemicals manufacturer.

BHPL	56
GREEN ERECT	5
MICROGENE	38
TASCY	6
OTHERS	13



INFERENCE

Fig-6: Distribution of familiar company in field of chemical manufacture

After investigation it reflects that 48% responses came for BHPL followed by 32% aware about microgene followed by 5% and 4% Green erect while 11%

7. awareness about hand sanitizer

Yes	89
No	29

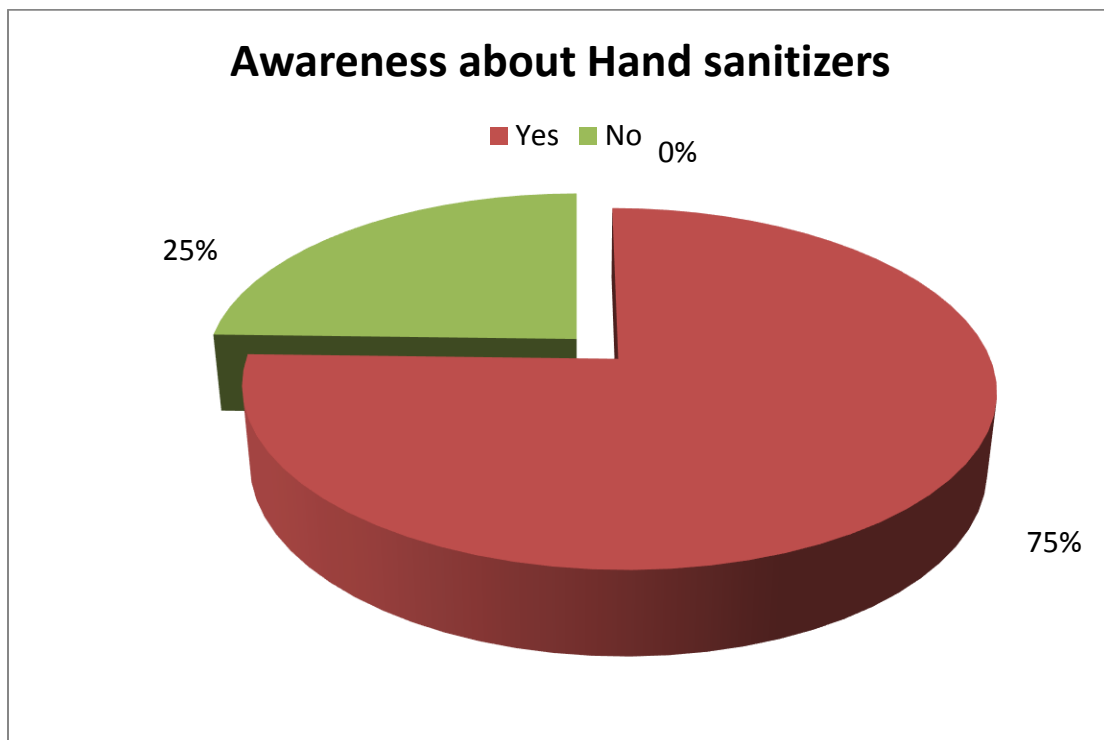


Fig-7: Percentage distribution of Awareness about hand sanitizers

INFERENCE:

It clearly found out that 75% respond that they are aware about Hand sanitizers while 25 % were not.

