This is a repository copy of *Evaluating the implementation related challenges of Shasthyo Suroksha Karmasuchi (health protection scheme) of the government of Bangladesh: a study protocol*.

White Rose Research Online URL for this paper:
http://eprints.whiterose.ac.uk/133168/

Version: Published Version

**Article:**
Ahmed, Sayem, Hasan, Md. Zahid, Ahmed, Mohammad Wahid et al. (7 more authors) (Accepted: 2018) *Evaluating the implementation related challenges of Shasthyo Suroksha Karmasuchi (health protection scheme) of the government of Bangladesh: a study protocol*. BMC Health Services Research. ISSN 1472-6963 (In Press)

https://doi.org/10.1186/s12913-018-3337-x

**Reuse**
This article is distributed under the terms of the Creative Commons Attribution (CC BY) licence. This licence allows you to distribute, remix, tweak, and build upon the work, even commercially, as long as you credit the authors for the original work. More information and the full terms of the licence here:
https://creativecommons.org/licenses/

**Takedown**
If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.
Dear Author,

Here are the final proofs of your article. Please check the proofs carefully.

All communications with regard to the proof should be sent to bmcproductionteam2@spi-global.com.

Please note that at this stage you should only be checking for errors introduced during the production process. Please pay particular attention to the following when checking the proof:

- Author names. Check that each author name is spelled correctly, and that names appear in the correct order of first name followed by family name. This will ensure that the names will be indexed correctly (for example if the author’s name is ‘Jane Patel’, she will be cited as ‘Patel, J.’).
- Affiliations. Check that all authors are cited with the correct affiliations, that the author who will receive correspondence has been identified with an asterisk (*), and that all equal contributors have been identified with a dagger sign (†).
- Ensure that the main text is complete.
- Check that figures, tables and their legends are included and in the correct order.
- Look to see that queries that were raised during copy-editing or typesetting have been resolved.
- Confirm that all web links are correct and working.
- Ensure that special characters and equations are displaying correctly.
- Check that additional or supplementary files can be opened and are correct.

Changes in scientific content cannot be made at this stage unless the request has already been approved. This includes changes to title or authorship, new results, or corrected values.

How to return your corrections

Returning your corrections via online submission:
- Please provide details of your corrections in the online correction form. Always indicate the line number to which the correction refers.

Returning your corrections via email:
- Annotate the proof PDF with your corrections.
- Send it as an email attachment to: bmcproductionteam2@spi-global.com.
- Remember to include the journal title, manuscript number, and your name when sending your response via email.

After you have submitted your corrections, you will receive email notification from our production team that your article has been published in the final version. All changes at this stage are final. We will not be able to make any further changes after publication.

Kind regards,

BioMed Central Production Team 2
Evaluating the implementation related challenges of *Shasthyo Suroksha Karmasuchi* (health protection scheme) of the government of Bangladesh: a study protocol

Sayem Ahmed¹,²*, Md. Zahid Hasan¹, Mohammad Wahid Ahmed¹, Farzana Dorin¹, Marufa Sultana¹, Ziaul Islam¹, Andrew J. Mirelman³, Clas Rehnberg², Jahangir A. M. Khan²,⁴ and Mahbub Elahi Chowdhury¹

**Abstract**

**Background:** Rapidly increasing healthcare costs and the growing burden of non-communicable diseases have increased the out-of-pocket (OOP) spending (63.3% of total health expenditure) in Bangladesh. This increasing OOP spending for healthcare has catastrophic economic impact on households. To reduce this burden, the Health Economics Unit (HEU) of the Ministry of Health and Family Welfare has developed the *Shasthyo Suroksha Karmasuchi* (SSK) health protection scheme for the below-poverty line (BPL) population. The key actors in the scheme are HEU, contracted scheme operator and hospital. Under this scheme, each enrolled household is provided 50,000 BDT (620 USD) coverage per year for healthcare services against a government financed premium of 1000 BDT (12 USD). This initiative faces some challenges e.g., delays in scheme activities, registering the targeted population, low utilization of services, lack of motivation of the providers, and management related difficulties. It is also important to estimate the financial requirement for nationwide scale-up of this project. We aim to identify these implementation-related challenges and provide feedback to the project personnel.

