ISSN 2522-3771

BM&DC Recognized

Vol. 05
Issue 01
January 2022

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An Official Publication of
MH SAMORITA HOSPITAL & MEDICAL COLLEGE, DHAKA
117 Love Road, Tejgaon, Dhaka-1208, Bangladesh
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MH Samorita Medical College Journal

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INFORMATION FOR AUTHORS

Manuscript Preparation and Submission

Guide to Authors

MH Samorita Medical College Journal provides rapid publication (twice in a year) of articles in all areas of different subjects. The Journal welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence.

The manuscripts should be submitted addressing Editor-in-Chief.

The Journal of MH Samorita Medical College only accepts manuscripts submitted as triplicate hard copy with a soft copy.

Papers must be submitted with the understanding that they have not been published elsewhere (except in the form of an abstract or as part of a published lecture, review, or thesis) and are not currently under consideration by another journal (**International or National)** or any other publisher.

The submitting (Corresponding) author is responsible for ensuring that the submitting article has been signed by all the co-authors. It is also the authors' responsibility to ensure that the articles emanating from a particular institution are submitted with the approval of the necessary institutional requirement. Only an acknowledgment from the editorial board officially establishes the date of receipt. Further correspondence and proofs are sent to the corresponding author(s) before publication unless otherwise indicated. It is a condition for submission of a paper that the authors permit editing of the paper for readability. All enquiries concerning the publication of papers should be addressed to Editor-in-Chief (MH Samorita Med Coll J)

The cover letter

Cover letter is expected to be submitted along with manuscript. Use the cover letter to explain why the paper should be published in the Journal of MH Samorita Medical College. The cover letter should include the corresponding author's full address, telephone/ fax numbers and e-mail address.

Ethical aspects

- Ethical aspect of the study is considered very carefully at the time of assessment of the manuscript.
- Any manuscript that includes table, illustration or photograph that have been published earlier should accompany a letter of permission for re-publication from the author(s) of the publication and editor/ publisher of the Journal where it was published earlier.
- Permission of the patients and/or their families to reproduce photographs of the patients where identity is not disguised should be sent with the manuscript. Otherwise the identity would be blackened out.

Conditions for submission of manuscript

- All manuscripts are subject to peer-review.
- Manuscripts are received with the explicit understanding that they are not under simultaneous consideration by any other publication.
- Submission of a manuscript for publication implies the transfer of the copyright from the author to the publisher upon acceptance. Accepted manuscripts become the permanent property of the MH Samorita Medical College Journal (MHSMCJ) and may not be reproduced by any means in whole or in part without the written consent of the publisher.
- It is the author's responsibility to obtain permission to reproduce illustrations, tables etc. from other publications.

Article Types

Four types of manuscripts may be submitted.

Editorials: It should preferably cover a single topic of common interest.

Original Articles: These should describe new and carefully confirmed findings, and experimental procedures should be given in sufficient detail for others to verify the work and its volume should **not exceed 5000 words** or equivalent space including title, summary/abstract, main body, references, table(s) and figure(s).

Review Articles: Submissions of reviews covering topics of current interest are welcome and encouraged. Reviews should be concise and no longer than 4 to 6 printed pages (about 12 to 18 manuscript pages) and should **not exceed 5000 words**. It should be focused and must be up to date.

Case Reports: This should cover uncommon and/or interesting cases and should **not exceed 1000** words or equivalent space.

Review Process

All manuscripts are initially screened by editor and sent to selective reviewers. Reviewers are requested to return comments to editor within 3 weeks. On the basis of reviewers' comments the editorial board decides whether the articles are accepted or send for re-review the manuscripts. The MH Samorita Med Coll J editorial board tries to publish the manuscript as early as possible fulfilling all the rigorous standard journal needs.

I. Preparing a Manuscript for Submission to MH Samorita Med Coll J

Editors and reviewers spend many hours reading and working on manuscripts, and therefore appreciate receiving manuscripts that are easy to read and edit. The following information provides guidance in preparing manuscripts for the journal.

I A. Preparation of manuscript

Criteria: Information provided in the manuscript are important and likely to be of interest to an international readership.

Preparation

1. Manuscript should be written in English and typed on one side of A4 (290 x 210cm) size white paper.
2. Margin should be 5 cm for the header and 2.5 cm for the remainder.
3. Style should be that of modified Vancouver.
4. Each of the following section should begin on separate page :

- Title page
- Abstract
- Main body/Text: Introduction, Materials and Methods, Results, Discussion and conclusion (For an original article/ Systematic review)
- Acknowledgement
- References
- Tables and legends

Pages should be numbered consecutively at the upper right hand corner of each page beginning with the title page.

I A. 1. General Principles

- The text of observational and experimental articles is usually (but not necessarily) divided into the following sections: Introduction, Materials and Methods, Results, and Discussion(so-called "IMRAD" structure is a direct reflection of the process of scientific discovery.
- Long articles may need subheadings within some sections (especially Results and Discussion) to clarify their content. Other types of articles, such as case reports, reviews, and editorials, probably need to be formatted differently.
- Authors need to work closely with editors in developing or using the publication formats and should submit supplementary electronic material for peer review.
- Double-spacing all portions of the manuscript— including the title page, abstract, text, acknowledg- ments, references, individual tables, and legends— and generous margins make it possible for editors and reviewers to edit the text line by line and add comments and queries directly on the paper copy.
- If manuscripts are submitted electronically, the files should be double-spaced to facilitate printing for reviewing and editing.
- Authors should number on right upper all of the pages of the manuscript consecutively, beginning with the title page, to facilitate the editorial process.

I A. 2. Title Page

The title page should have the following information:

- The title should be brief, relevant and self explanatory. It should reflect the content of the article and should include all information that will make electronic retrieval of the article easy. Subtitles should not be used unless they are essential.
- Title should not be phrased as questions.
- The names of the authors should appear below the title that should include full names of all authors **(no initial).**

Example: Md MA Hamid **(correct form);** Hamid MA **(incorrect).**

The affiliations and full addresses of all authors should be mentioned in the title page.

- Contact information for corresponding authors: The name, mailing address, telephone and fax numbers, and e-mail address of the author responsible for correspondence about the manuscript.
- The name and address of the author to whom requests for reprints should be addressed or a Statement that reprints are not available from the authors.
- Source(s) of support in the form of grants, equipment, drugs, or all of these.

I A. 3. Abstract

Original Article: Structured abstracts are essential for original research. Structured abstract includes introduction, objective(s), materials and methods, results and conclusion. Should be limited to 250 words. The abstract should provide the introduction of the study and blinded state and should mention the study's purpose, basic procedures including selection of study subjects or laboratory animals, main findings (giving specific effect sizes and their statistical significance, if possible) and the principal conclusion. Because abstracts are the only substantive portion of the article indexed in many electronic databases, and the only portion that many readers read, it should accurately reflect the content of the article; so, authors need to be careful about that.

Review Article: is expected to contain background, objective(s), main information and conclusion in brief form. Without any subheading the content should be described in a single paragraph.

Case Study: needs to have background, case summary and conclusion. The content should be described in a single paragraph.

Do not put references in the abstract.

I A. 4. Main body

I A. 4 a) Original article

The body of the text should be divided into the following sections: i) Introduction, ii) Materials and methods, iii) Results, iii) Discussion and iv) Conclusion.

i) Introduction

Should not exceed **500 words**. This section includes background of the problem (that is, the nature of the problem and its significance). It should be very specific, identify the specific knowledge in the aspect, reasoning and what the study aim to answer. Only pertinent primary references should be provided and no data or conclusions should be included from the work to be reported. **Justificatio**n of the study and its **objective(s)** should be mentioned at the end of this section. All information given in this section must have references that to be listed in the reference section.

ii) Materials and methods

The Methods section should be written in such way that another researcher can replicate the study. The type of study (study design), study period, sampling technique, sample size, study population, data collection technique and tool as well as data handling, processing and data analysis should be briefly mentioned in this section.

ii a) Selection and Description of Participants

Describe selection of the observational or experimental participants (patients or laboratory animals, including controls) clearly, including eligibility (inclusion) and exclusion criteria and a description of the source population. Because the relevance of such variables as age and sex to the object of research is not always clear, authors should explain their use when they are included in a study report—for example, authors should explain why only participants of certain ages were included or why women were excluded etc. The guiding principle should be clarity about how and why a study was done in a particular way. When authors use such variables as race or ethnicity, they should define how they measured these variables and justify their relevance.

ii b) Technical Information

- Describe methods, apparatus (give the manufacturer's name and address in parentheses), and procedures in sufficient detail to allow others to reproduce the results.
- Cite references to established methods, including statistical methods. Provide references and brief descriptions for methods that have been published but are not well-known.

- Describe new or substantially modified methods, give the reasons for using them, and evaluate their limitations.
- Identify precisely all drugs and chemicals used, including generic name(s), dose(s), and route(s) of administration.
- For a systematic review article include a section describing the methods used for locating, selecting, extracting, and synthesizing data. These methods should also be summarized in the abstract.

ii c) Statistics

- Describe statistical methods with enough detail to enable a know- ledgeable reader with access to the original data to verify the reported results. When possible, quantify findings and present them with appropriate indicators of measurement error or uncertainty (such as confidence intervals).
- Cite references for the design of the study and statistical methods (standard for the work) when possible.
- Define statistical terms, abbreviations, and most symbols.
- Specify the computer software used.

iii) Results

Results should be described in past tense.

- Present results in logical sequence in the text, tables, figures and illustrations, giving the main or most important findings first. Maintain the sequence of results with the specific objectives selected earlier.
- Do not repeat all the data in the tables or illustrations in the text; emphasize or summarize only the most important observations.
- When data are summarized in the result section, give numeric results not only as derivatives (for example, percentages) but also as the absolute numbers from which the derivatives were calculated, and specify the statistical methods used to analyze them.
- Restrict tables and figures to those needed to explain the argument (relevant to objectives) and to assess supporting data. Use graphs as an alternative to tables with many entries; do not duplicate data in figures (graphs/ charts) and tables. **Example:** Age range of the studied respondents should be appeared **either in table or in figure**.
- Avoid nontechnical uses of technical terms in statistics, such as "random" (which implies a randomizing device), "normal," "significant," "correlations," and "sample."

iv) Discussion

The discussion must be described in **past tense.** This section should reflect the author's comments on the results.

- Emphasize the new and important aspects of the study and the conclusions that follow them in the context of the totality of the best available evidence.
- Do not repeat in detail data or other information given in the Introduction or the Results section.
- For experimental studies, it is useful to begin the discussion by briefly summarizing the main findings, then explore possible mechanisms or explanations for those findings.
- Compare and contrast the results with other relevant studies and potential argument for discrepancy and consistency should be given here.
- State the limitations of the study, and explore the implications of the findings for future research and for clinical practice.
- Link the conclusions with the goals of the study but avoid unqualified statements, not adequately supported by the data.
- In particular, avoid making statements on economic benefits and costs unless the manuscript includes the appropriate economic data and analyses.

v) Conclusion

It should be described in **present tense**. Conclusion should be the main message and the authors' impression from the results of the study. The article should be concluded briefly (**not more than 100 words**). Recommendation(s) can also be included in this section which should not exceed 30 words.

I A. 4 b) Review article

For a systematic review or meta-analysis the body of text should be divided into the following sections (Like an original article): i) Introduction, ii). Materials and methods, iii) Findings/Results, iii a) Main information about the topic, iv) Discussion and v) Conclusion. For a general review article section No. ii (Materials and methods) and iii (Findings/Results) iv) (Discussion) are not relevant. So, for a general review article section No. i). Introduction, iii a). Main Information about the Topic and v). Conclusion are required.

i) **Introduction**: should not exceed **500 words**. This section will include background of the topic. At the end of the review, why the author want to publish the topic on the article ie., the objective should be mentioned.

ii) **Material and methods**: How the review was done, what sorts of articles were searched, how they were searched, the total number of articles reviewed should be mentioned here. This section is not required for a general review article.

iii) **Results/findings**: The findings on the topic after reviewing the articles should be compiled, analysed and described here like an original research article. This section is not required for a general review article.

iii a) **Main Information about the Topic**: The main information about the topic should be described and discussed elaborately with the help of published literatures in this section but the subtitles should be relevant to the topic(Title) for a general review article. This section may not be required for a systematic review or meta-analysis.

iv) **Conclusion:** The article should be concluded briefly (**not more than 100 words**).

I A. 4 c) Case Report

The body of the text should be divided into the following sections: i) Introduction, ii) Case Report (Description of the case), iii) Discussion and iv) Conclusion.

i) **Introduction**: A brief description should be given on the topic of the case with the help of published literatures.

ii) **Case Report**

- The findings (history, clinical examination and investigations) should be described here.
- Management (if any) can also be given.

iii) Discussion

- The discussion should be started by briefly summarizing the main findings of the case reported, then possible explanations for those findings should be explored.
- The findings of the case should be compared with other relevant studies and potential argument for discrepancy and consistency should be given here.

iv) Conclusion

- The article should be concluded briefly (**not more than 100 words**).
- The main findings of the reported case should be emphasized which the readers can consider as a clue to suspect a diagnosis for a rare case in future.

I A. 5. Acknowledgement

Acknowledge advisor(s) and/or any one who helped the researcher(s)

- Technically
- Intellectually
- Financially

I A. 6. References

I A. 6 a) General Considerations related to References

- Although references to review articles can be an efficient way to guide readers to a body of literature, review articles do not always reflect original work accurately. Readers should therefore be provided with direct references to original research sources whenever possible.
- Abstracts should not be used as references. References to papers accepted but not yet published should be designated as "in press" or "forthcoming"; authors should obtain written permission to cite such papers as well as verification that they have been accepted for publication.
- Information from manuscripts submitted but not accepted should be cited in the text as "unpublished observations" with written permission from the source.
- Citing a "personal communication" should be avoided unless it provides essential information not available from a public source, in which case the name of the person and date of

communication should be cited in parentheses in the text. For scientific articles, obtain written permission and confirmation of accuracy from the source of a personal communication. Some but not all journals check the accuracy of all reference citations; thus, citation errors sometimes appear in the published version of articles. To minimize such errors, references should be verified using either an electronic bibliographic source, such as PubMed or print copies from original sources.

- Authors are responsible for checking that none of the references cite retracted articles except in the context of referring to the retraction. For articles published in journals indexed in MEDLINE, the ICMJE considers PubMed the authoritative source for information about retractions.

I A. 6 b) Reference Style and Format

➢ **Reference Style**

Author should follow **Vancouver style**.

- R**eference list** should appear at the end of the article and should be numbered consecutively in the order as they are cited in the text, which is done by **superscript** (single press of 'ctrl shift +') in numerical form **(citation number).**
- When **multiple references** are cited at a given place in the text, use a **hyphen** to join the first and last numbers that are **inclusive**. Use **commas** (without spaces) to separate **non-inclusive** numbers in a multiple citation.

  Example: 2,3,4,5,7,10,12 are abbreviated to **(2-5,7,10,12**).
- **Do not** use a hyphen if there is no citation numbers in between 2 numbers that support your statement.

  Example: 1-2 (**in correct form).** 1,2**(correct form)**
- As a general rule, citation numbers in the text should be placed **outside full stops and commas**, inside colons and semicolons (applicable for any part of the document).

  Example: Masud Alam,1 Selim Khan[2]

  Example: Over the past decades public health relevance of mental health condition 'in children and adolescents has been of growing concern'.[1-3,5,6]
- Identify references in text, tables, and legends by Arabic numerals in superscript.
- References cited only in tables or figure legends should be numbered in accordance with the sequence established by the first identification in the text of the particular table or figure.

➢ **Reference Format**

1. Citing a Book

The essential details required are (in order):

1.1 Name/s of author/s, editor/s, compiler/s or the institution responsible.

- Where there are **6 or less authors** you must list **all authors**.
- Where there are **7 or more author**s, only the **first 6 are listed** and **add "et al"** (after a **comma**).
- Put a comma and 1 space between each name. The last author must have a full-stop after their initial(s).

  Format: surname (**1 space**) initial/s (**no spaces or punctuation between initials**) (**full-stop OR if further names comma, 1 space**)

  Example: Smith AK, Jones BC, Bloggs TC, Ashe PT, Fauci AS, Wilson JD, et al.
- **When author/s is/are editor/s :**Follow the same methods used with authors but use the word **"editor"** or **"editors"** in full after the name/s. The word editor or editors must be in small letter. (**Do NOT** confuse with "ed."used for edition.)

  Example: Millares M, editor. Applied drug information: strategies for information management. Vancouver (WA): Applied Therapeutics Inc; 1998.

Sponsored by institution, corporation or other organization (including PAMPHLET)

E**xample**: Australian Pharmaceutical Advisory Council. Integrated best practice model for medication management in residential aged care facilities. Canberra: Australian Government Publishing Service; 1997.

1.2. Title of publication and subtitle if any

- Italics or underlining should be avoided.
- Only the first word of the titles (and words that normally begin with a capital letter) should be started with capital letter (except proper noun).

Format: title (**full-stop, 1 space**)

Example: Harrison's principles of internal medicine.

Example: Physical pharmacy: physical chemical principles in the pharmaceutical sciences.

Example: Pharmacy in Australia: the national experience.

1.3. Edition (other than the first)

Number of edition **other than first one** should be mentioned as **2nd, 3rd,10th ed.**

Example: Blenkinsopp A, Paxton P. Symptoms in the pharmacy: a guide to the management of common illness. 3rd ed. Oxford: Blackwell Science; 1998.

1.4. Place of publication (if there is more than one place listed, use the first one)

- The place name should be written in full.
- If the place **name is not well known**, add a comma, 1 space and the state or the country for clarification. For places in the USA, add after the place names the 2 letter postal code for the state. This must be in upper case. eg. Hartford (CN): (where CN=Connecticut).

