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QUESTIONS AND ANSWERS FROM PSBI COP WEBINAR 5-30-19

RESPONSES BY DR. SOJIB BIN ZAMAN (ICDDR,B) AND DR. ALLISYN MORAN (WHO/MCA)

Measurement for PSBI: What do we know and what should we do?

QUESTIONS FOR DR. SOJIB BIN ZAMAN

QUESTION: HOW DID YOU DEFINE SEPSIS? WHAT SET OF DISEASES DID YOU PUT AS THE DENOMINATORS OF THE INDICATOR FOR ANTIBIOTIC COVERAGE AND PSBI COVERAGE?

Dr. Sojib Zaman: It was an observational study, so we collected data from the inpatient hospital base on practices and extracted the case notes of the participants. The sepsis diagnosis was written on the case note, and we tried to identify the reasons for the disease classification, i.e. what was written in case notes and how it was managed (sign-symptoms, assessment, lab investigation and treatment). All inpatient newborns with sepsis diagnosis during the study period was our denominator. The diagnosis was based on physician's clinical knowledge and assessment, and we have only taken the information from the case notes. If the case note said the diagnosis is one type of infection (due to pneumonia, sepsis, meningitis, very severe diseases), we considered them as sepsis and included in this study. It is a challenge to identify the right sepsis from case notes. The identification of sepsis depended on the judgment of the medical doctors, and they have written it based on their clinical judgment with or without evidence of blood culture or the blood test report. In Nepal, we found that doctors considered using blood culture to diagnosis sepsis in most of the cases- but in Bangladesh and Tanzania- the practice was poor. So, getting the verified sepsis cases from case notes was difficult - and therefore, we found this denominator very problematic. For many sick newborns, it was impossible to know the history of illness and sign or symptoms, if the case note was incomplete or improperly filled out.

QUESTION: IN THESE CASES, HOW CAN CSF CULTURE BE SO HIGH IN NEPAL & TANZANIA IF LUMBAR PUNCTURE IS SO LOW?

Dr. Sojib Zaman: It's really hard to explain from our study findings. During the data collection, we used data from the case notes, and we extracted all the information written in case notes. We tried to capture the routine practice from the inpatient treatment prescriptions; that's why we got this type of data to report. It's hard to explain the reason why lumbar puncture was low, how can CSF culture be high at the same time? We don't know the exact reason. We found that physicians make a diagnosis based on their perceptions, and maybe they did not practice the state of the art in filling the case notes. For most of the cases, the documentation of the findings of physical examination and lab investigation

were very poor. For example, we found that a lot of CSF culture reports were attached with case notes, but the investigation advice of CSF or lumbar puncture was not written or documented.

QUESTION: WHAT WOULD BE THE MAJOR CONCLUSIONS AND RECOMMENDATIONS FROM YOUR MEASUREMENT STUDY?

Dr. Sojib Zaman: First of all, all the countries [in the study] have standard operating procedures (SOPs) for how to define and manage sepsis in newborns. It is obvious that the doctors or consultants are working very hard to ensure the quality of care in hospitals, but sometimes they are not following the recommendations to diagnose sepsis according to national guidelines, or they have less interest to maintain the proper documentation. The first issue will be to advocate with policymakers and health managers to maintain good documentation for collecting routine data for hospital reporting or case audit. Also, issues like appropriate prescriptions write-up, use of hospital investigations, and proper communication with the mother of a sick child is needed. It will give us good clarity about the true numerator and denominator if we want to report hospital inpatient data. If we want to use mothers survey report, we think health care providers should also inform caregivers what the diagnosis of their child is and whether the child is going to receive an antibiotic for treating infection and the investigations done. If we establish good communication, i.e., the doctors and nurses can pass information to the mothers, then there are possibilities that the mothers will be able to report valid information about the observed hospital practices. It will allow us to capture good information for hospital reporting and also for the DHS surveys. We will be able to identify the true prevalence cases or estimation of survey coverage. So, our recommendation is to increase the documentation practices which will enable us to identify the true numerator and denominator of indicators. Besides, there is a need for communication with the mothers to enable them to understand and share information on what happened to their baby during hospital stay.

QUESTION: DO YOU HAVE ANY ANALYSIS ON WHERE PATIENTS CAME FROM. WERE THEY REFERRED FROM IMCI TRAINED PHC PROVIDERS, OR DID THEY COME DIRECTLY TO HOSPITAL?

Dr. Sojib Zaman: We do have data for two types of the sick newborns, those who were referred directly from the same hospital (intramural) and also came from other facilities (extramural). As we are in the analysis stage right now, we don't know the answer yet. However, we will consider reporting the distribution of inpatient newborn with the global audience after getting the analysis. Thank you for the suggestion.