**Methods:** This is a concurrent process documentation using mixed-method approaches. It will be conducted in the rural Kalihati Upazila where the SSK is being implemented. To validate the BPL population selection process, we will estimate the positive predictive value. A community survey will be conducted to assess the knowledge of the card holders about SSK services. From the SSK information management system, numbers of different services utilized by the card holders will be retrieved. Key-informant interviews with personnel from three key actors will be conducted to understand the barriers in the implementation of the project as per plan and gather their suggestions. To estimate the project costs, all inputs to be used will be identified, quantified and valued. The nationwide scale-up cost of the project will be estimated by applying economic modeling.

(Continued on next page)
Discussion: SSK is the first ever government initiated health protection scheme in Bangladesh. The study findings will enable decision makers to gain a better understanding of the key challenges in implementation of such scheme and provide feedback towards the successful implementation of the program.

**Keywords:** Shasthyo Surokhsha Karmasuchi (SSK), Health protection scheme, Implementation challenges, Implementation research, Process documentation, Research protocol, Bangladesh

**Background**

Rapidly increasing healthcare cost and the growing burden of non-communicable diseases have increased the out-of-pocket (OOP) spending (63.3% of total health expenditure) in Bangladesh [1]. This increasing OOP spending for healthcare has catastrophic economic impact on households, especially on the poor [2–4]. The National Health Policy of 2011 acknowledged that health is a human right and to achieve universal health coverage, it is necessary to ensure health services for the poor at an affordable cost [5].

For achieving this, the high burden of OOP payment must be decreased and financial protection for healthcare should be ensured. The Government of Bangladesh adopted the Health Care Financing Strategy 2012–2032 with a view to bringing all the citizens under the financial protection for healthcare by 2032 [6]. To achieve this goal, the Health Economics Unit (HEU), a wing of the Ministry of Health and Family Welfare (MoHFW) of the Government of Bangladesh has developed Shasthyo Surokhsha Karmasuchi (SSK), a health protection scheme [6]. Although the SSK has a comprehensive plan to cover all population, initially it is implementing targeting the below poverty line (BPL) population only.

**Shasthyo Surokhsha Karmasuchi (SSK)**

The HEU of the MoHFW has developed the social health protection scheme (SSK) with the support from German Development Cooperation through KfW (German Development Bank) and GFA Consulting Group. Adopting the mechanism of health insurance model, the scheme was developed over a three-year period of extensive consultations with the experts. Currently, the scheme is being implemented at rural Kalihati sub-district. The key actors in the scheme are HEU, contracted scheme operator, and Kalihati Upazila Health Complex (UpHC) [7].

**The SSK cell**

The SSK Cell (a group of personnel) has been formed by the HEU to work as the key management body for implementing the SSK project. The SSK Cell performs like an insurance providing organization. It formulates policy decisions and responsible for implementing the scheme activities through engaging hospitals and a Scheme Operator (SO). The SSK Cell performs administrative tasks, namely, project co-ordination, finance management, target population management, benefit package management, grievance process, and monitoring and evaluation.

**Scheme operator (SO)**

The SSK Cell contracted an insurance agency for providing SSK service management support to them at the UpHC and Tangail District Hospital (DH). Currently, the Green Delta insurance company has been contracted as SO. The SO is responsible for visiting the BPL households (enlisted based on selection criterion) to provide health card. They also facilitate the UpHC in claim reimbursement process, assist card holders in receiving healthcare services from UpHC and DH, and monitor the scheme activities.

**SSK benefit package**

Under the scheme, SSK members receive only inpatient healthcare at the UpHC and structured referral care from the DH. An electronic health card is provided to each enrolled household ensuring 50,000 BDT per year equivalent healthcare service coverage for 70 different disease groups (Table 1). The premium for this coverage is 1000 BDT per year that is financed by the government. Membership in SSK has many advantages compared to the regular patients in the public healthcare facility: free consultation for outpatient care, free inpatient care, free referral care from DH, access to a grievance authority for complaining on the quality of the services, and free access to essential drugs at UpHC and DH for inpatient care.