Format: place of publication (**colon, 1 space**)

Example: Hartford (CN):

Example: Texas (NSW):

Example: Kyoto (Japan):

1.5. Publisher

The publisher's name should be spelled out in full.

Format: publisher (**semi-colon, 1 space**)

Example: Australian Government Publishing Service;

Example: Raven Press;

Example: Williams & Wilkins;

1.6. Year of publication

Format: year (full-stop, add 1 space if page numbers follow).

Example: 1999.

Example: 2000. p. 12-5.

1.7. Page numbers (if applicable).

- Abbreviate the word "page" to "p.".

Note: do not repeat digits unnecessarily

Format: p (**full-stop, 1 space**) page numbers (**full-stop**).

Example: p. 122-9 (**correct**); p. 122-129 (**incorrect**).

Example: p. 1129-57 (**correct**); p. 1129-157 (**incorrect**).

Example of citing a book: Lodish H, Baltimore D, Berk A, Zipursky SL, Matsudaira P, Darnell J. Molecular cell biology. 3rd ed. New York: Scientific American; 1995.

(*Name/s. Title. Edition(other than first). Place of publication: Publisher; year of publication. p. Page no*)

2. Citing a Chapter in an Edited Book (to which a number of authors have contributed)

- Name/s of author of the chapter
- Title of chapter followed by, In:
- Editor
- Title of book
- Series title and number (if part of a series)
- Edition (if not the first edition)
- Place of publication (if there is more than one place listed, use the first named)
- Publisher
- Year of publication
- Page numbers

(*Title of Chapter. In: Editor(s). Title of book and number. Edition (other than first). Place of publication: Publisher; year of publication. p. Page no*)

Example of citing a chapter in an edited book:

Porter RJ, Meldrum BS. Antiepileptic drugs. In: Katzung BG, editor. Basic and clinical pharmacology. 6th ed. Norwalk (CN): Appleton and Lange; 1995. p. 361-80.

3. Citing a Journal Article from a Print source

The essential details required are (in order):

- **Name/s of author/s of the article.**
  See step 1 of "Citing a book" for full details.
- **Title of article.**
  See step 2 of "Citing a book" for full details.

Example: Validation of an immunoassay for measurement of plasma total homocysteine.

- **Name of journal (abbreviated).**

- Abbreviate the name of the journal according to the style used in Medline.
- A list of abbreviations can be found at: http://w**ww.ncbi.nlm.nih.gov/entrez/query.fcgi?db=journals**

  Note: No punctuation marks are used in the abbreviated journal name.

Format: journal title abbreviation (1 space)

Example: Bang J Psychiatry

- **Year of publication (month or day should be omitted).**

Format: year (**semi-colon, one space**)

Example: 1996; 12(5): 127-33.

- **Volume number (and issue/part)**

  Format: volume number (**colon, one space**)

Example: 1996; 12(5): 127-33. Or
1996; 18: 1237-8.

- **Page numbers**

Note: Do not repeat digits unnecessarily

Format: page numbers (full-stop)

Example: 5310-5.

Example of citing a journal: Russell FD, Coppell AL, Davenport AP. In vitro enzymatic processing of radiolabelled big ET-1 in human kidney as a food ingredient. Biochem Pharmacol 1998; 55(5): 697-701.

Name(s). Title. Name of the Journal Year of publication; Volume Number (Session/Issue Number): Page Number.

- **No author given in article**

  Example: Coffee drinking and cancer of the pancreas [editorial]. BMJ 1981; 283: 628.

- **Journals with parts and/or supplements**

Examples

- **Volume with supplement**

  Environ Health Perspect 1994; 102Suppl 1: 275-82.

- **Issue with supplement**

  SeminOncol 1996: 23(1 Suppl 2): 89-97.

- **Volume with part**

  Ann ClinBiochem 1995; 32(Pt 3): 303-6.

4. Citing a Journal Article from Internet and Other Electronic Sources

This includes software and internet sources such as web sites, electronic journals and databases.

The **basic form** of the citations **follow the principles listed for print sources** (see above).

In the case of sources that may be subject to alteration it is important to acknowledge the **Date The Information Was Cited.** This is particularly true for web sites that may disappear or permit changes to be made and for CD-ROMS that are updated during the year.

4.1. Citing a Journal Article from the Internet

Note: Follow the same procedure for citing print journals as for electronic journals regarding date, volume pages and journal title

Format: Author/s (full-stop after last author, 1 space) **Title of article** (full-stop, 1 space)

Abbreviated title of electronic journal (1 space) **[serial online]** (1 space) **Publication year** (1space) **month(s)** - if available (1 space) **[cited year month (abbreviated) day]** - in square brackets (semi colon, 1 space) **Volume number** (no space) **Issue number** if applicable in round brackets (colon) **Page numbers or number of screens** in square brackets (full-stop, 1 space) **Available from** (colon, 1 space) URL:**URL address underlined**

Examples:

- Morse SS. Factors in the emergence of infectious disease. Emerg Infect Dis [serial online] 1995 Jan-Mar [cited 1999 Dec 25]; 1(1):[24 screens]. Available from:URL: http://www/cdc/gov/ncidoc /EID/eid.htm
- Garfinkel PE, Lin E, Goering P. Should amenorrhoea be necessary for the diagnosis of anorexia nervosa? Br J Psych [serial online] 1996 [cited 1999 Aug 17]; 168(4):500-6. Available from: URL:http://biomed. niss.ac.uk

4.2. Citing a Journal Article from WWW site

(If the author is not documented, the title becomes the first element of the reference.)

Format: Author (full-stop after last author, 1 space) **Title** (full-stop, 1 space) **[Online]** (full stop, 1 space) **Publication Year** (1 space) **[cited year month (abbreviated) day]** (semi colon) **Number of screens in square brackets or pages** (full-stop, 1 space) **Available from** (colon, 1 space)

URL: (no space) **URL address underlined**

Note: The number of screens is not necessary. Put a semi colon and 1 space after the cited date if no pages or screen numbers are listed.

When the date is approximated, indicate that by following the date with a question mark and inserting the statement in square brackets. Eg. [2001?]

Examples: National Organization for Rare Diseases [Online]. 1999 Aug 16 [cited 1999 Aug 21]; Available from: URL:http://www.rare diseases.org/

Royal College of General Practitioners.The primary health care team.[Online]. 1998 [cited 1999 Aug 22];[10 screens]. Available from:URL: http:// ww. rcgp.org.uk/informat/publicat/rcf0021.htmZand J. The natural pharmacy: herbal medicine for depression [Online]. [1999?] [cited 2001 Aug 23];[15 screens]. Available from:

URL:http://www.healthy.net/asp/templates/Article.asp?PageType=Article&Id=920

Important Points For Reference List

- For **online material**, please cite the **URL**, together with the **date you accessed** the website
- **Online journal** articles can be cited using the Digital Object Identifier **(DOI)** number

Samples of Reference List

A list of references contains details of those works cited in the text.

The references are listed in the same numerical order as they appear in the body of the text

1. Getzen TE. Health economics: fundamentals and flow of funds. New York (NY): John Wiley & Sons; 1997.
2. Millares M, editor. Applied drug information: strategies for information management. Vancouver, WA: Applied Therapeutics, Inc.; 1998.
3. Australian Government Publishing Service. Style manual for authors, editors and printers. 5th ed. Canberra: Australian Government Publishing Service; 1994.
4. Australian Pharmaceutical Advisory Council. Integrated best practice model for medication management in residential aged care facilities. Canberra: Australian Government Publishing Service; 1997.
5. Bennett GL, Horuk R. Iodination of chemokines for use in receptor binding analysis. In: Horuk R, editor. Chemokine receptors. New York (NY): Academic Press; 1997. p. 134-48. (Methods in enzymology; vol 288).
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I A. 7. Conflict of interest

All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations.

It is important to be consistent when you are referencing.

I A. 8. Tables and Illustrations (Figures)

I A. 8 a) Tables

- In tables, capture information concisely and display it efficiently.
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- Try to limit the number of tables/figures.
- Type or print each table with double-spacing on a separate sheet of paper. Number tables consecutively in the order of their first citation in the text and supply a brief title for each.
- Do not use internal horizontal or vertical lines. Give each column a short or an abbreviated heading. Authors should place explanatory matter in footnotes, not in the heading. Explain all nonstandard abbreviations in footnotes, and use the following symbols, in sequence:

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If you have submitted mentioning document (1, 2, 3) above, when you first submit your article but if there is change in the authorship or related then you have to re-submit it.

- **General outline for article presentation and format**
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- References according to the journal's instructions – abide by the rules of Vancouver Style.
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- Key words provided – arrange them in alphabetical order should be 3-5 in number.
- **Introduction**
- Word limit 150 -200 words
- Pertinent information only
- **Material and Methods**
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- Duration and place of study
- Ethical approval
- Patient consent
- Statistical analysis and software used.
- **Results**
- Clearly present the data
- Avoid data redundancy
- **Discussion**
- Avoid unnecessary explanation of someone else' work unless it is very relevant to the study
- Provide and discuss with the literatures to support the study with references.
- Mention about limitation of the study
- **Conclusion**
- Give your conclusion
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- Acknowledge any person or institution who have helped for the study
- **Reference**
- Abide by the Vancouver style
- Use reference at the end of the sentence after the full stop with superscript
- **Legends**
- Tables
- Figures

Editorial

Six Pillars of Lifestyle Medicine

Ansari MAJ

Lifestyle is the ways an individual performs his routine activities that reflects his basic characters, habits, attitude and personal values [1-4]. Eating, sleeping, physical activities, behavior, affinities, hygiene, personalities are within the domains of lifestyle. Lifestyle may include views on culture, politics, religion, intimacy and more. Therapeutic intervention of lifestyle is being practiced by the physicians since long. For chronic non-communicable diseases salutary effects of lifestyle medicine is easily appreciated. Prevention of Diabetes, Cardiovascular diseases, obesity and cancers is mainly centered around lifestyle intervention[4]. An urgent call for incorporating lifestyle medicine into medical education and training are being echoed by health experts and related associations. It has been estimated that about three quarters of total healthcare expenditure in the United States can be saved by proper implementation of lifestyle among the population[5]. Contrary to usual belief lifestyle medicine is not only for prevention but for therapeutic use also. However, in prevention of non- communicable diseases including some cancers its application is highly effective. Evidence based therapeutic intervention on lifestyle factors that significantly adds to the prevention, treatment and promotion of health stands on six major areas called six pillars of lifestyle medicine. Nutrition, sleep, physical activity, stress management, avoidance of substance abuse including tobacco, alcohol, and healthy social relationships are the six pillars on which lifestyle medicine is founded. The scope of Lifestyle intervention can extend far beyond upto less addressed areas like healthy sexual relationship, thinking, hobby and many more.

Association of nutrition and disease is an established fact in medicine. Evidences are known since long on malnutrition, vitamin and mineral deficiencies, diseases of current concern like diabetes, obesity, cardiovascular disease and cancers are strongly associated with lifestyle. New evidences on Cancer and diet are emerging day by day.

Daily sound sleep of 6 to 9 hours have recently been found to be associated with good glycemic control, healthy mood and thinking and prevention of cardiovascular diseases and good blood pressure control.

Daily exercise of at least 45 minutes of brisk walking is one of the effective first line management of type-2 Diabetes. It maintains joint mobility, muscle strength, normalize blood pressure and ensures good mood.

Avoidance of stress is an established way to treat mental diseases. Beneficial effects of removing stress on diabetes and cardiovascular diseases are found in recent researches[6]. Mild stress has recently been found to have some positive health effect but chronic severe stress is detrimental to physical and mental health. Immune system of the body are depressed by stress.

Substance abuse including alcohol, tobacco, psychotropic drugs are addictive, increases risk of cancer, cardiovascular disease and mental illness.

Good social relationship not only ensures healthy mind but directly or indirectly promotes physical health[7].

Considering the importance of lifestyle intervention in modern diseases a relatively new specialty of medicine "The Lifestyle Medicine" has emerged in many countries[8]. It needs interdisciplinary collaboration for full functioning. A multidisciplinary lifestyle medicine department has started working in very few medical institutes in Bangladesh. In near future it will be extended to more centers with positive health benefits.

(MH Samorita Med Coll J 2022; 5(1): 1-2)

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Evaluation of Complete Blood Count for Assessment of Dengue Patient in a Tertiary Level Hospital in Dhaka.

Khatun S,[1] Uddin MA ,[2] Ahmed MU,[3] Raihan KF,[4] Jahan I[5] and Kawsar U[6]

Abstract:

Introduction: *Dengue fever has been one of the most common mosquito borne transmitted viral disease throughout the world. The objective of this study was to investigate the value of complete blood count for early detection and predict the severity of dengue infection.*

Materials and Methods: *The present study was a retrospective observational analysis of 97 serologically dengue positive cases collected from MH Samorita Hospital and Medical College, during the period of 01 July, 2021 to 30 August, 2021. Medical records have been accessed to obtain data on various laboratory investigations.*

Results: *Among the 241 suspected dengue cases, 97 (26.30%) were dengue positive. Patients within 21 to 30 years age of group were mostly affected with male predominance (75.26%). Thrombocytopenia was the most common hematological feature in 61 cases (62.89%), followed by leucopenia in 34 (35.05%) and only 6 cases (6.19%) had hemoconcentration.*

Conclusion: *Thrombocytopenia and leucopenia are the most common hematological feature. Leucopenia may be an early marker of dengue infection and raised hematocrit value may indicate the plasma leakage. So the findings of CBC can be used as markers for dengue fever and facilitate early proper intervention.*

(MH Samorita Med Coll J 2022; 5(1): 3-8)

Introduction:

Dengue fever is a mosquito borne viral disease caused by closely related but antigenically distinct serotypes of dengue virus (DENV 1 through DENV 4). Dengue virus also referred to as an arbovirus (arthropod-borne viruses) that belongs to the genus *Flavivirus* of the family *Flaviviridae.*[1]

The virus is transmitted to humans by the bite of the female *Aedes aegypti* mosquito infected by one of four serotypes of the virus. This mosquito is a domestic species adapted to urban conditions.[2]

In more than 100 countries, dengue is considered an endemic disease. Around 2.5 billion people worldwide live in dengue-prone countries, and about 100 million new cases are reported annually. Bangladesh has one of the highest burdens of dengue in the world.[3] Since 2000 Bangladesh has witnessed a dengue outbreak almost every year with more than 3000 dengue cases in at least six of these annual outbreaks.[4] In 2019 more than 100,000 people in Bangladesh were hospitalized due to DENV infection and among them about 50% were from Dhaka City, the capital of Bangladesh.[5] One hundred sixty four confirmed deaths due to dengue were reported by the Directorate General of Health Services (DGHS) in 2019.[6]

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Received: 3rd September 2021 **Accepted:** 1st December 2021

The presentation of dengue infection ranges from nonspecific febrile illness to life threatening dengue shock syndrome (DSS). Although dengue fever is self-limiting in most of the cases; it can become a life-threatening condition, if not treated and handled in the early stage of this disease.[6]

To prevent mortality related to dengue infection early diagnosis is crucial. Laboratory tests for dengue can be broadly categorised into nonspecific tests (e.g. complete blood count) and definitive tests (e.g. NS1 antigen test, dengue serology). Usually early diagnosis of dengue is based on the detection of NS1 antigen in the blood, as the IgM antibody can only be detected after the 6th day of the clinical manifestation of dengue.The NS1 antigen assay has a moderately high sensitivity and very high specificity to dengue infection.[7]

The CBC in dengue patients change by the day of the fever, specifically on days 3 to 8, starting with progressive leucopenia followed by thrombocytopenia and hemoconcentration due to plasma leakage.[8] Leucopenia along with thrombocytopenia could be used as useful predictive markers for early diagnosis of dengue fever infection.[9] Leucopenia and thrombocytopenia are common findings in dengue fever and are believed to be caused by bone marrow depression on precursor cells.

Different theories are proposed for the causation of the thrombocytopenia and leucopenia. According to one theory the causes of thrombocytopenia is the viral induction of bone marrow hypoplasia by affecting the bone marrow progenitor cells. Some other crucial factors are a significant derangement in the plasma-kinin system, disseminated intravascular coagulation, increased apoptosis resulting in platelet destruction, lysis by the complement system and the formation of anti-platelet antibodies. [11]

Chaloemwong et al. reported leucopenia from day two, reaching the minimum on day five followed by a gradual recovery. This is believed to be due to destruction of myeloid progenitor cells with hypocellular bone marrow in the first seven days of fever. Atypical lymphocytes appeared from day five to day nine, hitting the peak on day seven. Monocytosis was observed from day one to day four and eosinophilia occurred from day nine to day ten.[12]

The present study aimed to assess the hematological dynamics of patients with dengue fever in order to increase the sensitivity of the screening.

Materials and methods:

The present study was a retrospective observational analysis where 241 dengue suspected cases were selected from MH Samorita Hospital and Medical College, a tertiary level hospital of Dhaka city from 01 July, 2021 to 30 August, 2021. Among these 97 cases were found as dengue positive. Dengue positive cases were diagnosed by NS1 antigen and or anti-dengue IgM Immuno chromatographic test positive cases. The haematological data complete blood count was analysed for each patient. All the samples were aseptically collected in gel vacuities. Then the blood serum was properly separated by centrifugation at 1000 g for 5 min. All separated sera were tested immediately. Routine hematological laboratory investigations such as complete blood cell count (CBC), hematocrit level were analyzed by an automated blood analyzer. The serum samples were preserved in -20^0 C and tested for NS1 antigen, IgM and IgG by Immunochromatography (ICT) method according to the instruction of the manufacturer. In our laboratory, Dengue NS1 kit (Global Rapid test, Dengue NS1 Rapid test, Australia) and anti dengue IgM (Global Rapid test, Dengue IgG/IgM Rapid test, Australia) were used for serological tests of the study.