8. Most preferred hand sanitizer.

Spring Bliss	20
Kronocer	12
Myrafoilssant	3
Others	54

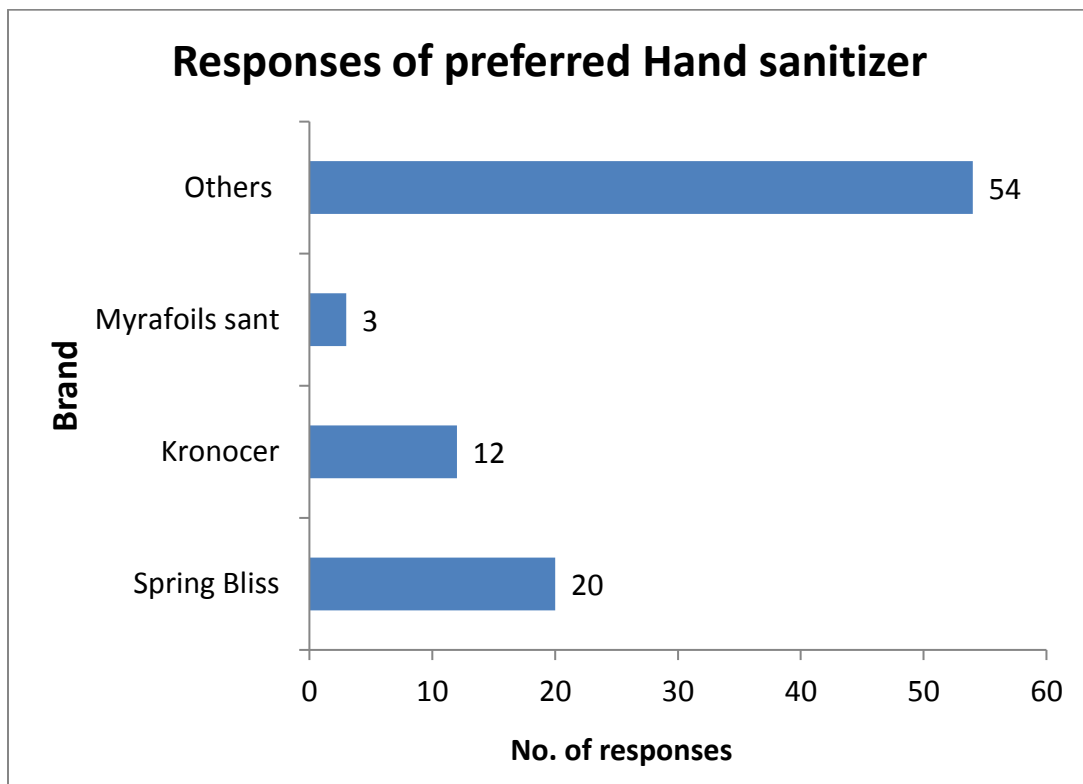


Fig-8: Responses of preferred hand sanitizer

INFERENCE:

Out of 89 responses who were aware about hand sanitizers 20 respond in favor of spring bliss followed by 12 for Kronokare followed by 3 responses came for myrafoilsant and 54 respond for others.

9. Top companies awareness in the field of disposable surgical items.

J & J	16
BHPL	13
MEDTRONIC Inc	8
SIEMEN AG	11
Novartis	08
Baxter international	12
All	50

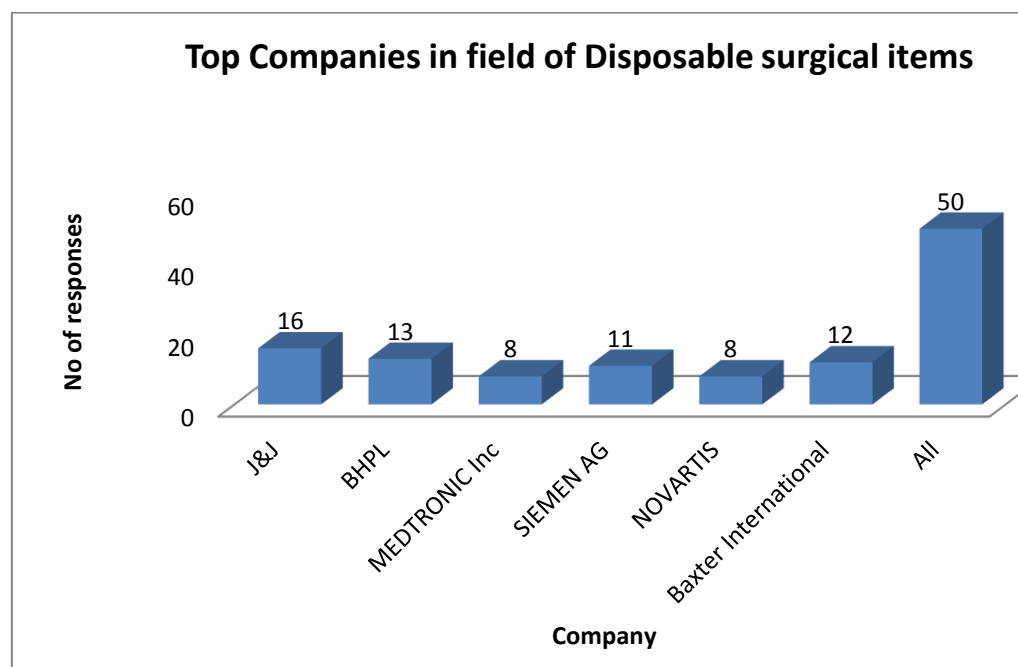


Fig-9: Top companies in field of disposable surgical items.