**Claim management process**

The hospitals (UpHC and DH) are reimbursed by SSK Cell within 30 days for providing free healthcare services to the SSK members based on verifiable patient records (claims). Reimbursement follows a case and diagnosis based payment systems using a simplified Diagnosis Related Groups (DRG) on 70 diseases. The hospitals submit the claim documents to the SO. The SO checks and sends these claim documents to the SSK Cell. The SSK Cell verifies the claims and invoice to the SO. Finally, the SO makes payment to the hospitals. With the extra funds the
1. To review and validate the selection process of the household services by the card holders

2. To assess knowledge of SSK BPL card holders about the BPL population for the SSK

3. To document the barriers in utilization of the SSK services by the card holders

4. To record the service utilization pattern at the health facilities by the SSK card holders

5. To document the implementation related challenges of the SSK project and gather possible suggestions for addressing those challenges

6. To estimate the costs of scaling-up the SSK project nationwide

**Methods**

**Study setting**

The study will be conducted in the Kalihati Upazila under Tangail district where the SSK is currently being implemented. A total of 89,351 households (including 35,740 BPL households) of the Upazila will be the study population. The Kalihati Upazila Health Complex, the first contact point of the SSK beneficiaries, and Tangail District Hospital, the referral facility, will also be within the jurisdiction of this study.

**Design & Methods**

This study will be a concurrent process documentation using mixed-method approach that includes both quantitative and qualitative assessments. The integrated approaches will provide the flexibility to fill in gaps in the available information, strengthen the validity of the assessment and provide different perspectives on contextual and multi-dimensional phenomena. The study will have 6 different phases. The different research activities planned to be implemented at different phases are shown in Table 2.

**Review and validate the selection process of BPL population for SSK**

To understand the pitfall in existing BPL population identification we will review the method applied and tools used in this process. In addition, the problems in applying the selection criteria will be recorded through process documentation and key-informant interviews of the program personnel. Using appropriate quantitative approach targeted beneficiaries’ perspectives will also be collected to record the challenges in selection of the BPL population.

**Validation study**

To validate the selection process of BPL population, we will estimate positive predictive value. Both SSK member and non-member households will be interviewed. For member household, a sampling frame will be collected and reviewed.


Table 2: Study activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>P-I*</th>
<th>P-II</th>
<th>P-III</th>
<th>P-IV</th>
<th>P-V</th>
<th>P-VI</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study protocol development and research review and ethical review committee approval</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not applicable</td>
</tr>
<tr>
<td>Review and validate the selection process of BPL population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Survey of member and non-member households</td>
</tr>
<tr>
<td>To assess knowledge of BPL card holders and document the barriers in utilization of the SSK services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Separate survey of member household (community survey) and focus group discussions (FGDs)</td>
</tr>
<tr>
<td>Review of service statistics at the health facilities to assess service utilization pattern among the card holders</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Facility record review</td>
</tr>
<tr>
<td>Process documentation to assess progress in project implementation and identify related barriers</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td>Document review and synthesis of secondary data</td>
</tr>
<tr>
<td>Key-informant interviews of the providers, managers, scheme operators to document implementation challenges and solutions</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Key-informant interviews</td>
</tr>
<tr>
<td>Cost-analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Interviews with the SSK project and the hospital management personnel</td>
</tr>
<tr>
<td>Periodic feedback and follow up of the progress</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Findings from the research activities</td>
</tr>
<tr>
<td>Reporting and dissemination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
<td>Findings from the research activities</td>
</tr>
</tbody>
</table>

Footnotes:
P-I*: (1-3 m**), P-II: (4-6 m), P-III: (7-9 m), P-IV: (10-12 m), P-V: (13-15 m), P-VI: (16-18 m)

Community survey

The community survey will be conducted to assess the knowledge of the card holders about SSK services as well as to document the barriers in utilization of such services. From the sampling frame of the SSK card holders, the respondents will be randomly selected. In this survey, the card holders will be asked whether they know about the benefit package of the SSK. They will also be asked whether they face any difficulties while receiving SSK services such as negligence of provider, unavailability of listed services, shortage of prescribed medicines, long waiting time, and unofficial tips. An instrument for assessing knowledge level is developed to gather this information which will be piloted before finalization. Focus Group Discussions (FGD) will be applied for understanding the experience, perception of beneficiaries about the SSK services and barrier to utilize these services. Beneficiaries who utilized healthcare in last 3 months will be included in FGDs. FGDs will be held in an independent place away from the health facility. In each FGD, 8–10 participants from same level will participate. Initially, a number of 5 FGDs is planned. If the research team feels that additional knowledge can be extracted from more FGDs, then additional sessions will be organized.

Facility record review for service utilization

From computer based record managed by the SSK project, numbers of different services utilized by the card holders will be retrieved. Facility record review will be done in 3 phases. In each phase, last 3 months records will be gathered. Trend analysis will be done. Number of patients treated by disease, types of diagnostic services...
offered, type of drugs provided, and number of patient referred by disease along with compliance will be estimated.