Out of different haematological parameters we had considered leucopenia and thrombocytopenia and hematocrit values in our study. The leucopenia was defined as total leucocyte count below 4000 cells/ cumm and thrombocytopenia was considered when platelet counts were less than 1.5 lac /cumm. Regarding hematocrit level, Packed cell value >48% was considered as hemoconcentration.

Results:

In the present study, total 241 samples of blood were examined for dengue viral infection. Among these 97 samples were diagnosed as positive dengue. So the seroprevalence rate was 40.25% (Table 1). Out of 97 positive cases, 73 (75.26%) were male and 24(24.74%) were female (Figure-1).

Table 1: Sero prevalence of dengue infection.

Total no of patients	Dengue positive patients	Percentage
241	97	40.25

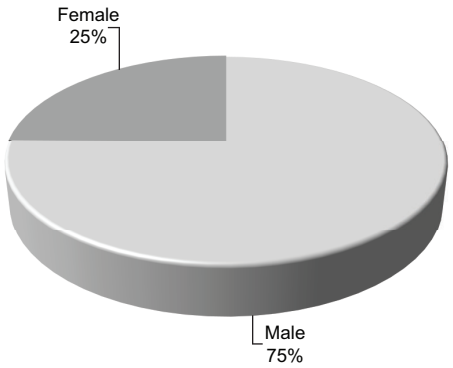

Fig.-1: *Distribution of patients according to sex.*

In this study, dengue infection was more among the age group of 21 to 30years followed by 11-20 years group and 31-40 years age group which is shown in Figure 2.

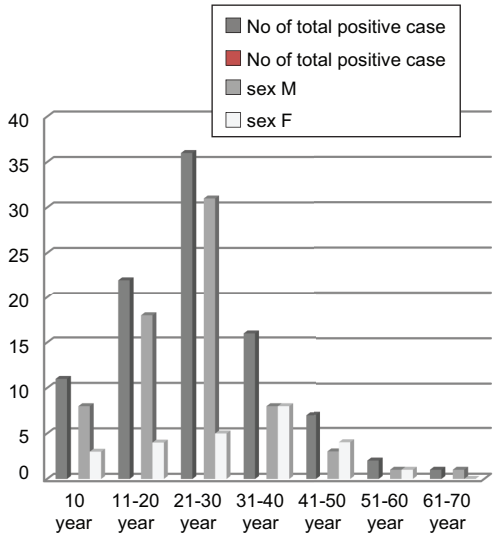

Fig.-2: *Distribution of patients according to age. (n=97)*

Among hematological parameters, leukocyte count, platelet count, and hematocrit values were analysed. Among the dengue positive cases 61 (62.89 %) cases had thrombocytopenia (platelet count<150000/ul), 34 (35.05%) cases had leucopenia (WBC count<4000/ul) and 29 (29.9%) cases had both thrombocytopenia and leucopenia. (Figure 3).

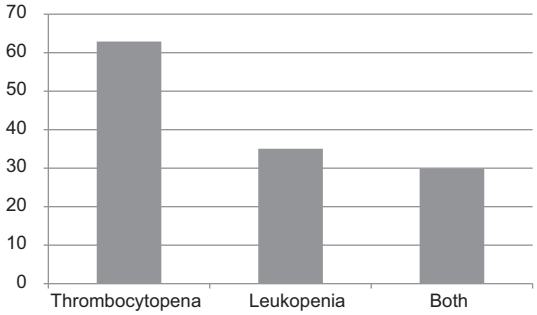

Fig.-3: *Evaluation of leucopenia and thrombocytopenia (n=97)*

Table 2 shows the different states of hematocrit level, where , 53(54.64%) had normal hematocrit value. 38(39.18%) cases had low hematocrit value and 6 (6.1%) cases revealed hemoconcentration.

Table 2: Distribution pattern of hematocrit level (n=97)

Hematocrit	Number of cases	Percentage
Normal (38-48)	53	54.61
Low (<38)	38	39.20
High (>48)	6	6.19

Discussion

Dengue NS1 antigen testing is a direct rapid test method. The cost of this method is lower than other methods like PCR. For achieving early, conclusive and serotype-specific diagnosis, this is an excellent testing method. It is used to get the result rapidly in less than five days after the onset of fever.[7] Immunoglobin M antibodies start to appear in blood approximately 5-6 days after onset of fever and become detectable by day 6-10 . In this study among 241 suspected cases only 97 were selected as positive cases. Where 76 were Dengue NS1 positive and the rest are positive for Dengue IgM antibody and or Dengue IgG. Seroprevalence of Dengue was 40.25%. Similar type of findings was found in different studies which were conducted in India and Bangladesh. [13,14,15] In an Indian study by Gupta et al seroprevalance rate was 44.56%.[13]

In this study, out of 97 dengue patients, 73 (75.26%) were male and 24(24.74%) were female. Many studies have reported a higher prevalence of dengue viral infection among males than females.[16,17,18]

Although studies are ongoing to find out the reason behind this sex predominancy, the exact cause is still under evaluation. The higher prevalence of infection in male individuals may reflect their greater tendency to seek medical assistance and visit health facilities resulting in more reporting. In contrast to females who choose traditional remedies for treatment. [19] In our study most dengue infected patients were from age group 21 to 30years (37.11%) followed by 11-20 years (22.68%) and 31-40 years(16.49%). Many other studies in Bangladesh and neighboring countries also reported similar observation in their study.[20, 21, 22]

Chetan *et al*., 2018 also observed maximum dengue cases in the age group 21-30 years (29.8%).[23]

Out of all positive cases, thrombocytopenia was found in 61 (62.89%) cases. Similarly Annada Rao et al 2020, found thrombocytopenia as the most common hematological feature in 50 cases(90%) , followed by leucopenia in 43 cases(76%). [11]

In our study, out of 97 cases, 34 (35.05%) cases had leucopenia and 29 (29.9%) had both thrombocytopenia and leucocytopenia. In the study of Dinesh et al 2017 , leucopenia was 47.2%.[24] In another study by Kalyanarooj S et al the authors concluded that early dengue infection was characterized by leucopenia.[25] In another study by Shyamsundar Khatroth showed that the incidence of leucopenia was 20%.[26] in another study by Dhooria *et al*., (2008) in children leucopenia was observed in 26% of cases.[27]

The febrile phase is the symptomatic stage and leucopenia may be present in this stage. Also increasing leucopenia precedes the stage of plasma leakage. In a study by Christopher J Gregory et al which dealt with the utility of tourniquet test and WBC count as a marker to differentiate dengue fever from other febrile illnesses. The result showed that 87% of dengue cases had leucopenia compared to 28% of non dengue cases.[28] The conclusion was that leucopenia could be taken up as one of the indicators to separate dengue from other febrile illnesses, the other indicator was a positive tourniquet test. [28]

Prathyusha *et al*. in their study at eluru showed that with increasing severity of leucopenia there was increased incidence of hemorrhagic manifestations including petechiae.[29]

Leucopenia was frequently found and may be accompanied by varying degrees of thrombocytopenia. Tzong-Shiann et al suggested that leucopenia along with thrombocytopenia was useful for early diagnosis of dengue fever infection. The most notable laboratory findings in confirmed dengue fever case were included leucopenia and thrombocytopenia. The positive predictive value (PPV) was high for combination of leucopenia with thrombocytopenia.[9] In another study conducted by Manuj Kumar Gupta et al revealed that leucopenia as single parameter had high specificity (98.33%). The specificity was more increased if the leucopenia was combined with thrombocytopenia.[30]

Rising hematocrit levels are a marker of the critical phase of dengue infection. After leucopenia there is the stage of plasma leakage. The extent up to which hematocrit rises from the baseline can indicate the severity of plasma leakage.[31] In different studies by Kailash C Meena et al, Denesh et al the percentage of patients with raised hematocrit was 9.8%.[31,32] . In the present study 53(54.64%) had normal hematocrit value, 38(39.18%) cases had low hematocrit value and 6 (6.1%) cases revealed hemoconcentration. This may be due to the samples were collected from both outdoor and indoor patients. Regarding the different clinical forms, only dengue haemorrhagic fever (DHF) showed raised hematocrit. Similar study reported that haemoconcentration shown to be increased in patients with dengue haemorrhagic fever.[33]

Conclusion:

The accurate early and efficient diagnosis of the disease is very significant for the cure and vaccine research. We cannot diagnose dengue infection just basing on clinical presentation. The complete blood count can function as an early indicator for diagnosis as well as to see prognosis of dengue fever even in areas where sophisticated biomedical infrastructure is lacking. For promoting the early diagnosis of dengue fever, thrombocytopenia and leucopenia serve as a predictive marker. There is significant reduction in leucocyte count as well as platelet count in dengue fever patient. Leucopenia may be used as a marker of early dengue infection. When combined with other indicators like thrombocytopenia can be used as good predictor for dengue fever. Rising

hematocrit may also be used as a marker for the stage of plasma leakage necessitating increased fluid administration and promt appropriate management.

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A Comparative Study on Clinical Biochemical Factors Changes of Pregnant Women with HELLP Syndrome and Women with Severe Preeclampsia without HELLP Syndrome in a Tertiary Level Hospital

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Abstract:

Introduction: *HELLP syndrome is a life-threatening obstetric complication which causes a higher rate of perinatal mortality.*

Objective: *The purpose of this study was to compare the biochemical changes between patients of HELLP syndrome and severe preeclampsia without HELLP syndrome.*

Materials and Methods: *This was a cross-sectional comparative study conducted at the Department of Obstetrics & Gynecology, Dhaka Medical College Hospital, Dhaka. A total of 50 participants (40 with severe preeclampsia without HELLP syndrome and 10 with HELLP syndrome) who fulfilled the inclusion and exclusion criteria were enrolled in this study. Inclusion criteria were all pregnant women after 20 weeks of gestation, Eclampsia, Group-l: Patients were diagnosed to have HELLP syndrome with features of thrombocytopenia (platelet count below 100,000), elevated liver enzymes as evidenced by an aspartate transaminase (AST) greater than 70 IU/L and Lactate dehydrogenase (LDH) greater than 600 IU/L. Group-ll: Those patients were included whose blood pressure was ≥160/110 mm Hg and proteinuria ≥5gm/day. Exclusion criteria were patient with chronic hypertension, diagnosed case of chronic renal failure, diagnosed case of hepatic disease, diagnosed case of hemorrhagic disorder and Psychotic patient. Purposive sampling was adopted. Data collection was done after taking informed written consent from the patient, data were collected with the help of a predetermined questionnaire and data collection form by the investigator. Data Collection form was filled by interrogating the patient or care giver. Relevant investigations were also done.*

Results: *A total 50 participants (40 with severe preeclampsia without HELLP syndrome and 10 with HELLP syndrome) were selected. The mean maternal age was not significantly different between two groups, gravidity and parity was not significant. The biochemical level of hemoglobin, platelet count and serum creatinine were significantly different between two groups. The hematological examination findings were of hemoglobin 10.7±1.7 (g/dl)Gp-I, 10.1±2.1(g/dl)Gp-II & platelet count(225.154×10^3 ±80336/mm^3Gp-I), 102.918×10^3 ±59266.3(/mm^3) G-II; AST (36.1±19.3 U/LGp-I),(207.4±247.3 U/L Gp-II) ALT(Gp-I 37±28.4 U/L)(Gp-IIU/L), LDH(Gp-I 303.3±94.2 U/L)(Gp-II691.1±558.3 U/L) , creatinine (Gp-I 0.8±0.2 mg/dl) (Gp-II 0.9±0.7 mg/dl) were significantly different between two groups. Uric acid, total protein, albumin & proteinuria were not significantly different between two groups.*

Conclusion: *The biochemical and the laboratory parameter has important role to identify risk factors in HELLP syndrome to decide for quick treatment and proper management.*

Keywords: Preeclampsia, Eclampsia, HELLP syndrome

(MH Samorita Med Coll J 2022; 5(1): 9-13)

Introduction:

Severe preeclampsia is defined as a systolic blood pressure ≥160 mm Hg and diastolic blood pressure ≥110 mm Hg on 2 occasions, at least 6 hours apart with proteinuria of 5 gm or higher in 24 hours urine specimen or 3+ or greater on two random urine

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Received: 4th July 2021 **Accepted:** 3rd November 2021

samples collected at least 4 hours apart, with oliguria (<500 ml in 24 hours), cerebral or visual disturbance, epigastric or right upper quadrant pain, pulmonary edema or cyanosis, impaired liver function, thrombocytopenia (platelet count <100,000/mm^3) and fetal growth restriction[1].

The HELLP syndrome is a serious complication in pregnancy characterized by hemolysis, elevated liver enzymes and low platelet count occurring in 0.5 to 0.9% of all pregnancies and in 10–20% of cases with severe preeclampsia, and a serious condition in its complete form that is associated with substantial risk for the mother and her fetus. The syndrome is a progressive condition and serious complications are frequent. The HELLP syndrome is currently regarded as a variant of severe preeclampsia or a complication [2-6].

T. Kirsanova et al conducted a study to compare clinical-laboratory parameters in women with severe preeclampsia and HELLP syndrome[7]. A total of 55 pregnant women were observed, 28 with HELLP syndrome and 27 with severe preeclampsia. HELLP group had more severe course and worse perinatal outcomes: 5/28 had fetal death, 4/28 hemorrhage, 5/28 signs of heart damage, 16/28 variety of neurological manifestations, 2/28 ARDS. The clinical manifestations analysis of preeclampsia in both groups indicating more severe course with HELLP syndrome that manifests with signs of kidney injury. They found significantly lower haemoglobin and platelet count in HELLP group than severe preeclampsia group. Creatinine, ALT (Alanine aminotransferase) and LDH (Lactate dehydrogenase) level were significantly higher in HELLP group than severe preeclampsia group.

Patients with HELLP syndrome are at increased risk for obstetric complications in subsequent pregnancies. Overall, however, the rate of recurrent hemolysis, elevated liver enzymes, and low platelet count syndrome is only 6%[8]. When data from all pregnancies with all forms of preeclampsia are considered, the risk of recurrence for any type of preeclampsia-eclampsia is 42% to 43%. A previous preterm delivery is a very high risk factor for recurrence of prematurity with preeclampsia-eclampsia [9]. Preeclampsia complicated by the HELLP syndrome is associated with poor maternal outcome; there is scant information on neonatal outcome. These that infants born to preeclamptic mothers who develop HELLP syndrome have an increased findings suggest need for resuscitation at delivery and a higher incidence of postnatal cardiopulmonary instability. Thus mothers with HELLP syndrome should be identified promptly and delivered in level II or III centers with appropriate facilities for management of these newborn infants at risk for perinatal asphyxia and a potential for long-term neurologic sequelae[10]. Perinatal outcome is strongly influenced by gestational age and the severity of hypertension as expressed by the need of antihypertensive treatment, irrespective of the underlying syndrome [11].

Few other studies found maternal age, gravidity, parity and gestational age at delivery were not different in two groups[12,13]. They also found higher aspertate aminotransferase (AST) and alanine aminotransferase (ALT) level and lower platelet count in HELLP syndrome cases at all stages of gestation[14]. Turgut et al found significantly higher creatinine level and significantly lower hemoglobin and hematocrit level in HELLP group than in the severe preeclamptic group when compared pre-partum[15]. They also found a Thrombocyte count of <100.000 cells/μL and aspertate aminotransferase (AST) level of ≥70 U/L were found to be statistically associated with post-partum complications. In one study Abramovid et al found lower gestational age at delivery in HELLP syndrome cases[16]. There was no significant difference between the mean creatinine values in either group. George et al also found higher AST, ALT and lactate dehydrogenase (LDH) in HELLP group[17].

Materials and Methods:

Study Settings and Population:

The study was a cross-sectional comparative study. This study was carried out at the Department of Obstetrics and Gynecology, Dhaka Medical College and Hospital (DMCH), Dhaka, Bangladesh for six months-from January, 2014 to June, 2014. The total number of participants were 50 (40 with severe preeclampsia without HELLP syndrome and 10 with HELLP syndrome). Inclusion criteria were all pregnant women after 20 weeks of gestation, Eclampsia, Group-l: Patients are diagnosed to have HELLP syndrome with features of thrombocytopenia (platelet count below 100,000), elevated liver enzymes as evidenced by an aspartate transaminase (AST) greater than 70 IU/L and Lactate dehydrogenase (LDH) greater than 600 IU/L. Group-ll: Those patients were included whose blood pressure were ≥160/110 mm Hg and proteinuria

≥5gm/day. Exclusion criteria were patient with chronic hypertension., diagnosed case of chronic renal failure, diagnosed case of hepatic disease, diagnosed case of hemorrhagic disorder and psychotic patient. Purposive sampling was adopted. Data collection was done after taking informed written consent from the patient, data were collected with the help of a predetermined questionnaire and data collection form by the investigator. **Study Procedure:** A data collection form and consent form was prepared; sample was selected on the basis of inclusion and exclusion criteria. Data Collection form was filled up by interrogating the patient or care giver. Relevant investigations were also done.

Data Analysis: All the data were then put in a computer and were processed. All collected data were analyzed using computer-based SPSS. The results were presented in frequency table. Mean (±SD) was measured for quantitative variables. P value of less than 0.05 was considered as significant.

Ethical clearance has been obtained from "Ethical committee" (Local ethical committee of DMCH). Written informed consent was taken from the patient or from her legal guardian. Patient confidentiality has been strictly maintained. No name, address or contact details of the patients have been divulged.