QUESTION/COMMENT: I MUST CONGRATULATE YOU FOR THIS WONDERFUL PRESENTATION. PRINCIPALLY, WE ARE ALSO DOING COMMUNITY-BASED IMPLEMENTATION RESEARCH, LOOKING AT WHAT ARE THE IMPLEMENTATION BOTTLENECKS IN TERMS OF NOT ONLY IDENTIFICATION BUT ALSO TREATMENT AND FOLLOW-UP. SO, I THINK A CRUCIAL POINT WHICH I WOULD LIKE TO LEARN FROM YOU REGARDING THIS STUDY, IS, IT IS NOT ONLY THE DEFINITION ON PSBI OR SEPSIS, BUT HOW WELL THE SERVICE PROVIDER AND DOCTORS ARE STICKING TO THE DEFINITION. HOW THEY ARE DEFINING EACH PATIENT, WHAT WERE THE CHALLENGES, WHAT WERE THE COMMON PRACTICES? BECAUSE I SEE A SMALLER AMOUNT OF DIAGNOSTIC TESTS, WHICH HAVE BEEN DOCUMENTED, AND THE HIGH USE OF ANTIBIOTICS. HOW

ARE THEY STICKING TO THE DEFINITION AND HOW THEY ARE DOCUMENTING THAT? WHAT ARE THE PROCESSES AND WHAT WERE THE CHALLENGES WITH PROPER DOCUMENTATION OF CASE REPORTS? YOU MENTIONED THAT THEY WERE NOT DOCUMENTED, BUT YOU HAVE NOT MENTIONED THE CHALLENGES TO DOCUMENTATION. WHETHER THEY WERE NOT PROPERLY TRAINED, OR WHETHER THERE ARE OTHER SYSTEMIC OR PROCESS RELATED ISSUES. COULD YOU JUST SHED A LIGHT ON THAT?

Dr. Sojib Zaman: As I said, this study is observational, but it has a mixed-methods design. We have completed the qualitative interview, and we are currently analyzing the interviews. We conducted a good number of focus group discussion, in-depth interviews, and key informant interviews with the service providers and doctors to identify barriers and enablers of the documentation in five facilities of three countries.

We are trying to identify key questions from the qualitative analysis, i.e., what are the issues that have prevented them from practicing good documentation? Is it related to the problem with register design per se or case note documentation issues? Does good documentation practice depend on the training, supervision, or monitoring of the health care providers? These are the questions we hope to answer. We have used the PRISM framework to analyze the data. We hope it will enable us to know the barriers and challenges of the documentation in each component of the PRISM framework.

QUESTION: WHAT CHALLENGES DID YOU FACE IN CAPTURING PSBI CASES AT INPATIENT DEPARTMENT LEVEL?

Dr. Sojib Zaman: We have included only the hospital admitted inpatient sick newborns from the pediatric unit of the hospital. Therefore, this study will not be able to answer the question effectively. However, we will be able to identify the documentation challenges in capturing possible sepsis cases from the inpatient department (IPD).

QUESTION: DID THE CASE NOTES HAVE SUB-HEADINGS OR ARE THE CLINICIANS EXPECTED TO WRITE THESE DOWN? DO YOU THINK A TOOL WITH SUBSECTIONS WILL HELP WITH PROPER DOCUMENTATION IN ADDITION TO OTHER STRATEGIES?

Dr. Sojib Zaman: We have used the routine case notes which were in place and used by the participating hospitals. We did not give a special case note/ case recording form to hospitals for collecting data in this study. Rather we extracted data from the existing case notes of the hospitals. As the case notes design was different among study countries, we will consider reporting the design of the case notes as well. However, we also believe, a structured case note with sub-sections will help the service providers to ensure compliance and practice documentation properly.

QUESTION: IN TANZANIA WE HAVE FOUND THAT THE DOCTORS ORDERED MORE CSF CULTURES THAN FULL BLOOD COUNTS. AT WHAT LEVEL OF FACILITY WAS THIS DONE? AND DID YOU VERIFY THAT ALL CSF CULTURES WERE DONE?

Dr. Sojib Zaman: We have included two specialized hospitals, i.e., Ifakara Health Institute (IHI) and Muhimbili University of Health and Allied Sciences (MUHAS) in Tanzania for this study. We relied on

case notes for verification- and it was problematic to do so. That is why we found both numerators and denominators for some indicators problematic.

QUESTION: WHAT WAS THE REASON FOR MOTHERS NOT BEING NOTIFIED ABOUT THE DIAGNOSIS OF THEIR CHILD?

Dr. Sojib Zaman: Excellent question. However, we will not be able to answer this research question from this study. One of the reasons can be lack of proper communication between service providers and mothers attending to sick infants. It is also possible that the mother may not respond to the questions or she may not be able to remember what she was told at the time of hospital discharge.