Key-informant interviews (KIs)
The rationale of choosing key-informant interviews (KIs) for this study is to understand the systems that affect barriers in implementation of SSK project activities as per plan and gather their suggestions. This will include delay in project implementation, problem in selection process of BPL population, availability of necessary equipment, drug, logistics for providing services, scarcity of manpower, workload related issues, problem in referrals, problem related to SSK fund management, and barriers in claim management.

KIs will be conducted face-to-face by experienced qualitative researchers. The interviewer would schedule a convenient time and place for the interview. The interview will be digitally recorded after having permission from the key-informant personnel. Another researcher will also take simultaneous verbatim notes. The duration of a KII will be at least 45 minutes to one-hour.

Process documentation
The process documentation will be undertaken for reviewing the progress in SSK project implementation activities, identify barriers for possible delays in implementation, scheme operator’s oversight and how well the outputs of the SSK project are aligned to achieve outcomes and impacts. The areas of process documentation include services under benefit package, enrollment of the beneficiaries, service provision steps, claim management and payment process to the provider. Multiple methods will be used for capturing information in process documentation (e.g. document review and synthesis of secondary data). Through process documentation timely feedback will be provided to the SSK project personnel.

Cost analysis
The additional cost of scaling up the SSK project at national level will be estimated from program perspective. Cost will be estimated for all parties involved with the SSK project implementation namely, service delivery cost for health facilities, overall monitoring and supervision cost for HEU and scheme management cost for insurance company. To estimate cost all inputs to be used in SSK project will be identified, quantified and valued. The project and the hospital management personnel will be interviewed for collecting these cost related information. Semi-structured questionnaires will be used for this interview. The inputs will be separated by capital (e.g. Buildings) and recurrent costs (e.g. staff salary). The capital costs will be annualized using their lifetime and 3% discount rate [9, 10]. Total project cost will be estimated by summing up the capital and recurrent costs. The nationwide scale-up cost of the SSK project will be estimated by applying economic modeling and projections technique. The economic modeling of cost will be performed considering the existing utilization of services and unit cost of producing such services. For nation-wide implementation, a hypothetical scenario for cost input (e.g. number of healthcare facilities, additional manpower required) will be prepared in consultation with the experts (e.g. HEU, DGHS personnel and insurance providers). The unit cost information collected from the health facility will be used to estimate cost for this scenario using OneHealth Tool software. A sensitivity analysis of nationwide scale-up cost will be performed considering 5 to 10% increase in utilization of services to realize the situation during full implementation of the project.

Sample size
Quantitative
We use the following formula for estimating sample size to validate the selection process of BPL population and assess knowledge level of SSK card holders,

\[ n = \frac{S}{\alpha} \left( \frac{1 + S}{\alpha} \right) \]

Where,

- \( n \) = required sample size,
- \( S \) = anticipated proportion (positive predictive value/BPL card holders are knowledgeable about the benefit package).
- \( \alpha \) = size of the critical region (1 – \( \alpha \) is the confidence level),
- \( Z_{(1-\alpha)/2} \) = standard normal deviate corresponding to the specified size of the critical region (\( \alpha \)),
- \( L \) = absolute precision desired on either side (half-width of the confidence interval) of positive predictive value.

We used 95% confidence interval, 5% error level, and 10% non-response for estimating the sample size. Therefore, for validating the selection process of BPL population, an estimated 270 SSK card holders and an equal number of non-card holders will be required to interview assuming positive predictive value at 80%. In total, 540 households (card holders and non card holders) will be interviewed. Similarly, to assess knowledge level of SSK card holders about benefit package, a minimum of 423 BPL card holders will be required to interview assuming 50% of them are knowledgeable.

Qualitative
The key-informants will be selected from different level of the project implementation, e.g. the SSK Cell members, scheme operators and service providers. Semi-structured guidelines will be developed based on informants’ characteristics. In phase II and IV of the study, 7 to 9
key-informants will be interviewed. However, actual
number will be determined based on data saturation and
availability of informants.

Data analysis

Quantitative

Both descriptive and advance analysis will be performed
using quantitative data. The positive predictive value will
be estimated for validation of BPL population. A 2 x 2
table will be constructed for the poor and non-poor
households and the SSK members and non-members
households by comparing the poverty line with the
household consumption expenditure data. From the
table, the probability that a ‘poor’ among those with the
BPL population are enrolled in the SSK project (positive
predictive value) will be estimated [11].