Results:

A total 50 participants (40 with severe preeclampsia without HELLP syndrome and 10 with HELLP syndrome) were selected. Among them mean maternal age was 27.6±5.7 years; gravida 2.3±1.8 to 2.4±1.6 and primigravida 18(45.0%) in Severe preeclampsia without HELLP syndrome 3(30.0%) in and multigravida 22(55.0%) 7(70.0) were not significantly different between two groups. (Table 1)

The hematological examination findings were as follows: Hemoglobin10.7±1.7 (g/dl) G-I, 10.1±2.1(g/dl) G-II. Platelet count (225.154×10^3 ±80336/mm^3Gp-I), 102.918×10^3 ±59266.3(/mm^3)G-II; AST (36.1±19.3 U/LGp-I),(207.4±247.3 U/L Gp-II) ALT(Gp-I 37±28.4 U/L)(Gp-IIU/L), LDH(Gp-I 303.3±94.2 U/L)(Gp-II691.1±558.3 U/L) , Creatinine (Gp-I 0.8±0.2 mg/dl) (Gp-II 0.9±0.7 mg/dl) were significantly different between two groups. Uric acid, total protein, albumin and proteinuria were not significantly different between two groups. (Table 2)

Table-1: Demographic characteristics of HELLP group and severe preeclamptic group (n=50)

Parameters	Severe preeclampsia without HELLP syndrome (n=40) Mean±SD	HELLP syndrome (n=10) Mean±SD	P value
Maternal age (years)	27.6±5.7	27.7±5.4	NS
Gravida	2.3±1.8	2.4±1.6	NS
Parity			
Primigravida	18(45.0)	3(30.0)	NS
Multiparous	22(55.0)	7(70.0)	NS

* NS= not significant

Table-2: Hematological and biochemical characteristics of HELLP group and severe preeclamptic group

Biochemical characteristics	Severe preeclampsia without HELLP syndrome (n=40) No. (%) Group I	HELLP syndrome (n=10)No. (%) Group II	P value
Hemoglobin (g/dl)	10.7±1.7	10.1±2.1	0.002 S
Platelet count (/mm3)	225.154×10^3 ±80336	102.918×10^3 ±59266.3	<0.001 S
AST (U/L)	36.1±19.3	207.4±247.3	<0.001 S
ALT (U/L)	37±28.4	171.6±186.8	<0.001 S
LDH (U/L)	303.3±94.2	691.1±558.3	<0.001 S
Creatinine (mg/dl)	0.8±0.2	0.9±0.7	0.002 S
Uric acid (mg/dl)	5.9±1.6	6±1.5	NS
Total protein (g/dl)	5.2±0.7	5.1±0.7	NS
Albumin (g/dl)	2±0.5	2.1±0.4	NS
Preoteinuria in a *24 hr period	7.6±11.2	5.7±6.6	NS

S = Significant

Discussion:

This hospital based cross–sectional comparative study was carried out at the Department of Obstetrics and Gynecology in Dhaka Medical College Hospital, Dhaka. The total sample was 50 (40 with severe preeclampsia without HELLP syndrome and 10 with HELLP syndrome). The HELLP syndrome has been a subject of much controversy with regard to diagnosis, incidence, and outcome.

In this study, clinical findings, maternal and perinatal outcomes were investigated in severe preeclampsia and HELLP syndrome cases. Maternal age, gravidity and parity were similar in both groups. However, Haddad et al showed that severe preeclampsia cases were younger than HELLP syndrome cases and another study by Yildirim et al also mentioned in their study that maternal age, gravidity and parity were higher in patients with HELLP syndrome than in the severe preeclamptic group. Kinay et al showed maternal age, gravidity, parity and gestational age at delivery were not statistically different in two groups which is similar with the present study[12,13,14]. In the present study, mean gestational age (weeks) was not significantly different between two groups. Turgut et al. (2010) reported gestational age at diagnosis, gestational age at delivery and the time interval between diagnosis and delivery were significantly lower in the HELLP group. In another study Abramovid et al found lower gestational age at delivery in HELLP syndrome cases[15,16]. In another study, Kinay et al. found gestational age at delivery was not significantly different between two groups which is similar with the present study[14].

In this study it was observed that 70% of severe preeclamptic patient were delivered by caesarean section. The rate of caesarean section was higher in both the groups. George et al found 74.5% caesarean section in HELLP group which is closely consistent with the present study[17]. In another study Turgut et al also reported that caesarean delivery was significantly higher in HELLP group. In the present study it was observed that the level of haemoglobin and platelet count were significantly lower, and AST, ALT and LDH level were significantly higher in HELLP group[15]. Similarly, Turgut et al. found haemoglobin level was significantly lower in HELLP group, Kinay et al found higher ALT and AST and lower platelet count in HELLP group and George et al found AST, ALT, and LDH were higher in HELLP group. All other tests in the present study were not statistically different between two groups[14,15,17].

Conclusion:

In conclusion, it can be stated that the significant biochemical changes are important sign of HELLP syndrome to reduce the complications of pregnancy outcome. Therefore, biochemical parameters are mandatory for preventing complication and saving maternal and fetal life in HELLP syndrome.

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Infant Feeding Practice among the Mothers in a Selected Area of Bangladesh

Shakil M[1], Mahejabin F[2], Farah S[3], Ahamed MS[4], Ali M[5], Orin FS[6]

Abstract

Introduction: *Infants are the most vulnerable group in our society. Infants constitute about 3% of the total population of Bangladesh. Child health in developing countries including Bangladesh is a matter of serious concern as the prevalence of malnutrition among children under five in Bangladesh is significantly high.*

Objective: *The objective of this study was to assess the patterns of infant feeding practice among the mothers having children below five years residing at Ramu upazilla, Cox's Bazar.*

Materials & Methods: *A descriptive type of cross sectional study was conducted from March 2021 to August 2021 among the mothers having children below five years residing at Ramu upazilla, Cox's Bazar. Sample size was 440. Data were collected using a self -administered semi-structured questionnaire by face to face interview. The data were then compiled and tabulated manually according to key variables by master sheet. Then finally data were analyzed in computer using MS word and MS Xcel.*

Results: *In this study majority of the respondents 317 (72.05%) were within the age group of 16-25 years. About 111 (25%) children were within 0-12 months of age and 232 (52.73%) were male and remaining 208 (47.27%) were female children. Among the respondents 280 (63.64%) were housewives and 141 (32.05%) were garments workers. About 419 (95%) respondents had 1-3 children and only 21 (4.77%) had 4-6 children. Among the respondents 304 (69.09%) of them took plan before conception and only 136 (30.91%) did not plan for conception. Regarding the place of child birth most of the respondents had their delivery at home (241; 54.77%). Maximum children 320 (72.73%) were cared by their mother herself and only 86 (19.54%) were cared by their grandmother/father. Majority of the children 383 (87.05%) took colostrum as their first food and most of the respondents fed colostrum to their baby (393; 89.32%). Regarding duration of exclusive breast feeding, majority of the children were only breast fed up to age of d" 6 months (302; 68.64%) and 164 (37.27%) children were breast fed up to age of 13-24 months. Most of the children 409 (92.95%) were vaccinated as per EPI schedule. Among them 283 (64.32%) children suffered from disease in last 3 months and 225 (79.51%) took treatment for their illness. Among them 83 (36.89%) took treatment from quack and only 76 (33.78%) children took treatment from private doctor.*

Conclusion: *The present study was done in selected villages of Ramu upazilla, covering a small group of population which does not represent the whole nation. Therefore, a large scale community based study is needed to know the real situation of the country.*

Key Words: *Infant feeding, Colostrum, Exclusive breast feeding*

(MH Samorita Med Coll J 2022; 5(1): 14-20)

Introduction:

Children especially infants are at large danger of malnutrition from first six months of life when breast milk alone is not sufficient to meet all nutritious supplies and balancing feeding needs to be in progress. Good practice of exclusive

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Received: 8th September 2021 **Accepted:** 12th December 2021

breastfeeding can prevent 13.8% of all deaths among infants aged less than 2 years and 11.6% of under 5-years children deaths.[1] Malnutrition in all its forms, either indirectly or directly, is responsible for about half of the all deaths including infants worldwide.[2] Human milk is the ideal source of nutrition for infants and has numerous health benefits for the infant and the mother. Both the World Health Organization[3,4] and the American Academy of Pediatrics[5] recommend exclusive breast-feeding for the first 6 months of life and continued breast-feeding, with the addition of appropriate complementary foods, until 12 months and thereafter for as long as mother and baby desire. A high rate of breast-feeding is beneficial for the developing countries with regard to both economy and health. It is well known that colostrum improves the infant's chances of survival by providing both nutrition and immunization, both specific and nonspecific, during the neonatal period.[6] Infants should be exclusively breastfed to achieve optimum growth, development and maintenance of health. Furthermore, it is safe and contains antibodies that help to protect infants and boost immunity. Consequently, optimum breastfeeding reduces the risk of diarrhea, respiratory or ear infections and other infectious diseases that increase infant mortality. Furthermore, optimal breastfeeding is also identified as a protective factor for overweight and obesity in childhood.[7] The objective of this research work was to assess the patterns of infant feeding practice among the mothers having children below five years residing at Ramu upazilla, Cox's Bazar.

Material and Methods:

Adescriptive type of cross sectional study was conducted from March 2021 to August 2021 among the mothers having children below five years residing at Ramu upazilla, Cox's Bazar. Sample size was 440. Data were collected using a self - administered semi-structured questionnaire by face to face interview. The data were then compiled and tabulated manually according to key variables in master sheet. Then finally data were analyzed in computer using MS word and MS Xcel.

Results:

Table -1: Socio-demographic Characteristics of the respondents (n=440)

Characteristics	Frequency	Percentage
Age of children (Months)		
0-12	111	25.23
13-24	89	20.23
25-36	62	14.09
37-48	80	18.18
49-60	98	22.27
Gender of children		
Male	232	52.73
Female	208	47.27
Age of the respondents (years)		
d" 15	2	0.45
16-25	317	72.05
26-35	113	25.68
36-45	8	1.82
Religion		
Muslim	414	94.09
Hindu	26	5.91
Educational qualification		
Illiterate	48	10.91
Primary	159	36.14
Secondary	176	40
Higher Secondary	52	11.82
Others	5	1.14
Occupation		
Housewife	280	63.64
Garments worker	141	32.05
Maid	15	3.41
Day labour	4	0.90
Monthly family income (Taka)		
d" 5000	18	4.09
5001-15000	249	56.59
15001-25000	130	29.54
25001-35000	20	4.55
35001-45000	8	1.82
45001-55000	7	1.59
≥55001	8	1.82
Number of children		
1-3	419	95.23
4-6	21	4.77
Number of family members		
≤4	328	74.55
5-9	105	23.86
≥10	7	1.59

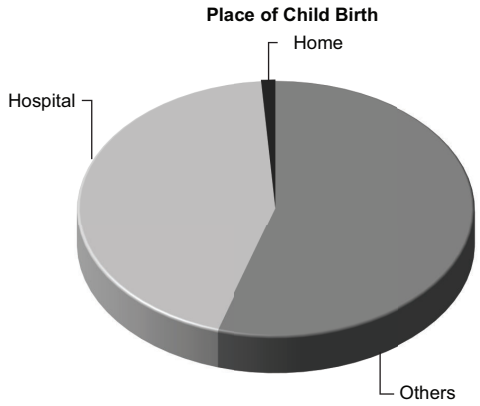

Fig.-1: *Distribution of the respondents by their place of child birth (n=440).*

Regarding the place of child birth, the pie chart shows that most of the respondents had their delivery at home (241; 54.77%) followed by hospital (194; 44.09%).

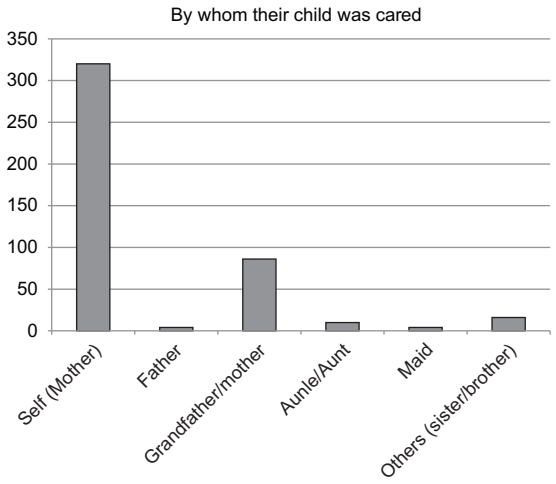

Fig.-2: *Distribution of the children by whom the child was cared (n=440)*

This bar diagram shows that majority of children were cared by their mother herself (320; 72.73%) followed by their grandfather/ mother (86; 19.54%) and then by others like sister/brother (16; 3.64%).

Table 2: Distribution of the children by the pattern of first food intake by the child (n=440)

Name of the food	Frequency	%
Colostrum	383	87.05
Honey	24	5.45
Sugar mixed water	18	4.09
Water	4	0.91
Others	11	2.50
Total	440	100

Table 2 shows that majority of the children took colostrum (383; 87.05%) as their first food just after birth followed by honey (24; 5.45%) and sugar mixed water (18; 4.09%).

Table 3: Distribution of the respondents by feeding of colostrum to their baby (n=440)

Feeding of colostrum	Frequency	%
Yes	393	89.32
No	47	10.68
Total	440	100

Table 3 shows that most of the respondents fed colostrum to their baby (393; 89.32%) but only (47; 10.68%) did not feed.

Table 4: Distribution of the respondents by the reason for which they did not give colostrum (n=47).

Reason	Frequency	%
Colostrum is bad for newborn	2	4.26
Does not know the importance of colostrum	9	19.15
Religious taboo	2	4.26
As advised by the elders	12	25.53
Others (Inadequate breast milk, Working mother, Sickness of mother)	22	46.80
Total	47	100

Majority of the children were not given colostrum due to other causes like inadequate breast milk, working mother, sickness of mother (22; 46.80%) followed by advised by the elders (12; 25.53%). (Table-4)

Table 5: Distribution of the children by their present food habit

Name of the food	Frequency
Only breast milk	74
Artificial milk	88
Cow's milk	102
Breast milk and artificial milk	110
Breast milk and cow's milk	104
Barley or suji	130
Khichuri	227
Rice	271
Egg/Fish/Meat	261
Fruits	177
Others	11

[*Multiple response]

Regarding Children's present food habit Table 5 shows that most of the children had the habit of eating rice (271) followed by egg/fish/meat (261) and then khichuri (227).

Table 6: Distribution of the children by their duration of exclusive breast feeding (n=440).

Duration (month)	Frequency	%
≤6	302	68.64
7 -12	110	25
13-24	21	4.77
≥25	7	1.59
Total	440	100

Regarding duration of exclusive breast feeding, majority of the children were only breast fed up to age of ≤6 months (302; 68.64%) followed by age of 7-12 months (110; 25%).(Table-6)

Table 7: Distribution of the respondents by up to which age they fed breast milk to their baby (n=440).

Time (month)	Frequency	%
≤6	99	22.50
7 -12	86	19.55
13 -24	164	37.27
25 -36	82	18.63
≥37	9	2.05
Total	440	100

Table - 7 shows that majority of the children were breast fed up to age of 13-24 months (164; 37.27%) followed by age of ≤6 months (99; 22.50%) and then 7-12 months (86; 19.55%).

Table 8: Distribution of the children by their vaccination status (n=440).

Vaccination status	Frequency	%
Yes	409	92.95
No	31	7.05
Total	440	100

Table - 8 shows that most of the children were vaccinated (409; 92.95%) and only (31; 7.05%) were not.

Table 9: Distribution of the children by the cause of not giving vaccines (n=31)

Causes	Frequency	%
Don't know the immunization schedule	10	32.26
Vaccination Centre not nearby	11	35.48
Religious taboos	00	00.00
Others	10	32.26
Total	31	100.00

Table -9 shows that majority of the children were not vaccinated because the vaccination center was not nearby (11; 35.48%) followed by they didn't know the immunization schedule (10; 32.26%)

Table 10: Distribution of children by any kind of illness in last 3 months (n=440)

Any kind of illness in last 3 months	Frequency	%
Yes	283	64.32
No	157	35.68
Total	440	100.00

Majority of the children (283; 64.32%) suffered from disease in last 3 months and only (157; 35.68%) did not. (Table - 10)

Table 11: Distribution of children by taking treatment for their illness (n=283)

Taking treatment for their illness	Frequency	%
Yes	225	79.51
No	58	20.49
Total	283	100.00

Majority of the children (225; 79.51%) took treatment for their illness and only (58; 20.49%) did not. (Table 11)

Table 12: Distribution of children by the place of taking treatment (n=225)

Place of taking treatment	Frequency	%
Medical College Hospital	16	7.11
Health Centre	38	16.89
Private Doctor	76	33.78
Quack	83	36.89
Others	12	5.33
Total	225	100.00

Table - 12 shows that majority of the children took treatment from quack (83; 36.89%) then followed by private doctor (76; 33.78%).