QUESTION/COMMENT: IN PRESENTATIONS WE ARE BLURRING PSBI AND SEPSIS A BIT. WE SHOULD ALSO POINT OUT PSBI GUIDELINES AND STUDIES WERE SICK YOUNG INFANTS - NEWBORNS ARE A SUBSET OF INTEREST. THE SLIDE SHOWING THE AGE PRESENTATION HIGHLIGHTS THAT THESE NEWBORNS AND INFANTS WERE SEEN IN OUTPATIENT SETTINGS.

Dr. Sojib Zaman: Thank you for pointing this out. PSBI is the possible serious bacterial infection and sepsis is defined after confirmation or evidence from positive blood culture or other serological investigations. PSBI can be termed when a sick child is presenting with severe infection with positive sign symptoms and more appropriate in the outpatient department. It is very difficult to get a confirmed diagnosis from an outpatient facility due to a lack of investigation. The PSBI patients are advised to be referred to hospital for admission after getting initial management.

However, we found that in our study, sepsis was defined in hospital case notes without evidence of blood investigations in participating hospitals of this study. That's why it was difficult to distinguish between PSBI and sepsis cases for the inpatient sick newborn.

QUESTIONS FOR DR ALLISYN MORAN

COMMENT/QUESTION: ON THE DEFINITION OF PSBI AT THE OUTPATIENT LEVEL, WHERE WE'RE NOW TRYING TO IMPLEMENT THE SIMPLIFIED ANTIBIOTIC REGIMEN FROM THE NEW WHO GUIDELINES, WE ARE FACED WITH THE CHALLENGE OF THE CASE DEFINITION. MOST HEALTH FACILITIES USE ICD 10, AND THE ICD 10 CLASSIFICATION OF NEWBORN CONDITIONS ARE DIFFERENT. FOR SEPSIS THERE IS ONE BROAD CATEGORY AND IT'S DIVIDED BY CAUSE SPECIFIC AND THEN THERE IS SEPSIS OF UNSPECIFIED CONDITION. SO, BECAUSE OF THIS AND ALSO OTHER OPERATIONAL ISSUES IN DIFFERENT COUNTRY CONTEXTS WHERE THE UNDER-FIVE CATEGORY IS GROUPED AS ONE, NOT DISAGGREGATED BY AGE, ALL THESE FACTORS ARE CAUSING PROBLEMS. AS MORE COUNTRIES ARE ADOPTING THESE GUIDELINES, THIS MEASUREMENT IS REALLY CRUCIAL. SO, I'D LIKE TO HEAR FROM YOU HOW YOU WOULD ADVISE COUNTRIES TO ADDRESS THESE ISSUES.

Dr. Moran: It's an excellent question. I don't know if we have a good answer but I do think this is something we should think about more. I have some discussions about ICD-11 which is being formalized and there's an opportunity to provide suggestions for how to make the definition around sepsis a little more specific. So, that's something that we're working at here in WHO with UNICEF and

other partners. So hopefully that will help, but I would be interested to hear from colleagues from the field about what would be the best recommendation for what the definition might be.

QUESTION/COMMENT: THE ISSUE OF DATA MANAGEMENT WITH PSBI NEEDS GUIDANCE FROM WHO. WHO NEEDS TO DISCUSS AND COMMUNICATE WITH COUNTRIES IN ORDER TO HAVE A CLEAR ORIENTATION. AS WE HAVE HEARD FROM THE PRESENTATION DATA COLLECTION IS AN ISSUE. UNLESS WE ARE ABLE TO HAVE DATA TO ANALYZE MANAGEMENT OF PSBI AND DATA ON INFECTIONS IN NEWBORNS, WE WILL NOT BE ABLE TO REACH OUR OBJECTIVE FOR NEWBORNS IN UNIVERSAL HEALTH COVERAGE. IT'S IMPORTANT THAT THE ISSUE RAISED BY PSBI IMPLEMENTATION ON NEWBORN DATA MANAGEMENT SHOULD BE DISCUSSED WITH SPECIALISTS. WE MAY HAVE SUGGESTIONS TO SHARE IF WE ARE CONSULTED. AT THIS STAGE, WHAT I WANT TO SAY IS THAT WHAT WE ARE TRYING TO DO IN NIGER IS TO EXCLUDE FROM PBSI ALL SPECIFIC DATA ON SPECIFIC DISEASES, SUCH AS PNEUMONIA AND MENINGITIS. WE ARE NOT ABLE TO JUSTIFY THAT THEY CAN BE HANDLED AT A SPECIFIC LEVEL. WE CANNOT HANDLE VERY WELL ALL THE SPECIFIC DISEASE IN NEWBORNS. THE PSBI CODE EXISTS IN INTERNATIONAL CONSORTIUMS, BUT NOBODY TELLS US WHAT IT IS. I THINK THERE'S A NEED FOR FURTHER DISCUSSION.

Dr. Moran: I think this is an important point and we are working to synthesize findings from various studies that have monitoring PSBI treatment. We hope to have more clear definitions on what to monitor later this year.