Factor analysis will be used for ranking the knowledge
level of the card holders. Earlier studies have used this
technique for assessment of knowledge level [12, 13].

Principle component analysis will be performed to gen-
erate the factor score. We will estimate one main factor
(namely, knowledge level for SSK benefit package) with
items loading on this factor [14]. Using the factor score
we will rank household from low to high level of know-
ledge. Multivariate regression model will be used to as-
sess the association of demographic and socioeconomic
characteristics of the respondent with their level of
knowledge. In this analysis, level of knowledge will be
the dependent variable and age, sex, education level and
monthly income will be the explanatory variables.

To understand the service utilization pattern trend
analysis will be performed using project record. Average
number of outpatient and inpatient services utilized per
1000 card holders will be estimated for three time points
(Table 2). This utilization information will be presented
by patient characteristics available in the project record
(e.g. age, sex) and cause of illness. This analysis will pro-
vide evolving nature of healthcare utilization among the
SSK card holders.

Economic modeling and projections will be performed
for nationwide cost estimation. Cost per service delivery
and cost per beneficiary of SSK project will be estimated
considering cost of all parties involved in the project.
OneHealth Tool software will be used for nationwide
implementation cost estimation.

Qualitative

After completion of a KII, a verbatim transcription and
translation will be performed immediately using the au-
diotapes and interview notes. A systematic framework
approach will be employed for systematic generation of
themes and codes and analyzing the qualitative data.
The Framework Method support thematic analysis in a
systematic manner for organization and mapping the
qualitative interview data which is appropriate for inter-
disciplinary and collaborative scheme projects [15]. The
research team will become familiar with the whole
interview by repeatedly listening the audio recording or
by reading the transcript for interpretation. After
familiarization with the interview, the researcher will
apply ‘code’ that illustrates the interpreted information
from the interview for systematic comparison with other
components of the dataset. By using the categories and
codes, the analytical framework will be applied by
indexing subsequent transcripts. For the analysis
process a framework matrix will be generated using
spreadsheet and data will be summarized and charting
into the matrix by category. Charting ensures data
summarization and careful explanation of participant’s
own opinion and expressions prior to interpretation
by the research team. The interpreted findings under
each main theme or category will be presented for
the identification of key implementation barriers and
possible solution to overcome such barriers. Triangu-
ation of information will be done for findings from
different sources.

Ethical assurance for protection of human rights

This study will involve human subjects hence ethical ap-
proval have been obtained from the Research Review
Committee and Ethical Review Committee of icddr,b. All
respondents of the study will be interviewed after giving
written informed consent. Their participation will be
voluntary. Efforts will be made to ensure that they are
properly informed about the study objectives and thor-
oughly understand what their participation in the study
involves. All collected information will be kept confiden-
tial and will be used only for research purposes.

Discussion

Many people in Bangladesh fall into poverty due to
OOP payments for healthcare [2–4]. The introduction of
the SSK project in the study Upazila of Bangladesh aims
to increase essential services utilization and stimulate
better quality of the services through reducing financial
burden. This article contains a comprehensive study
protocol with the objectives to validate the selection of
enrolled BPL population, their knowledge about the
scheme, service utilization pattern among them, barriers
in service utilization, implementation-related challenges,
and cost for scaling up the scheme. This study will pro-
vide a comprehensive understanding about the existing
challenges of the SSK project to its successful implemen-
tation. Through this study, ongoing timely feedback will
be provided to the SSK implementer and policymakers
in order to have refinement in the implementation
strategy.
The rigorous design of the study protocol to capture implementation-related challenges of the project is one of the important strengths. This study will collect real-time qualitative and quantitative data over a period of 1 year. The prolonged involvement of the study team will facilitate them to be close to the real implementation scenarios and identify the challenges towards the implementation. The research team will closely collaborate with the key decision makers from the SSK Cell and relevant stakeholders to ensure that the research questions are relevant to the implementation of the project and the evidence generated through the study will be useful in their decision making. This collaboration will not influence the independence of research.

We will start the study activities and share the plan through organizing workshop with the presence of key personnel from the HEU, MoHFW and other relevant organizations. We will share the study findings through reports, policy briefs, and meetings with the local stakeholders. We will also share the learning in the international conferences and publish research papers in the international journals.