Discussion:

Adequate nutrition during infancy and early childhood is essential to ensure the growth, health, and development of children to their full potential.[8] The first year of an infant's life is the period of most rapid growth and an important nutrition transition, when infants are given various types of complementary foods along with breast milk. The present study was done with a view to detect the breastfeeding practices & awareness regarding usefulness of it among the mothers of a selected village in Ramu, Cox's Bazar in Bangladesh. The majority of the respondents (72.05%) were in 16-25 age groups. Most of the respondents in our study were Muslim (94.09%) followed by Hindu (5.91%). As per Bangladesh bureau of statistics majority of the people of Bangladesh are Muslim (89.35%). In our study 40% respondents had completed their secondary level of education followed by 36.14% had completed their primary level of education and 10.91% were found illiterate. Another study shows that, mothers in the rural and urban region of Bangladesh 15% were illiterate, 44% were primary passed, 29% secondary passed, 10% were under graduate and 2% were above graduate respectively.[9] In this study most of the respondents (63.64%) were housewives followed by garments worker (32.05%) and 4.31% respondents were engaged with other occupation. The maximum monthly income of family was Tk 100000 whereas majority of the respondents (56.59%) had monthly family income ranging from Tk 5001-15000 followed by Tk 15001-25000 (29.54%). In south west region of Bangladesh, 60% of pregnant women had family income Tk <5000, 20% had family income in Tk 5000-8000 range and 13.25% had family income in Tk 8000-10000 range while only 6% had family income Tk >10000', which differs from our study. Our study showed almost all the respondents (95%) had l-3 children and remaining had 4-6 children. Average number of family member was 4 but as per Bangladesh bureau of statistics, population and housing census 2011, average family size in rural Bangladesh was 4.35.[10] Regarding the place of child birth, most of the respondents had their delivery at home (54.77%) followed by hospital (44.09%) and majority of children were cared by their mother herself (72.73%). The majority of births in rural Bangladesh are carried out in unhygienic conditions by relatives and traditional birth attendants (TBAs). High incidence of maternal and infant mortality of Bangladesh that could be reduced if childbirth took place in health centers or under the supervision of trained TBAs.[11] As per EPI fact sheet 2013, only 31% delivery was conducted by skilled birth attendance.[12] We found that majority of the children took colostrum (383; 87.05%) as their first food just after birth followed by honey (24; 5.45%) and sugar mixed water (18; 4.09%). A descriptive cross-sectional study was conducted by Khatun M et al [13] among mothers with infant of high socioeconomic group, the residents of Sobhanbag government colony & Panthopath Green road residential area and low socioeconomic group slum area of Rayer bazar, Dhaka from October 2007 to May 2008 and they found Breast milk as the first food to their babies was given by 71.2% mothers of high & 65.4% of low socioeconomic group. Our study showed that most of the respondents fed colostrum to their baby (393; 89.32%) but only (47; 10.68%) did not feed. Similar was found among Garo mothers done by Uddin MB[14] in Netrokona Distict Bangladesh and found 80% of Garo mothers and 89.4% of Non Garo mothers gave colostrums to their babies. Zewde GT[15] found overall good attitude towards colostrum feeding among postnatal mothers was 89 % (271) in Ethiopia. The overall prevalence of good practice of colostrum feeding among lactating women was 56.2% in Ethiopia study done by Tadese M[16]. A cross sectional observational study done by Islam MS[17] among mothers having child aged between 0-6months of age in rural area of Bangladesh and found majority (63%) of the mothers had given colostrum to their child. Wassie AY[18] found positive attitude 239 (69.9%) towards colostrum feeding among mothers having child aged between 0-6months of age in a rural Nawabgonj Upazila, Dhaka district. Regarding duration of exclusive breast feeding, majority of the children were only breast fed up to age of ≤6 months (302; 68.64%) followed by age of 7-12 months (110; 25%). A cross-sectional study done by Sultana M et al [19] included 397 mothers having infants aged 0–6 months who sought care at Noakhali Sadar Upazila, Noakhali, Bangladesh. They found the mothers had an overall favorable attitude towards exclusive breastfeeding; however, 38.3% of mothers did not exclusively breastfeed their children. In Syrian

refugees in Lebanon a study done by Daher S[20] among the mothers of children (6–24 months) showed that EBF for four (49.6%), and six (36%) months. Iqbal A[21] conducted a study among women of reproductive age (15-49 years), working in Readymade Garment sector, with children aged 6-23 months in Dhaka, Bangladesh found majority knew about exclusive breastfeeding (EBF) (76%), duration to continue breastfeeding (73%). Regarding up to which age they fed breast milk to their baby, we found majority of the children were breast fed up to age of 13-24 months (164; 37.27%) followed by age of ≤6 months (99; 22.50%) and then 7-12 months (86; 19.55%). A study conducted by Sharmin A et al [22] at Ad-din shisu Hospital in Jashore, Bangladesh during a period of 5 months starting from July 2018 to November 2018, they found around 46.9% mothers practiced early initiation of breastfeeding and they offered breast milk to their newborn right away (within one hour) after delivery. A systematic review of peer-reviewed literature was performed by Dukuzumuremyi JPC et al [23] and found that mothers had practiced exclusive breastfeeding for at least six months. Karim M et al [24] found out of 320 respondents about 137(42.8%) of the responding mothers continued breast feeding to their babies for 9-12 months among the villagers of selected villages at Dhamrai upazilla health complex in 2011. Our study showed almost all the children were vaccinated (92.95%) and majority of them completed their vaccination schedule (69.19%). As per EPI fact sheet Bangladesh 2013 out of 64 districts, all districts had >80% coverage for DPT-Hib-HepB3 and 33 (52%) districts had > 90% coverage for MCV1 (measles containing vaccine 1st dose).[25] The reasons for not giving vaccines are vaccination centers were not nearby (48%) and didn't know the immunization schedule (32.26%). About 64% children suffered from disease in last three months, among them 79% children got treatment for their illness but majority of their guardian took treatment from quack.

Conclusion:

This cross sectional study describes infant feeding practice among the mothers in a selected area in Bangladesh. In this study we also observed that colostrum was the first food given to the children just after birth. Regarding immunization, introduction of vaccination was good. In case of few children, there was incomplete vaccination which is a great concern regarding the health of the children. The present food habit of the children in the study area was comparatively well. Most of the children were suffering from different kinds of illness such as fever, common cold, flue etc. and most of the mothers sought treatment from private & non registered doctors. According to the findings of this study the children in this semi urban area were deprived from cleanliness, immunization and proper treatment due to their ignorance, lack of education, religious taboos and socio-economic barriers.

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A Study on the Socio-demographic Profile of the Victims of Sexual Offences: A Retrospective Study

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Abstract:

Introduction: *Rape is one of the brutal sexual offences in Bangladesh. Despite of strong laws against it, the evil of rape continues to rise. Increasing trend of the cruel sexual offence (rape) represents a major psychopath sexual disorder and public health problem of the country.*

Objective: *The study aimed to assess the social and demographic factors of sexual offence cases brought for medical examination to indentify the high risk population.*

Materials & Methods: *The study tried to evaluate the different aspects of profile of victims of rape cases. This retrospective study was carried out on 200 sexually assailed alleged rape victims report forms, that was reported at Sylhet MAG Osmani Medical College, Bangladesh from 2015 to 2017 for medical examination.*

Results: *Among the study subjects, maximum number (70%) of alleged rape cases were under the age of 20 years. Getting sexual gratification was the main motive in the most cases (70%), other motives were forceful marriage (10%), defamation (3%) etc. Unmarried girls (65%), low socio economic group (82%), illiterate females (80%) were the main victim of rape cases. Two-third (64%) of the assailants were known to the victims. Most of the incidents (65%) occurred in the victim's houses and nearby places.*

Conclusion: *The present study shows that instances of sexual offence were higher in younger age females especially among those who belong to lower socioeconomic status and in majority of these cases, type of sexual activity was consensual. Hence, formal education regarding legal implication associated with such sexual acts will go a long way in preventing their occurrence.*

Key words: *Sexual offence, Rape, Victim, Assailant.*

(MH Samorita Med Coll J 2022; 5(1): 21-23)

Introduction:

Rape is prevailing in Bangladesh with an alarming condition. It is the most common and vicious form of violence against women in Bangladesh[1]. According to Ain o Salish Kendra (ASK) total 527 incidents of rape and attempt to rape was documented between January and September 2014 in Bangladesh. Among these only 291 cases were filed, 43 victims died after rape & 11 other committed suicide.[2]

Rape is among the highest forms of crime experienced by women in all sectors in the society. The genesis of crime can be traced to the interplay of various social, economic, demographic, local & institutional factors. They in together influence education, employment, parenting/family relationship, societal cohesiveness, emotional stability, mental health, anonymity, criminal orientation, residential stability, leisure etc, which in turn influences the nature, pattern, frequency and volume of crime.[3]No age is safe from rape, as children of one year or less and old women of 85 years have been reported.[4]In 2013 a total number of

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Received: 27th July 2021 **Accepted:** 13th November 2021

814 females were raped, among them 452 were children below the age of 16 and 127 were victims of gang rape.[5]In Bangladesh 1479 women had been raped in six months during January 2009 to June of 2009.[6]

The aim of the study was to assess the social and demographic factor of sexual offence cases brought for medical examination to identify the high risk population.

Materials & Methods:

A retrospective study was carried out in the Department of Forensic Medicine & Toxicology,at Sylhet MAG Osmani Medical College, from July 2015 to July 2017. The study was based on the records of rape victims who were brought for Medico legal examination in the department. The details regarding age, socio-economic status, marital status, place of incidence and relationship with the assailant were noted. The data were entered in the predesigned data sheet, tabulated and then statistically analyzed.

Results:

A total of 200 victims were examined in the study period. According to age, majority of the accused (70%) belonged to the age group of <20 years. (Table 1)

Table 1: Age group of the victims (n=200)

Age group (in years)	Number of victims	Percentage
(0-10)	20	10.0
(11-20)	120	60.0
(21-30)	40	20.0
More than 30	20	10.0

Table- 2 reveals that majority of the victim (65%) were unmarried.

Table 2: Marital status (n=200)

Marital status	Number of victims	Percentage
Unmarried	130	65.0
Married	10	5.0
Divorce	30	15.0
Widow	30	15.0

Two third of assailants (64%) were known to the victims (Table 3)

Table 3: Pattern of Assailants (n=200)

Known	Number of assailant	Percentage
Acquaintance	40	20.0
Relatives	20	10.0
Neighbors	20	10.0
Boy friend	48	24.0
Unknown	**Number of assailants**	**Percentage**
Strangers	52	26.0
Others	20	10.0

The place of incidence of offences was highest in the victim's house and nearby places (Table-4)

Table 4:Place Of Occurrence (n=200)

Place of Occurrence	Number of victims	Percentage
Victim's house and nearby places	130	65.0
Relatives house	24	12.0
Assailant's house	26	13.0
Other places	20	10.0

Most of the victims (82%) belonged to the lower socioeconomic status (Table 5)

Table 5: Socio economic status (n=200)

Socio economic status	Number of victims	Parentage
Lower Class	164	82.0
Middle Class	32	16.0
Higher Class	4	2.0

Total 6: Level of education of the victims (n=200)

Level of Education	No of victims	Percentage
Illiterate	160	80.0
Primary education	28	14.0
Secondary education	8	4.0
Higher secondary and above	4	2.0

Table 6 depicts that majority of the victims (80%) were illiterate.

Discussion:

In this study majority of the victims of alleged rape cases were below the age of 20 years who were children and young women. Similar findings were observed by Sarker et al [7] and Hossain et al[8] ,where they reported that most of the victims were young below the age of 20 years. This result is bit higher than that of report of Odhikar[5] where they stated that 55% of the rape victims were below the age of 16 in 2013.[8]

In the study about two-third (64%) of the assailants were known to the victims. They were either acquaintance, friends, neighbors, relatives and others. This finding is in line with that of the studies conducted by growing up safe & Healthy (SAFE) Project[9] ,Islam et al[10] and Al Azad et al[11].

The study also revealed that highest number of incidence occurred either at victim's house or nearby places and similar scenario was revealed in study by SAFE.[9] But Sarker et al reported little bit lower rate (more than 41%) in this issue.[10]

In this present study most of the rape victims were from lower socio economic status (80%) and they were illiterate (80%).

Accusation of rape is easy to be made, very hard to prove and harder to disprove. Young women and children are the most vulnerable group for sexual offence, maximum being under the age of 20 years.

Conclusion:

The present study shows that instances of sexual offence are higher in younger age females especially among those who belong to lower socioeconomic status. In the majority of these cases, the type of sexual activity is consensual with the known person. Since less of the victims had completed or were pursuing their secondary/higher secondary education, formal education concerning legal nuances associated with such consensual sexual acts should be imparted to reduce their incidence. There is a need for further studies with a bigger sample size so that the high risk population can be identified and educated effectively.

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Cyanide Poisoning: A Brief Review

Hossain MI[1], Bhuiyan NNM[2]

Abstract:

Cyanide, a widely used toxic chemical in the local industries of Bangladesh, is known to be released without proper treatment into natural water bodies- the main source of usable water supply. It is known to cause toxicity by both oral and epidermal exposure. However, the contamination has not been quantified yet. Cyanide intoxication is one of the most dangerous poisonings and may occur by oral, respiratory and dermal routes. Central nervous system is the most susceptible region to acute cyanide intoxication. Cyanide toxicity and their environmental impact are well known. Nevertheless, they are still used in the mining, galvanic and chemical industries. As a result of industrial activities, cyanides are released in various forms to all elements of the environment. In a natural environment, cyanide exists as cyanogenic glycosides in plants seeds. Too much consumption can cause unpleasant side effects. However, environmental tobacco smoke (ETS) is the most common source of cyanide. Live organisms have the ability to convert cyanide into less toxic compounds excreted with physiological fluids. The aim of this paper is to review the current state of knowledge on the behaviour of cyanide in the environment and its impact on the health and human life.

Key words: Cyanogenic, Hydroxycobalamin, Spectrophotometric, Encephalitis, Children, Cyanide toxicity

(MH Samorita Med Coll J 2022; 5(1): 24-28)

Introduction:

Cyanide is one of the most rapidly acting poisons. Cyanide intoxications are the most dangerous poisonings and may occur by oral, respiratory and dermal routes. Oral cyanide poisoning occurs after ingestion of various foods containing cyanogenic glycosides [1]. Cyanide derivatives that present naturally are bitter almond and apricot seed, cherry seed and leaf, daphne tree, have many usage fields with chemical compounds like hydrogen cyanide, potassium cyanide, sodium cyanide, mercury cyanide, zinc cyanide, silver cyanide, magnesium cyanide, potassium nitroprusside, potassium thiocyanide [2]. Cyanide is toxic in humans, animals, and fish and exposure can occur in various ways. Many substances are potential sources of cyanide exposure including edible and nonedible plants, industrial operations, fires, and cigarette smoke. Although the primary natural source of cyanide poisoning is from plants[3-9], other natural sources include volcanoes, bacteria, and fungi[3]. To determine and check if the concentration of cyanide in different water sources of the capital city Dhaka, has crossed the WHO toxicity limit (70 µg/L), an environmental survey was done in Dhaka city. Dhaka was divided into 4 area groups (suburban, industrial, commercial and residential) with randomly selected 2 locations in each group. Three types of water samples were collected from each location (tap water, tube well water and river/lake water) and an environmental survey was done for all 8 locations analyzing mainly the population, industrial density and the type of pollution present. Collected samples were pre-treated and distilled to remove interfering

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Received: 16th August 2021 **Accepted:** 28th November 2021

compounds and analyzed within 24 hours of collection following EPA guidelines. Analysis was done using both titration and UV spectrophotometric method. Results using titration methods were not viable since concentration of cyanide did not exceed 100 µg/L and hence they were discarded. Results of environmental survey showed pollution in alarming levels in the industrial and suburban areas which had the maximum number of factories. Industrial areas had the highest contaminated water supply compared to the other area groups showing a proportionality with the amount of pollution. Surprisingly, the tube well water sample (26.4 µg/L) and lake water sample (45.1 µg/L) from a residential area showed significantly high contamination despite having no factories in that location. Laboratory analysis of water samples showed natural water source (Cmax=81 µg/L) was contaminated with cyanide more than tap water (Cmax=20.8 µg/L) or tube well water (Cmax=26.4 µg/L) [10].

Source

Cyanides present naturally as sodium and potassium cyanide, in gas form they present as hydrogen cyanide [2]. Particularly some plants like apple, apricot and peach' seeds and cores contains important degree more amounts cyanogen glycosides [11]. With aspect to cyanide, shock and so death can be seen in minutes [2]. Amygdaline (D-mandelonitrile-B-D-glucoside) is a cyanogenic compound in apricot core. If cores of apricot are swallowed completely cyanide release lesser; but if eaten with chewing, toxicity becomes more due to emulsion release from lysosomes. Apricots' cores are more toxic due to including excess cyanogen amount and can release hydrogen cyanide easily [12]. Because of cyanide aspect to humans or animals by any route, releasing cyanide ion quickly binds to proteins and iron containing enzymes and causes loss of their functions. Cyanide causes enzyme inhibition with binding metallic cofactor of metalloenzymes [2].

Aetiology

Cyanide poisoning may result from a variety of exposures, including structural fires, industrial exposures, medical exposures such as sodium nitroprusside, and certain foods. In many countries, the most common cause of cyanide poisoning is domestic fires. Cyanide also is used in a number of industrial applications such as electroplating injury production, photography, plastics and rubber manufacturing, and pesticides. Sodium nitroprusside, a medication used to treat a hypertensive emergency, contains five cyanide groups per molecule. Toxic levels of cyanide may be present in patients who receive prolonged infusions of sodium nitroprusside.

Epidemiology

According to the Toxic Exposure Surveillance System, there were 3165 human exposures to cyanide from 1993 to 2002. Of that number, only 2.5% were fatal. Fire is the most common source of cyanide exposure in industrialized countries such as the United States. Approximately 35% of all fire victims will have toxic levels of cyanide in their blood on presentation for medical treatment. According to the National Poison Data System of a Poison Control Centers annual report, there were 247 reported cases of chemical exposures to cyanide in the United States in 2007, five of which were fatal[13-15].

