

Challenges of infection control at UFIH

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CONTENT

- I. Programs implemented – 1 year
- II. Challenges:
 - 1) Air sampling –fungal growth
 - 2) Re-sterilization packaged instruments
 - 3) Single-use policy
 - 4) Endoscopy disinfection
 - 5) Hemodialysis machine
 - 6) Temperature control of fridges

IMPLEMENTED PROGRAMS

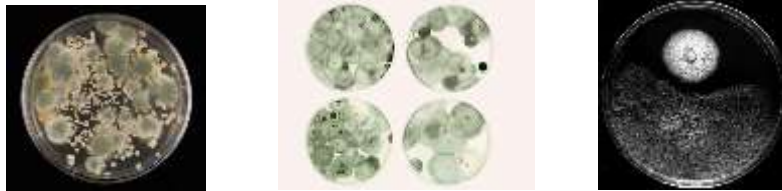
1. IC structure: ICP, ICN, IC team, HICC;
2. National surveillance
3. INICC surveillance (ICU, Surgery)
4. MDR bacteria surveillance –MRSA, VRE, ESBL (staff, customer, isolation, contact precautions)
5. CSSD – Bovie Dick every morning, biological indicator every cycle (3 hours), strip test every unit;

IMPLEMENTED PROGRAMS

6. Hand hygiene improvement program (18 months)
 - Baseline survey: HH compliance 70% by 5 moments
 - Staged interventions – infrastructure, knowledge, reminder, peer control, customer control
7. Hospital employee health program:
 - Pre-employment, annual health check-up (HBV, HCV, MRSA, carrier)
 - Exposure registration
 - Vaccination /HBV, Measles –IgG titer >12/
8. Infection control activities reflected in Performance Evaluation (salary, bonus)
9. Preparation for JCI Accreditation process in going

CHALLENGE #1: FUNGAL GROWTH

- UFIH has a modern automated HVAC system from “Carrier”;
- It has following functions:
 - Filters –dust, pollen, etc (ICU, OT area HEPA)
 - Temperature –
 - Humidity
 - Air-circulation – 0-30 ACH
 - Pressure – positive, negative (isolation)
- Customers wants air –window open
- Air sampling – 10-50 CFU/m³ –penicillin, mucor, zygomycos, aspergillus, etc
- Hygiene Standard for Healthcare Facilities, MNS6392:2013 – not allowed
- **Suggestions:** Update MNS standard to include only fungi with clinical significance



CHALLENGE #1: FUNGAL GROWTH



Hygiene standard and air quality quality requirements for health facility system

Air circulation path	Standard type	Number of bacteria per 1 m ³ of air		Number of fungi per 1 m ³ of air		Number of mold per 1 m ³ of air	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Operating room	ISO Class 5	3500	350	10	1	10	1
Clean room	ISO Class 7	35000	3500	10	1	10	1
Operating room	ISO Class 5	3500	350	10	1	10	1
Operating room	ISO Class 5	3500	350	10	1	10	1

CHALLENGE #2: PACKAGE RE-STERILIZATION

- UFIH has a fully equipped CSSD –high & low temp sterilizers
- MoH -2014 Order #187 “Disinfection & Sterilization Guideline” Annex 2:
 - Cotton wrap – 7 days
 - Paper wrap – 14 days
- Our CSSD process daily -300-400 units of which 80-100 is re-processing (68000 MNT/day, 1.5 mln/month, 22.4 mln/year)
- International standards (ISO11607-1:2009, EU-EN868-2,5,8,9,10:2009; USA -AAMI-656-658 стандартад)
 - Container – 6 months,
 - Package -6-9 months (double -5 years)
 - Paper or polypropylene wrap -6 months
 - Cotton wrap -15 days
- USA -CDC “Disinfection and Sterilization Guideline” (2008)- unless damaged till open.
- **Suggestions:** Update MoH 187 to extend time.

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CHALLENGE # 3: SINGLE-USE POLICY

- MoH -2014 Order #187 “Disinfection & Sterilization Guideline”
Single-Use Item lists (Annex 2):
 - Endoscopic tools not listed
 - Oil base injections not listed
- If not in the National Guideline => follow Manufacture’s instruction
- Endoscopic consumables:
 - Injectors - 80 000 MNT
 - Snear - 50 000 MNT
 - Forceps - 60 000 MNT
 - Hemoclips hand - 1.0 mln MNT
 - Coagulation monopolar probe -220 000 MNT
 - Mouthguard - 5 000 MNT
 - ERCP set - 60 000 -300 000 MNT
 - Balloon -250-1 000 000 MNT
- **Suggestion:**
 - To expand single-use list
 - Stop re-sterilization of single use consumables
 - Encourage multiple use consumables
 - Health insurance funding



CHALLENGE # 3: SINGLE-USE POLICY

- Propofol – use for sedation
- Vial 20 ml- for single patient
- Average use -7-8 ml
- Disposal – 12-13 ml
- Weekly on Endoscopy only -47 vial used 22 vial disposed
- **Suggestion:** order 10 ml vial



CHALLENGE # 4: ENDOSCOPY DISINFECTION

- German BHT technology
 - ✓ Water conductivity -0-5
 - ✓ Tap water -1500-2000
- INNOVA –E3 series
- Schulke- Termocept ER/ED
 - Termo-stable – 30-55C
 - Biodegradable
- Shortest -53 minutes
- CDC Recommendations –
detergent contact time >20 min
- **Suggestion:** no short time



CHALLENGE # 5: HEMODIALYSIS

- Japan technology- Nipro
- Water conductivity:
 - ✓ Requirement -0-5
 - ✓ Tap water -1500-2000
- Water bacterial count:
 - ✓ MoH Order 187 requirement -200/50 CFU/m³
 - ✓ EU/US standards - 200 CFU/m³
- Water treatment system:
 - ✓ Water demineralization system
 - ✓ Circular piping
 - ✓ UV light system
- **Suggestion:** update Order 187



CHALLENGE # 6: TEMPERATURE CONTROL

- Hospital use fridges for storage of:
 - ✓ Drug storage
 - ✓ Reagent, Vaccine storage
 - ✓ Blood products
 - ✓ Food
 - ✓ Morgue
- Problems:
 - ✓ No control at night time, weekends, holidays
 - ✓ No double check
- **Suggestion:**
 - Double thermometer
 - Wireless Temp control system



Thank you

Questions ?