One important concern is that, the present study includes the perceptions and strategies of the key stakeholders, implementers and decision makers in the objectives. This may induce biases in their responses. We will be cautious of such possibilities while conducting their interview. We will verify the study findings through comparing information from multiple sources and using different methods of data collection. Another limitation of this study is that the process documentation will be conducted only in the scheme implementation-site, which may limit the generalizability of the findings to other regions.

The evidence generated from the study will be useful to program managers for planning nation-wide scale-up accordingly or to replicate such health insurance scheme in similar low-income country settings. The findings will be useful to address financing challenges of healthcare in Bangladesh and for implementation of the healthcare financing strategy developed by the MoHFW of Bangladesh [6]. Methodological challenges of implementation research on health financing schemes would be useful for research communities.

Ultimately, the scientific evidence generated will be used to ensure healthcare for vulnerable groups and subsequently useful for achieving universal health coverage in low- and middle-income countries, which is a global agenda.

Additional file

Additional file 1: Survey questionnaires and interview guides. The supplementary file consists two appendixes. APPENDIX-A consists量化 questionnaire for validation study and community survey.


Journal: BMC Health Services Research

Title: Evaluating the implementation related challenges of Shasthyo Suroksha Karmasuchi (health protection scheme) of the government of Bangladesh: a study protocol

Authors: Sayem Ahmed, Md. Zahid Hasan, Mohammad Wahid Ahmed, Farzana Dorin, Marufa Sultana, Ziaul Islam, Andrew J. Mirelman, Clas Rehnberg, Jahangir A. M. Khan, Mahbub Elahi Chowdhury

Article: 3337

Dear Authors,

During production of your paper, the following queries arose. Please respond to these by annotating your proofs with the necessary changes/additions. If you intend to annotate your proof electronically, please refer to the E-annotation guidelines. We recommend that you provide additional clarification of answers to queries by entering your answers on the query sheet, in addition to the text mark-up.

<table>
<thead>
<tr>
<th>Query No.</th>
<th>Query</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>As per our journal style, article titles should not include capitalised letters unless these are proper nouns/acronyms. We have therefore used the article title 'Evaluating the implementation related challenges of Shasthyo Suroksha Karmasuchi (health protection scheme) of the government of Bangladesh: a study protocol' as opposed to 'Evaluating the implementation related challenges of Shasthyo Suroksha Karmasuchi (Health Protection Scheme) of the Government of Bangladesh: A Study Protocol' as given in the submission system. Please check if this is correct.</td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>Author names: Please confirm that the author names are presented accurately and in the correct sequence (given names initials, family name). Author 1: Given name: Sayem Family name: Ahmed Author 2: Given name: Md. Given name: Zahid Family name: Hasan Author 3: Given name: Mohammad Given name: Wahid Family name: Ahmed Author 4: Given name: Farzana Family name: Dorin Author 5: Given name: Marufa Family name: Sultana</td>
<td></td>
</tr>
<tr>
<td>Query No.</td>
<td>Query</td>
<td>Remark</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>--------</td>
</tr>
</tbody>
</table>
|          | Author 6:  
Given name: Ziaul  
Family name: Islam  
Author 7:  
Given name: Andrew  
Given name: J.  
Family name: Mirelman  
Author 8:  
Given name: Clas  
Family name: Rehnberg  
Author 9:  
Given name: Jahangir  
Given name: A.  
Given name: M.  
Family name: Khan  
Author 10:  
Given name: Mahbub  
Given name: Elahi  
Family name: Chowdhury |        |
| Q3       | Please check if the affiliations are presented correctly. |        |
| Q4       | Journal instruction requires a city for affiliations; however, these is missing in affiliation 3. Please verify if the provided city is correct and amend if necessary. |        |
| Q5       | Figure [1] was received as a tabular material, thus, this was captured as Table [1] and the affected Tables and Figures were renumbered accordingly. Please confirm if action taken is appropriate. |        |
| Q6       | Additional file 1 was received; however, no citation was provided in the manuscript. Please provide the location of where to insert the citation in the main body of the text. Otherwise, kindly advise us on how to proceed. |        |
| Q7       | URL: Please check that the following URLs are working. If not, please provide alternatives: http://www.sskcell.gov.bd |        |
| Q8       | Citation details for Reference [7 and 13] are incomplete. Please supply the Publisher-name of this references. Otherwise, kindly advise us on how to proceed. |        |