Pathophysiology

Intravenous and inhalation of cyanide produce a more rapid onset of signs and symptoms than exposure via the oral or transdermal route. This is due to the first two routes providing fast diffusion into the bloodstream. The toxicity of cyanide is linked mainly to the cessation of aerobic cell metabolism. Cyanide reversibly binds to the ferric ions cytochrome oxidase three within the mitochondria. This effectively halts cellular respiration by blocking the reduction of oxygen to water.Cyanide's main effect is that it inhibits oxidative phosphorylation, a process where oxygen is utilized for the production of essential cellular energy sources in the form of ATP. It does so by binding to the enzyme cytochrome C oxidase and blocks the mitochondrial transport chain. After that, cellular hypoxia and the depletion of ATP occur, leading to metabolic acidosis. The utilization of oxygen by the tissue occurs and is followed by the impairment of vital functions[16-17]

Toxicokinetics

Cyanide absorbs quickly through the respiratory tract and mucous membranes as well as the gastrointestinal tract and skin. Signs and symptoms begin at blood cyanide concentrations of approximately 40 mol/L. In vivo, cyanide

metabolism and neutralization involve a number of mechanisms. The most important of these is the detoxification of cyanide via rhodanese, an enzyme found abundantly in many tissues but in the liver and muscle particularly. Thiosulfate serves as a sulfur donor in the reaction catalyzed by rhodanese that converts cyanide to thiocyanate, a water-soluble molecule excreted in the urine.

History & Physical Abnormality

The patient can present with symptoms as quickly as one minute after inhalation and within a few minutes of cyanide ingestion. If the hydrogen cyanide was inhaled, the victim might detect a bitter, almond odor, which is discernible by approximately 60% of the population. The clinical manifestations can be divided into early and late categories. Some early central nervous system findings are headache, dizziness, confusion, and mydriasis. These are due to tissue hypoxia, and seizures and coma can develop as it progresses to an altered level of consciousness. Early respiratory and cardiovascular findings include tachypnea and tachycardia, while late findings include apnea, hypotension, and cardiac arrhythmia. Hypotension and bradycardia are common in cyanide poisoning. It is important to note that a patient's skin can be a normal or slightly ashen appearance despite tissue hypoxia. Patients with cyanide poisoning will not be cyanotic but will have a cherry red color due to excess oxygen in the bloodstream. Central nervous system is most susceptible region to acute cyanide intoxication and death can be seen due to respiratuary control center inhibition [2].

Evaluation

Labs that are pertinent to the initial evaluation in a patient with cyanide poisoning are complete blood count, electrolytes, urinalysis, urine tox screen, arterial blood gas, carboxyhemoglobin level (if in a fire), chest x-ray, and EKG. Plasma lactate also may be obtained, and a level greater than eight mmol/L is 94% sensitive and 70% specific for significant cyanide toxicity. All patients presenting from a structural fire are to be presumed to have cyanide toxicity. Also, consider obtaining acetaminophen and salicylate levels to rule out co-ingestions. An increased anion gap metabolic acidosis is expected in patients with cyanide poisoning. It is also advisable to get a carboxyhemoglobin level in patients where this is a concern, such as fire or smoke inhalation victims. Cyanide concentration levels may be obtained; however, the results are not available in time to be clinically useful. The results of direct testing are often unreliable because proper storage and prompt blood draws are needed. Given this fact, the clinician must rely on the presenting symptoms and the general clinical status of the patient[18-20].

Differential Diagnosis

The number one differential diagnosis is probably carbon monoxide inhalation. Patients with only carbon monoxide poisoning will improve when removed from the smoke-filled area and placed on 100% oxygen. Seizures are common in cyanide poisoning but are rare in carbon monoxide poisoning. Also, carbon monoxide does not affect the pupils, but cyanide poisoning causes pupillary dilation.

Tricyclic antidepressants, isoniazid, organophosphates, and salicylates also are possible ingestions to consider when a patient presents with altered mental status, seizures, hypotension, and lactic acidosis.

Management

Given the profound effects of cyanide toxicity, the provider must prepare to stabilize the patient's airway, breathing, and circulation. Of note, mouth-to-mouth resuscitation is contraindicated in cyanide poisoning because of the risk to the provider of CPR.[21-22]

Decontamination is a vital part of the management of a patient with cyanide exposure through topical and inhalation routes. They must be removed from the source and have their clothing removed and discarded appropriately. Gastrointestinal decontamination must be administered quickly. Although lab studies have demonstrated that activated charcoal binds poorly to cyanide, animal studies report decreased mortality when subjects were given activated charcoal. It is suggested that a single dose of activated charcoal of 50g in adults and 1 g/kg, up to a maximum of 50 g in children, be given. Antidotes for cyanide poisoning must be given immediately if no contraindications are present. Hydroxycobalamin is the antidote of choice for acute cyanide poisoning, especially if the patient has coexisting carbon monoxide poisoning. Other antidotes impair oxygen-carrying capacity and

worsen cellular hypoxia and acidosis. The standard dose is 5 grams given intravenously over 15 minutes. Be aware that this antidote turns urine dark red; this is not due to myoglobinuria. A cyanide antidote kit may be used in place of hydroxocobalamin if it is not available. The kit that is currently available contains sodium nitrite and sodium thiosulfate. Sodium nitrite 300 mg ampule or 10 mg/kg given I/V for 3 to 5 minutes in adults. The paediatric dose is 0.2 mL/kg, not to exceed 10 mL in paediatric patients. The dose of sodium thiosulfate is one ampoule or 12.5 grams in 50 mL, given intravenously for 30 minutes in adults. The dose for paediatric patients is 7 g/m^2 and not to exceed 12.5 grams. Hyperbaric oxygen treatment remains controversial due to inconsistent findings in the literature overall. Two animal studies did show some improvement in hyperbaric oxygen in addition to antidote therapy.

Complication:

Because early treatment is so important in cyanide toxicity, the most obvious pitfall would be not making the diagnosis early in the course. Some complications that survivors of severe cyanide poisoning may encounter are Parkinson or other forms of neurological sequelae. The basal ganglia are particularly sensitive to cyanide toxicity. Chronic cyanide exposure can lead to vague symptoms such as a headache, abnormal taste, vomiting, chest pain, and anxiety.

Deterrence & Patient Education

- Homes should be fitted with smoke alarms.
- A workplace should educate the worker on cyanide toxicity and prevention.

Enhancing Healthcare Team Outcomes

The key to managing cyanide toxicity is patient education. Healthcare workers that include nurses, pharmacists, and physicians, need to educate the public about the dangers of cyanide in the workplace. Cyanide can even be absorbed through the skin; hence people who work with cyanide-related chemicals must wear appropriate garments and protective inhalational devices. The public should also be educated on buying cyanide-containing anticancer and anti-HIV treatments sold over the internet. The public should be asked to speak to their health care provider before purchasing such products. Finally, all patients exposed to cyanide should follow up with their healthcare provider to ensure they have not developed any residual neuropsychiatric sequelae. In addition, patients treated with hydroxocobalamin should avoid sun exposure to prevent photosensitivity[21.]

Outcomes:

The outcomes after cyanide poisoning depend on the concentration. Those with mild exposure and few symptoms usually have a good prognosis, but those with severe exposure usually have a poor outcome. People who intentionally take large doses usually have a poor outcome. Patients who are removed from the exposure and treated immediately tend to have a good outcome. Following intravenous administration, cyanide can result in a fatality within seconds or minutes, compared to a few hours after oral ingestion. Even individuals who survive may have signs of anoxic encephalopathy. Anecdotal reports indicate that movement disorders and neuropsychiatric symptoms are not uncommon[23-24]

Conclusion:

Cyanide is a deadly xenobiotic. Ingestion can lead to a high body burden of cyanide, severe symptoms, and unique toxicodynamics. Many more deaths occur as a result of ingested cyanide compared to other routes of exposure. While many of these deaths are a result of self-harm, cyanide remains a high-risk chemical threat agent[25]. It is readily available, easy to use, and highly lethal making it an ideal chemical weapon. The development of new therapies with clinically relevant animal models specific to oral cyanide should focus on addressing the unique toxicodynamic profile of this route of administration. The development of easily administered and highly effective antidotes for oral cyanide that can be used in a mass casualty setting is important.

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Hand-Foot-and-Mouth Disease (HFMD): An Emerging Infectious Disease

Haque GMI

Abstract:

Hand, foot, and mouth disease (HFMD) is a common infection caused by a group of enteroviruses. It typically begins with a fever and feeling generally unwell. This is followed by flat discolored spots or bumps that may blister, on the hands, feet and mouth and occasionally buttocks and groin. Signs and symptoms normally appear 3–6 days after exposure to the virus. The rash generally resolves on its own in about a week. Fingernail and toenail loss may occur a few weeks later, but they will regrow with time. The viruses that cause HFMD are spread through close personal contact, through the air from coughing and the feces of an infected person. Contaminated objects can also spread the disease. Coxsackie virus A16 is the most common cause, and enterovirus 71 is the second-most common cause. Diagnosis can often be made based on symptoms. Occasionally, a throat or stool sample may be tested for the virus. Most people with hand, foot, and mouth disease get better on their own in 7 to 10 days. Most cases require no specific treatment. No antiviral medication or vaccine is available, but development efforts are underway. For fever and for painful mouth sores, over-the-counter pain medications such as ibuprofen may be used, though aspirin should be avoided in children.The illness is usually not serious. Occasionally, intravenous fluids are given to children who are dehydrated. Very rarely, viral meningitis or encephalitis may complicate the disease. HFMD occurs in all areas of the world. Large outbreaks have been occurring in Asia since 1997. It usually occurs during the spring, summer and fall months.Typically it occurs in children less than five years old but can occasionally occur in adults.

Key words: *Hand Foot and Mouth Disease, Enterovirus, Painful Mouth Sore, Ibuprofen, Meningitis, Encephalitis.*

(MH Samorita Med Coll J 2022; 5(1): 29-33)

Introduction:

Hand-foot-mouth disease (HFMD) is a common viral illness that commonly affects children younger than 5 years.[1] It is highly contagious and the clinical manifestations include mild fever with a characteristic vesicular eruption on the hands, feet, buttock and oral cavity. It is characterized by a brief febrile illness in children and typical skin rash, with or without mouth ulcers. Typically, the rash is papulovesicular and affects the palms or soles of the feet, or both. In some cases the rash may be maculopapular without vesicles, and may also involve the buttocks, knees or elbows, particularly in younger children and infants.[2]

Etiology:

The major etiological agents that cause HFMD are the human enteroviruses species A (HEV-A), particularly coxsackie virus A16 (CA16) and enterovirus 71 (EV71). These belong to the genus Enterovirus. Other HEV-Aserotypes, such as Coxsackie virus A6 and Coxsackie virus A10, are also associated with HFMD and herpangina. While all these viruses can cause mild disease in children, EV71 has been associated with neurological disease and mortality in large outbreaks in the Asia Pacific region over the last decade.[2,3] Entero viruses are non-enveloped, small RNA, single-stranded, positive- sense viruses in the picorna viridae family. The genus Enterovirus contains a large number of agents that produce a broad range of illnesses and the genus name reflects the importance of the gastrointestinal tract as the primary site of invasion, replication and the source of transmission.

HFMD occurs mainly by serotype of enterovirus most frequently Coxsackie

virus A16 (CAV16) and human enterovirus 71 (HEV71). Other serotypes causing outbreaks of HFMD

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Received: 3rd August 2021 **Accepted:** 1st November 2021

are coxsackie A viruses 5, 6, 7, 9, and 10 coxsackie B viruses 2 and 53. This disease was first reported in New Zealand in 1957 and then emerged in the Asia-Pacific region in mid-1990s.Outbreaks of HFMD in Malaysia occur periodically. In other Asian countries such as China, Taiwan, Singapore and Vietnam, outbreaks of this disease also occur, leading to a number of fatalities.[2]

Epidemiology:

- In 1997, an outbreak occurred in Sarawak of Malaysia with 600 cases and over 30 children died.[4]
- In 1998, there was an outbreak in Taiwan, affecting mainly children.[5] There were 405 severe complications, and 78 children died.[6] The total number of cases in that epidemic is estimated to have been 1.5 million.[7]
- In 2008, an outbreak in China, beginning in March in Fu yang, led to 25,000 infections, and 42 deaths, by May 13.[7] Similar outbreaks were reported in Singapore (more than 2,600 cases as of April 20, 2008).
- In 2009, 17 children died in an outbreak during March and April 2009 in China's eastern Shandong Province, and 18 children died in the neighboring Henan Province.[8] Out of 115,000 reported cases in China from January to April, 773 were severe and 50 were fatal.
- In 2010, in China, an outbreak occurred in southern China's Guangxi Autonomous Region as well as Guangdong, Henan, Hebei and Shandong provinces. Until March, 70,756 children were infected and 40 died from the disease. By June, the peak season for the disease, 537 had died.[9]
- In December 2011, the California Department of Public Health identified a strong form of the virus, coxsackie virus A6 (CVA6), where nail loss in children was common.[10]
- In 2012, in Alabama, United States there was an outbreak of an unusual type of the disease. It occurred in a season when it is not usually seen and affected teenagers and older adults. There were some hospitalizations due to the disease but no reported deaths.[11]
- HFMD infected 1,520,274 people with up to 431 deaths reported at the end of July in 2012 in China.[12]
- In 2018, more than 50,000 cases have occurred through a nationwide outbreak in Malaysia with two deaths also reported.[13]

Transmission:

HFMD is highly contagious and is transmitted by nasopharyngeal secretions such as saliva or nasal mucus, by direct contact, or by fecal–oral transmission. It is possible to be infectious for days to weeks after the symptoms have resolved.[14]

Child care settings are the most common places for HFMD to be contracted because of toilet training, diaper changes, and the fact that children often put their hands into their mouths. HFMD is contracted through nose and throat secretions such as saliva, sputum, nasal mucus and as well as fluid in blisters, and stool. [15]

Clinical features:

Common constitutional signs and symptoms of the HFMD include fever, nausea, vomiting, feeling tired, generalized discomfort, loss of appetite, and irritability in infants and toddlers. Skin lesions frequently develop in the form of a rash of flat discolored spots and bumps which may be followed by vesicular sores with blisters on palms of the hands, soles of the feet, buttocks, and sometimes on the lips.[16] The rash is rarely itchy for children, but can be extremely itchy for adults. Painful facial ulcers, blisters, or lesions may also develop in or around the nose or mouth.[17] HFMD usually resolves on its own after 7–10 days. Most cases of the disease are relatively harmless, but complications including encephalitis, meningitis, and paralysis that mimics the neurological symptoms of polio can occur.[18] HFMD caused by enterovirus 71 is frequently more severe than coxsackie virus A16 disease, with high rates of neurologic and cardiopulmonary involvement, including brainstem encephalomyelitis, neurogenic pulmonary edema, pulmonary hemorrhage, shock and rapid death, especially in young children.[19]

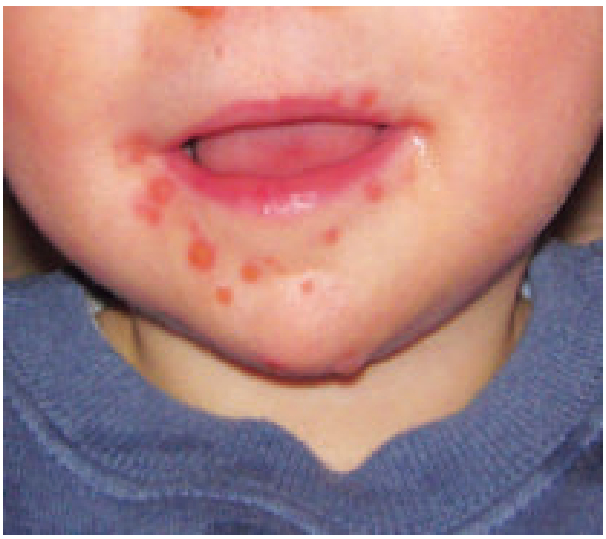

Fig.-:1 *Small reddish spots and bumps around mouth in HFMD*

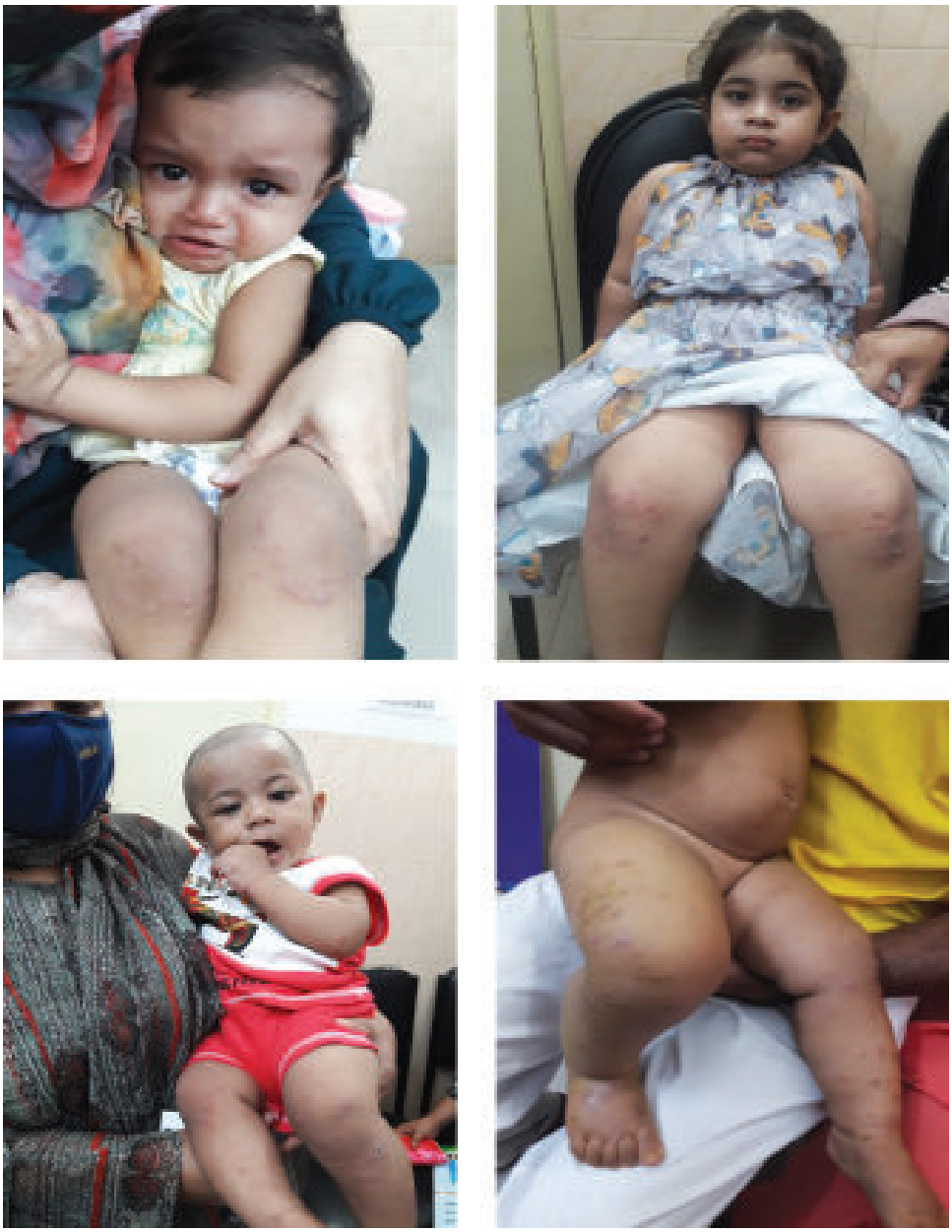

Fig.-2: *Rashes on hands and feet.*

Diagnosis:

Diagnosis is usually clinical and based on the patient's age, symptoms, and type and location of rash or sores. Generally, a doctor does not need a test to diagnose HFMD. Sometimes, he or she may take a throat swab or collect a sample of blister fluid or stool to test what kind of enterovirus is causing illness.