INFERENCE:

After study it observe that out of 118 responses ,16 came in favor of J&J followed by 13 BHPL followed by 12 for BAXTER INTERNATIONAL followed by 11 for SIEMEN followed by 8 responses for NOVARTIS . 52 responses came for All companies

Important findings of the study:

This study reveals that 75% of respondents knew about hand sanitizers. Furthermore **Sterlium base** (43%) hand sanitizer mostly sold for hospital use found out during study because of its characteristics which gives more hydration to skin and give assurance of killing 99.99% bacteria after its use.

Delivery kit followed by **First aid** is the fast moving disposable surgical items found out during study because of its consumption pattern in hospitals.

Silver nitrate base chemical mostly preferred as Ambulance disinfectant because of its prolonging action 8-10 hrs where as **QC125 (qt. ammonia)** mostly preferred as Hospital Disinfectant because of its characteristics like Effective in Critical Areas Like All high risk areas, Operation Theaters, ICU's, Dental, Clinics, Burn Units, Blood Banks & Laboratory. Moreover **BHPL** followed by **microgene** found out familiar chemical manufacturer company for hospital because of its greater market share and brand value.

Spring bliss most preferred Hand sanitizer Brand found out during study because of its corporate name and variant packaging.

J&J and **BHPL** came as top companies in the field of disposable surgical items because of corporate branding.

Suggestion:

- ▶ Disinfectant like QC-125 (which gives germicidal action about 22-24 hrs after one time fumigation and managing the risk of high infection on the agenda of healthcare professional) should be more promoted among corporate and hospital pharmacies.
- ▶ Sanitizers and disinfectant should be more economical for better market penetration.
- ▶ Awareness programs should be more prevailed by BHPL.

Conclusion:

- ▶ By intervening It came to notice that **disposable surgical** items such as delivery kit, burn kit as well as **sanitizers** and **Disinfectant** etc guarantee totally clean and sterile environment for every patient, which is used once and disposed off, removing the need for prolonged decontamination processes. Majority of responses came for spring bliss in hand sanitizer while the majority of responses for **ambulance disinfectant** came for silver nitrate base solution. Moreover, Medical equipment products are growing exponentially in terms of Hand Sanitizers and Disinfectant. In fast moving surgical disposable items, BHPL Facing tough fight in market with Competitors likes **J&J** and **Baxter International**.

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ANNEXURE

Questionnaire

1. Which is the most preferred hospital Disinfectant?
 - a) QC-125
 - b) ED-25
 - c) Silpox
 - d) Silvox
 - e) ED-125
 - f) Cidex

2. Familiar company in field of hospital chemical manufacturing
 - a) micro gene
 - b) Tasey
 - c) BHPL
 - d) Green Erect
 - e) Others

3. Are you Aware of Hand sanitizers
 - a) Yes
 - b) No

4. Which is the most preferred hand sanitizer?
 - a) String bliss
 - b) Kronocare
 - c) Myrasoil
 - d) Others

5. How frequently Sanitizers are sold?
 - a) Weekly basis
 - b) Oftenly
 - c) Rarely
 - d) Never

6. Which type of hand sanitizers sold mostly for hospital use
- a) Alcohol based
 - b) Alcohol free
 - c) Sterilium base
 - d) All
 - e) None
7. fast moving Disposable surgical items
- a) Delivery Kit
 - b) Burn pack
 - c) First aid boxes
 - d) All
 - e) None
8. Most preferred hospital chemical in Ambulances for disinfectant
- a) Qut. ammonium
 - b) Silver nitrate
 - c) Ethanol+propanol
 - d) All
 - e) None/others
9. Top companies you are aware about in the field of disposable surgical items?

- JOHNSON & JOHNSON
- BHPL.
- MEDTRONIC INC.
- SIEMENS AG
- BAXTER INTERNATIONAL
- NOVARTIS AG
- All

Your opinion is valuable for us. "Thank you"