Differential Diagnosis :

The differential diagnoses for HFMD include herpetic gingivo stomatitis, aphthous stomatitis, scabies infestation, chickenpox (varicella), measles and rubella. In herpetic gingivo stomatitis, patients are usually febrile and look toxic. They may have gingival erythema, swelling or bleeding, and associated cervical lymphadenopathy. There may be circumoral ulcers or vesicles without extremity involvement. Aphthous stomatitisis characterized by larger, ulcerative lesions of the lips, tongue and buccal mucosa that are exquisitely painful. It most commonly affects older children and adults, can have multiple recurrences, and is generally not associated

with constitutional symptoms. Scabies infestation may sometimes be confused with HFMD because it also causes pustules, vesicles or nodular lesions over the hands and feet. An intense itch and inter digital space involvement are useful clinical clues to parasitic infestation. In contrast to HFMD, varicellar lesions are centrifugal in distribution and involve a larger skin area, including the scalp, but spare the palms and soles. The varicellar lesions heal by formation of crusts, while vesicles of HFMD resolve by reabsorption of vesicular fluid. Besides generalized maculopapular rash, children with a typical measles infection often present with cough, coryza and conjunctivitis, and koplik spots may be found on examination of the mouth. The skin rash in rubella has centripetal distribution and occipital lymphadenopathy.

Treatment:

Medications are usually not needed as hand, foot, and mouth disease is a self-limiting viral disease. Currently, there is no specific curative treatment for hand, foot and mouth disease. Disease management typically focuses on achieving symptomatic relief. Pain from the sores may be eased with the use of analgesic medications. Infection in older children, adolescents, and adults is typically mild and lasts approximately one week, but may occasionally run a longer course. Antipyretics can decrease body temperature.

A minority of individuals with hand, foot and mouth disease may require hospital admission due to complications such as inflammation of the brain, inflammation of the meninges, or acute flaccid paralysis. Non-neurologic complications such as inflammation of the heart, fluid in the lungs, or bleeding into the lungs may also occur.[20]

Prevention:

Preventive measures include avoiding direct contact with infected individuals (including keeping infected children home from school), proper cleaning of shared utensils, disinfecting contaminated surfaces, and proper hand hygiene.

Protective habits include hand washing and disinfecting surfaces in play areas. Breast-feeding has also shown to decrease rates of severe HFMD, though does not reduce the risk for the infection of the disease.[19]

Vaccine:

A vaccine known as the EV71 vaccine is available to prevent HFMD in China as of December 2015.[21]

Hand, Foot and Mouth Disease: Bangladesh Perspective

Though there is no national data on HFMD in Bangladesh, the number of patients are rising in trend for years. As there are some reports of fatality in complicated case of HFMD, so we should be in utmost awareness to deal with those patients.

Conclusion:

Hand, foot, and mouth disease (HFMD) is commonly seen in children and immune compromised adults. HFMD has been emerging as a common benign human childhood disease of self-limiting nature in the last few years. The incidence of this disease increases every year. Although in most of the cases, it is nonfatal, there are some reported cases of complications seen in HFMD patients. All physicians should be aware of the symptoms of this disease and possible complications.

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Griscelli Syndrome - A Case Report

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Abstract

Griscelli syndrome (GS) is a rare autosomal recessive immune deficiency disorder that presents with pigmentary dilution of the skin and hair, recurrent skin and pulmonary infections, neurologic problems, hypogammaglobulinemia, and variable cellular immunodeficiency. The commonest complication leading to mortality includes lymphohistiocytic proliferation in various organs, including the brain. We present a child with classic clinical features and confirmatory findings of clumped melanosomes on microscopy of hair shaft.

Key words: *Griscelli syndrome, Hemophagocytosis, Lymhohistiocytic proliferation.*

(MH Samorita Med Coll J 2022; 5(1): 34-36)

Introduction:

Griscelli syndrome (GS) is a rare autosomal recessive disorder that was first described by Griscelli and Siccardi for the first time in 1978[1]. Griscelli syndrome (GS) is multisystem disorder with three subtypes (GS1, GS2, GS3), based on genetic loci (Myosin VA, Ras related protein Rab-27A, melanophilin). GS1 presents with primarily neurologic impairment with no immunologic involvement while GS2 presents with immunological dysfunction and multisystem involvement, whereas GS3 have only hypomelanosis. GS2 is the most common among three types.[2] The neurological deficit that occurs in GS-2 seems to be secondary to the infiltration and proliferation of leukocytes in the brain. Prognosis of GS depends on the subtypes. There is no treatment for GS-1 and quality of life depends on the severity of neurological impairment. GS-3 does not require treatment. Patients with GS-2 succumb to illness due to the accelerated hemophagocytic syndrome phase secondary to immunological impairment unless an early bone marrow transplant (BMT) is performed.[2] Therefore, early recognition of GS-2 is critical.

Case Report:

Sayem 1 year and 10 month old male child 2nd issue of nonconsanguineous parents admitted with the complaints of gradual abdominal distension for last 6 months, fever for last 2 months and progressive pallor for last 2 months. Mother also complaints of regression of acquired skill for last 2 months as now he is unable to walk and talk which was previously acquired. His previous siblings was healthy and there was no history of any relatives affected by similar clinical presentation. On examination his vital parameters were normal. His growth anthropometry including weight and height were normal for age and sex. He had pallor, silvery grey scalp hair and eyebrows, (Figure 1). Abdomen was distended, with firm hepatomegaly. The spleen was palpable 4 cm

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Received: 17th August 2021 **Accepted:** 13th November 2021

below left costal margin and was firm in consistency. There was no free fluid. The skin, iris and retina had normal pigmentation. The neurological examination was remarkable as he could not sit or roll. His deep tendon reflexes were normal. Rest of the physical examination was unremarkable. The initial laboratory investigations showed anemia (Hb: 11.1, HCT: 33.4) and granulocyte count was lower than normal (n=2000), in peripheral blood smear microcytosis and anisocytosis was obvious. The ESR was about 5.

As regards to her granulocyte count, the immunoglobulin level was checked and IgG level was 234 mg/dl (normal range=400-1151 mg/dl) and IgA level was 42 mg/dl (normal range 40-220 mg/dl). In the laboratory evidence of hemophagocytosis; hypertriglyceridemia of 330 mg/dL (normal < 150 mg/dL), hypofibrinogenmia of 110 mg/dL (normal: 150–450) and hyperferritinemia of 1054 ng/ml (normal: 50–200) were noted. Bone marrow aspirates for the hemophagocytosis was not conclusive. MRI brain showed patchy areas of altered signal intensity in both cerebral hemispheres and left cerebellar hemisphere, with focal signal abnormalities in the right lentiform and left dentate nucleus, suggestive of lymphohistiocytic infiltration. A microscopic evaluation of the hair shaft revealed a typical pattern of presence of large clumps of pigment instead of small homogenous pigment granules as in normal hair (Figure 2).

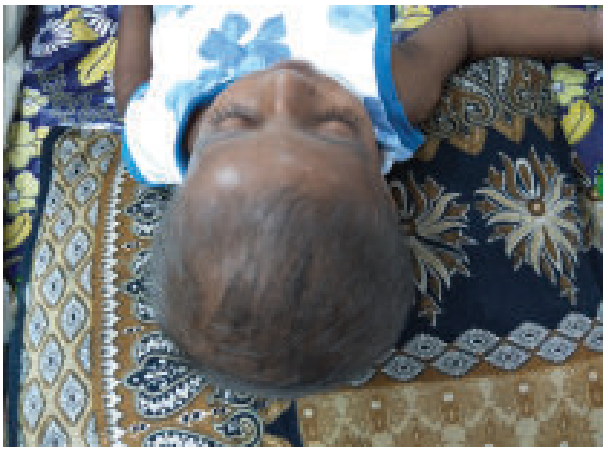

Fig.-1: *The photograph show the typical silvery grey hair in this child with Griscelli syndrome.*

Fig.-2: *Light microscopic view of patient's hair shaft showing large irregular clumps of pigment*

Discussion:

In our case, three differential diagnoses were considered: Elejalde syndrome, Chediak-Higashi, and GS-2 and regard to decreased IgG level and long lasting fever. GS-2 was confirmed for her and her treatment was started with IVIG (Intravenous Immunoglobulin). GS is a rare autosomal recessive disorder leading to pigmentary dilution of the skin and hair with the presentation of huge clumps of pigment granules in hair shafts that result in silver-grey hair along with variable cellular immunodeficiency with or without severe neurological defects.[3] Researchers have identified three types to this disorder, which are distinguished by their genetic causes and pattern of signs and symptoms. Three genes on 15q21 are responsible for GS manifestations[4]. Griscelli syndrome type 1 involves severe problems with brain function in addition to the distinctive skin and hair coloring. Affected individuals typically have delayed development, intellectual disability, seizures, and hypotonia. Another condition called Elejalde disease has many of the same signs and symptoms, and some researchers have proposed that Griscelli syndrome type 1 and Elejalde disease are actually the same disorder. Patients with Griscelli syndrome type 2 have immune system abnormalities in addition to having hypopigmented skin and hair. Affected individuals are prone to recurrent infections. They also develop an immune condition called hemophagocytic lymphohistiocytosis (HLH), in which the immune system produces too many activated immune cells called T-lymphocytes and macrophages (histiocytes). Overactivity of these cells can damage organs and tissues throughout the body, causing life-threatening

complications if the condition goes untreated. GS type 2 is related to RAB27A.[5] Unusually light skin and hair coloring are the only features of Griscelli syndrome type 3. People with this form of the disorder do not have neurological abnormalities or immune system problems.[1,6,7] The main differentiation between GS-1 and GS-2 is the primary or secondary central nervous system (CNS) involvement. The secondary CNS involvement in GS-2 is caused by the infiltration of lymphocytes and histiocytes as a result of hemophagocytic syndrome.[8] In our patient genetic test was not performed due to lack of financial resources. In addition, Griscelli syndrome diagnosis was confirmed by clinical manifestations and hair shaft microscopic evaluation. The hair microscopy finding together with the clinical and laboratory evidence of hemophagocytic syndrome with CNS involvement prompted us to the diagnosis of GS-2. A peripheral blood smear of our patient was negative in view of large inclusions nucleated blood cells that are seen in Chediak- Higashi. BMT is the only curative treatment of GS-2 but success rate is poor.[9] GS long-term prognosis is poor and in most cases, death happens in the first decade of life. There are a few reports of survival longer than a decade.[10]

Acknowledgements:

We would like to thank of the Parents of the child and Dr. Kaniz Fathema, Associate Professor, Pediatric Neurology, BSMMU for their kind cooperation.

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Dengue Fever with Pericardial Effusion: A Case Report

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Abstract:

Dengue Fever (DF) is one of the most common viral infections that is mosquito-borne and endemic in South, Southeast Asia, Central and Latin America and Africa. It has become a major public health concern as the disease proceeds to evolve with the majority, recently showing more haemorrhagic manifestations (DHF) and unusual complications further bringing forth challenges towards treatment.

One of the complications is pericardial effusion which is often under-diagnosed by putting more emphasis on Dengue Shock Syndrome (DSS).

Here we present a case of a 26 year old man, who presented with haemorrhagic pericardial effusion during the recovery phase of dengue fever, successfully treated with conservative treatment.

Keywords: *DF, DHF, DSS, pericarditis, pericardial effusion*

(MH Samorita Med Coll J 2022; 5(1): 37-40)

Introduction:

"Dengue is a viral infection posing an increasing public health challenge globally. As symptoms vary widely, from mild to severe, determining the true picture of infection is difficult (icddr,b)." The results in Bangladesh suggested that 24% of the population had at some point been infected with dengue, but infection rates varied from 3% in the north to more than 80% in Dhaka. It is characterised by flu-like symptoms, including headaches, muscle and joint pains, fever and rashes. However, recently it shows "atypical" symptoms affecting the brain, heart, and liver[1]. One of them is pericardial effusion, which may be under evaluated compared to DSS. This case report is intended to give an outlook on pericardial effusion with dengue haemorrhagic fever.

Case Report:

A 26-year-old male was brought to our emergency department with complaints of fever which was high grade and associated with chills and rigor. Fever would momentarily subside upon taking paracetamol. It was associated with generalized body ache, malaise and vomiting. On admission, he was moderately dehydrated, his temperature was 103^0F, his pulse was rapid at 110 bpm, blood pressure was 130/90 mmHg and respiratory rate was 18 breaths/min. On auscultation, breath sound was vesicular with no added sound, first and second heart sounds were normal with absence of murmur and rub. Initial investigations revealed Dengue NS-1 Antigen positive, Platelet count 13000/mm^3, SGPT at 116 U/I, CRP was positive at 46.96 mg/dl and Chest X-ray showed normal findings.

Symptomatic treatment was given, however there was a sharp drop in his Platelet count to 9000/mm^3 on the following day, for which he received platelet apheresis. Eltrombopag was added to his treatment.

He had gradually improved symptomatically, CRP was negative at <10 mg/dl and Platelet count was 210000/mm^3 then around the 7^{th} day, he was discharged, although to be readmitted again on the same night with sudden shortness of breath, cough and chest pain.

Chest pain was sharp, central, pleuritic in nature and accompanied with dry cough. On examination, the patient was dyspnoeic with tachycardia and low-grade fever. On auscultation, breath sound was vesicular with prolonged expiration with diffuse rhonchi and bilateral crepitations. Heart sounds were muffled with pericardial rub.

ECG revealed PR elevation and ST depression in aVR and PR depression and ST elevation in V3-V6.

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Received: 23rd August 2021 **Accepted:** 29th November 2021

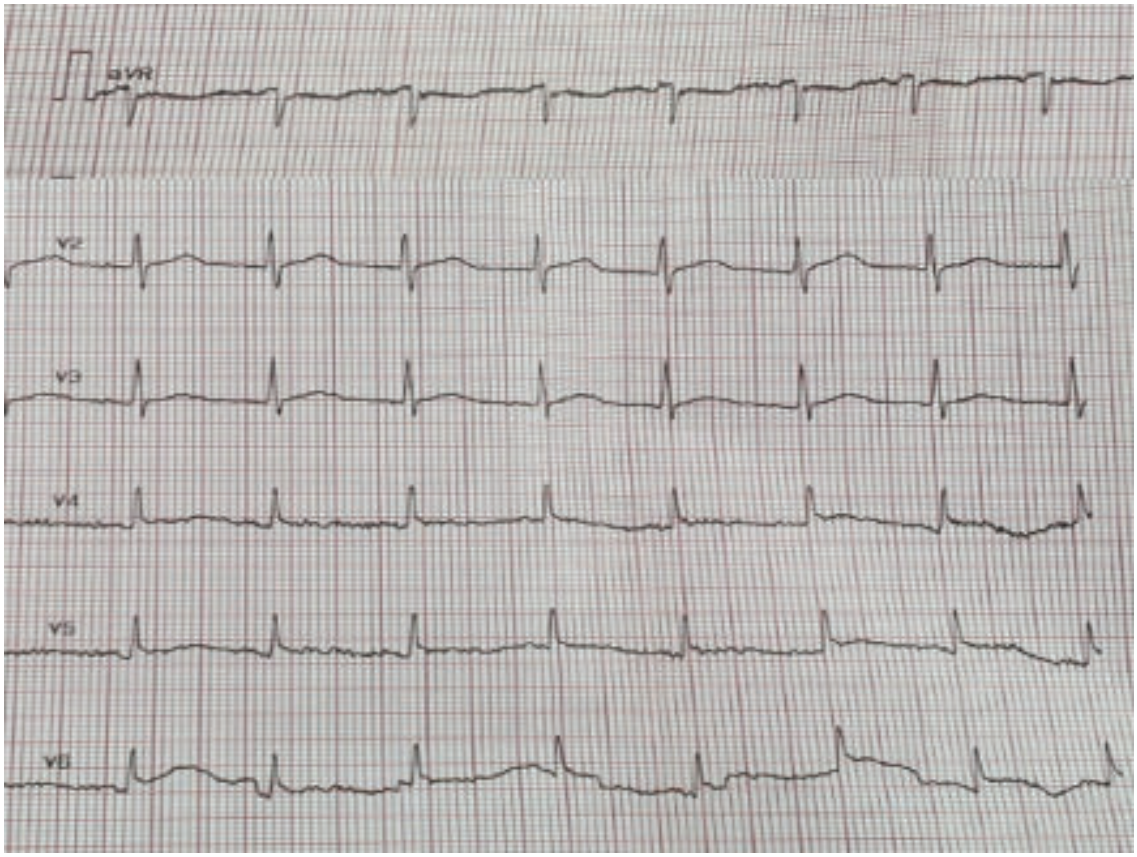

Fig.-1: *ECG showing PR elevation and ST depression in aVR and ST elevation from V2-V6*

Serial Troponin-I did not show rising or falling titre which exclude myocardial infarction, CBC revealed neutrophilic leucocytosis, CRP was markedly raised at >200 mg/dl and Urine R/E revealed UTI with pus cell 18-20/HPF. Furthermore, Echocardiography showed moderate pericardial effusion (16 mm) with no regional wall motion abnormalities and good ejection fraction of 70%.

Later on, Echocardiography showed an increase in fluid (21 mm).

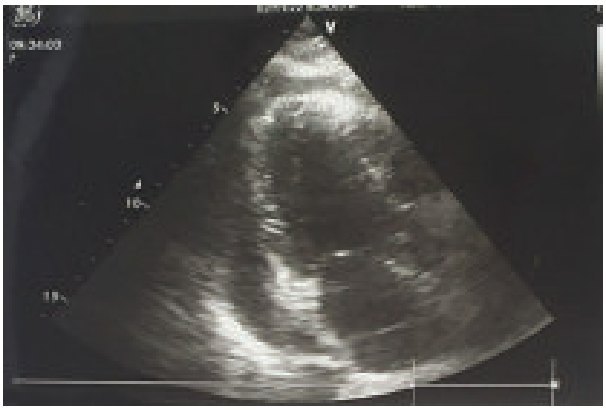

Fig.-2: *Echocardiography showing severe pericardial effusion at posterior wall (indicated by arrows)*

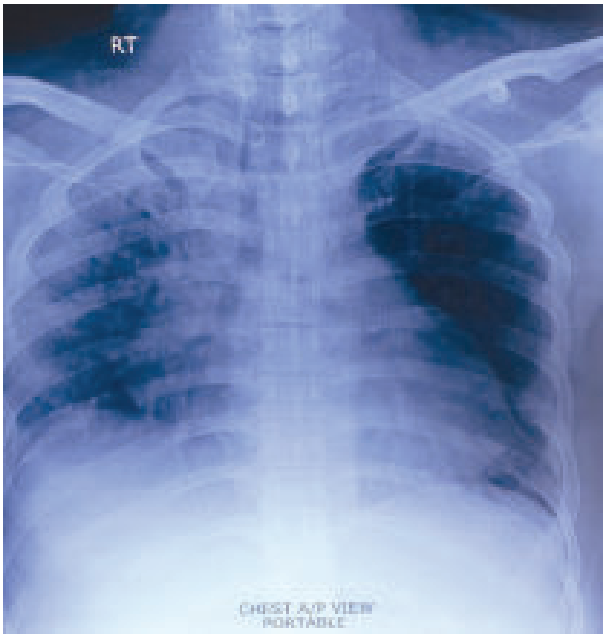

Fig.-3: *Chest Xray showing enlarged cardiac silhouette with patchy opacity in the right lung*

CK-MB was negative. Chest X-ray revealed enlarged cardiac silhouette with patchy opacity in the right

lung. Subsequently, an HRCT of the chest was performed revealing bilateral multi-focal consolidation extensive on the right side and left sided mild pleural effusion. RT-PCR for COVID-19 was negative.

We suspected septicaemia with multiple focus of infection (Pneumonia, UTI).Blood and urine culture were sent and, antibiotic was started, along with corticosteroid and other supportive treatments. D-dimer was done that came positive at >10.0 ng/ml. So, he was immediately put on heparin through a syringe pump.

There was improvement seen on the 4th day where infection was controlled (evidenced by falling Leukocyte count and CRP), there was a decrease in the effusion. Colchicine was added to the regimen. Fluid in the pericardium had significantly decreased to 10 mm. CRP which was initially high, was decreased to 68.9 mg/dl. The patient was discharged after showing significant remission in symptoms and improved blood picture on the 14th day.

Fig.-4: *HRCT of chest showing bilateral multifocal consolidation (extensive on the right side) with mild pleural effusion on the left side*

Discussion:

Dengue can cause myocardial injury by direct invasion or by autoimmune reaction resulting in inflammation of the myocardium, just like other viral infections. When the virus directly invades, it triggers different cytokines and causes release of inflammatory mediators such as, TNF-alpha, interleukins and oxygen free radicals. Dengue virus antigen may couple with myocardial receptor site, resulting in cell mediated immune response causing injury to the myocardium, however resolution of infection leads to resolution of injury(JAPI)[2]. This may lead to various cardiac manifestations, one of them being pericarditis leading to pericardial effusion.

Initially, with symptoms of tachycardia, chest pain, dyspnoea and a suspicious frictional rub in the precordium with muffled heart sounds heard on auscultation lead to performing an ECG which showed signs of pericarditis while an echocardiography consequently revealed pericardial effusion. Serial Troponin I and CK-MB didnot show rising titre ruling out myocardial infarction. Pulmonary thromboembolism was kept into consideration due to symptoms and d-dimer being positive however, according to Chest X-ray and HRCT of chest findings, patient had developed pneumonia which may have been acquired during his prolonged hospital stay. This could also be a reason for the increase in d-dimer levels. Hence, an obstacle was met whether this pericarditis with effusion was bacterial or an auto immune response to viral infection (Dressler's syndrome). Primarily, purulent pericarditis is very rare and it may occur through disease dissemination which includes contiguous extension of intrathoracic processes, hematogenous spread, penetrating chest wall injury, surgical wounds, retropharyngeal abscess, esophageal rupture with fistula formation and seeding from hepatic or subdiaphragmatic abscess and in case of predisposing conditions like pseudoaneurysm, obesity, diabetes mellitus, cocaine use, malignancy, etc[3]. Our patient revealed pneumonia after readmission. Dressler's syndrome (DS),

is a condition where acute pericarditis occurs secondary to MI, injury or in this case viral infection. This condition is expected to be mediated by an autoimmune mechanism resulting in signs of systemic inflammation, including fever, and polyserositis[4].

Amongst the differentials, this case gave a brief understanding that there is a likely chance for a patient to develop Dressler's Syndrome during critical and/or recovery phase of dengue.

Conclusion:

Dengue fever proceeds to evolve each year, showing more haemorrhagic manifestations and involvement of other organs, such as the heart, brain and liver, etc. This case acts as evidence that a patient may suffer from complications even in the recovery phase. Keeping a look out for additional signs and symptoms and the possibilities of complications like, the Dressler's Syndrome and nosocomial sepsis may help in improving mortality and morbidity rates.

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Abstract From Current Literatures

(MH Samorita Med Coll J 2022; 5(1): 41-45)

CANCER RELATED KNOWLEDGE, ATTITUDE, AND PRACTICE AMONG COMMUNITY HEALTH CARE PROVIDERS AND HEALTH ASSISTANTS IN RURAL BANGLADESH

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Mubin et al. BMC Health Services Research (2021) 21:191

https://doi.org/10.1186/s12913-021-06202-z

Background: Cancer remains one of the primary causes of death in Bangladesh. The success of cancer control in rural areas depends on the ability of the health care system and workforce to identify and manage cases properly at early stages. Community Health Workers (CHW) can play a vital role in this process. The present study aims to assess cancer related Knowledge, Attitude, and Practice (KAP) among 2 categories of CHWs- Community Health Care Providers (CHCP) and Health Assistants (HA) in rural Bangladesh.

Methods: A descriptive cross-sectional study was conducted using a self-administered questionnaire from July 2019 to June 2020. Multi-stage sampling technique was used to determine the sample. One Upazilla Health Complex (UHC) from each of the eight administrative divisions of Bangladesh were randomly chosen as study sites, from which 325 CHCPs and HAs were in the final sample. Multivariate logistic regression models were developed to determine the association between KAP scores and demographic variables.

Results: Our study shows that a modest number of respondents scored above average in the knowledge (54.15%), attitude (58.15%), and practice (65.54%) sections. Majority CHCPs (90.91%) and HAs (96.06%) did not receive govt. training on cancer. Only 20.71% HAs and 25.2% CHCPs knew about the availability of cancer treatment options in Bangladesh. Uncertainty about the availability of relevant treatments or vaccinations at public facilities was also high. Having cancer in the family, income, duration of employment and workplace locations were important predictors of cancer related KAP scores.

Conclusion: Healthcare workforce's knowledge gap and unfavorable attitude towards cancer may result in poor delivery of care at the rural level. For many people in rural areas, CHCPs and HAs are the first point of contact with the healthcare system and thus effective cancer control strategies must consider them as key stakeholders. Targeted training programs must be adopted to address the cancer related KAP gaps among CHCPs and HAs.

Keywords: Healthcare workforce, Community health care provider, Health assistant, Cancer, Knowledge, Attitude, Practice, KAP, Rural health, Community clinics

WORKPLACE VIOLENCE AMONG HEALTH CARE PROFESSIONALS IN PUBLIC AND PRIVATE HEALTH FACILITIES IN BANGLADESH

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Int J Public Health 66:1604396.

doi: 10.3389/ijph.2021.1604396

Objectives: The main objectives of this study were to examine the prevalence of workplace violence (WPV), its associated factors and explore the experiences of healthcare workers.

Methods: A hospital-based cross-sectional study design used a nationally representative sample of 1,081 healthcare workers covering eight administrative divisions of Bangladesh. Logistic regression analysis was employed to estimate the adjusted effect of independent factors on WPV among healthcare workers.

Results: Of the participants, 43% (468) experienced some form of WPV. Of those, 84% reported experiencing nonphysical violence, and 16% experienced physical violence in the past year. About 65% of victims claimed no action was taken to investigate the incident, and 44% reported no consequence for perpetrators. Four factors: being married (AOR 1.63; CI: 1.12–2.39); public sector healthcare worker (AOR 2.74; CI:1.99–3.76); working in anemergencydepartment(AOR2.30;CI:1.03–5.12);andundertakingshiftwork(AOR 1.52; CI: 1.10–2.11) were found to be significantly associated with WPV. One-third of the participants were worried about violence in their workplace.

Conclusion: WPV is highly prevalent among healthcare workers in Bangladesh. Formal guidelines for reporting and managing WPV are urgently needed at the individual, hospital, and national levels.

Keywords: healthcare workers, prevention, physical violence, non-physical violence, workplace of violence.

ACUTE MALNUTRITION AND ITS DETERMINANTS OF PRESCHOOL CHILDREN IN BANGLADESH: GENDER DIFFERENTIATION

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Karim et al. BMC Pediatrics

https://doi.org/10.1186/s12887-021-03033-z

Background: Children acute malnutrition (AM) is a global public health concern, especially in low and middle income countries. AM is associated with multiple physiological vulnerabilities, including immune dysfunction, enteric barrier disruption, gut microbiome dysbiosis, and essential nutrient deficits. This study aimed to determine the preva lence of AM and its associated factors among preschool children in Rajshahi district, Bangladesh.

Methods: This cross-sectional study was conducted from October to December, 2016. Children acute malnutrition was assessed using mid-upper arm circumference. Multiple binary logistic regression analyses were employed to determine the associated factors after adjusting the effect of independent factors of children AM.

Result: The prevalence of AM amongst preschool children was 8.7%, among them 2.2 and 6.5% were severe acute malnutrition and moderate acute malnutrition, respectively. Z-proportional test demonstrated that the difference in AM between girls (11.6) and boys (5.9%) was significant ($p < 0.05$). Children AM was associated with being: (i) children aged 6–23 months (aOR = 2.29, 95% CI: 1.20–4.37; $p < 0.05$), (ii) early childbearing mothers' (age < 20 years) children (aOR = 3.06, 95% CI: 1.08–8.66; $p < 0.05$), (iii) children living in poor family (aOR = 3.08, 95% CI: 1.11–8.12; $p < 0.05$), (iv) children living in unhygienic latrine households (aOR = 2.81, 95% CI: 1.52–5.09; $p < 0.01$), (v) Hindu or other religion children (aOR = 0.42, 95% CI: 0.19–0.92; $p < 0.05$).

Conclusion: The prevalence of AM was high among these preschool children. Some modifiable factors were associ ated with AM of preschool children. Interventions addressing social mobilization and food security could be an effec tive way to prevent acute malnutrition among children in Bangladesh.

Keywords: Acute malnutrition, Associated factors, Preschool children, Gender differentiation, Logistic regression model.

DOUBLE AND TRIPLE BURDEN OF NON-COMMUNICABLE DISEASES AND ITS DETERMINANTS AMONG ADULTS IN BANGLADESH: EVIDENCE FROM A RECENT DEMOGRAPHIC AND HEALTH SURVEY

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Int J Clin Pract. 2021;00:e14613.

https://doi.org/10.1111/ijcp.14613

DOI: 10.1111/ijcp.14613

Background: Globally, non- communicable diseases (NCDs) are a significant public health problem. NCDs are the leading cause of death in Bangladesh. This study aimed to estimate the prevalence of double burden of NCDs (DBNCDs) and triple burden of NCDs (TBNCDs) such as hypertension, diabetes and overweight or obesity and to explore the risk factors of DBNCDs and TBNCDs in Bangladesh.

Materails and Methods: This study included 12 685 participants (5465 male and 7220 female) from 2017 - 2018 nationally representative Bangladesh Demographic and Health Survey. Descriptive statistics were calculated for the distribution and prevalence of DBNCDs and TBNCDs. Bivariate and multilevel logistic regression analyses were used to assess the individual- and community- level determinants of DBNCDs and TBNCDs.

Results: The prevalence of DBNCDs and TBNCDs was 21.4% and 6.1%, respectively. At individual-level, higher age, female, currently and formerly/ ever married, rich est, higher education were more likely to suffer from the DBNCDs and TBNCDs. Furthermore, at the community level, the division had a significant association with DBNCDs and TBNCDs. In addition, family size had a significant effect on DBNCDs, and caffeinate drinks and poverty significantly affected TBNCDs.

Conclusion: Overall, there is a low prevalence of TBNCDs compared with DBNCDs in Bangladesh. Age, gender, marital status, wealth index, education level and division are significantly associated with DBNCDs and TBNCDs. The government and non-government health organisations should pay proper attention to handle the burden of NCDs in Bangladesh.

MAJOR ZOONOTIC DISEASES OF PUBLIC HEALTH IMPORTANCE IN BANGLADESH

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Vet Med Sci. 2021;7:1199–1210.

DOI: 10.1002/vms3.465

Zoonotic diseases cause repeated outbreaks in humans globally. The major ity of emerging infections in humans are zoonotic. COVID- 19 is an ideal exam ple of a recently identified emerging zoonotic disease, causing a global pandemic. Anthropogenic factors such as modernisation of agriculture and livestock farming, wildlife hunting, the destruction of wild animal habitats, mixing wild and domestic animals, wildlife trading, changing food habits and urbanisation could drive the emer gence of zoonotic diseases in humans. Since 2001, Bangladesh has been reporting many emerging zoonotic disease outbreaks such as nipah, highly pathogenic avian influenza, pandemic H1N1, and COVID- 19. There are many other potential zoonotic pathogens such as Ebola, Middle East respiratory syndrome coronavirus, Kyasanur forest disease virus and Crimean– Congo haemorrhagic fever that may emerge in the future. However, we have a limited understanding of zoonotic diseases' overall risk in humans and associated factors that drive the emergence of zoonotic pathogens. This narrative review summarised the major emerging, re-emerging, neglected and other potential zoonotic diseases in Bangladesh and their associated risk factors. Nipah virus and Bacillus anthracis caused

repeated outbreaks in humans. More than 300 human cases with Nipah virus infection were reported since the first outbreak in 2001. The highly pathogenic avian influenza virus (H5N1) caused more than 550 outbreaks in poultry, and eight human cases were reported so far since 2007. People of Bangladesh are frequently exposed to zoonotic pathogens due to close interaction with domestic and peri- domestic animals. The rapidly changing intensified animal– human– ecosystem interfaces and risky practices increase the risk of zoonotic disease transmission. The narrative review's findings are useful to draw attention to the risk and emergence of zoonotic diseases to public health policymakers in Bangladesh and the application of one- health approach to address this public health threat.

Keywords: Bangladesh, one- health approach, public health, zoonotic diseases

MANAGING PNEUMONIA THROUGH FACILITY BASED INTEGRATED MANAGEMENT OF CHILDHOOD MANAGEMENT (IMCI) SERVICES: AN ANALYSIS OF THE SERVICE AVAILABILITY AND READINESS AMONG PUBLIC HEALTH FACILITIES IN BANGLADESH

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Rahman et al. BMC Health Services Research (2021) 21:667

https://doi.org/10.1186/s12913-021-06659-y

Background: With an estimated 24,000 deaths per year, pneumonia is the single largest cause of death among young children in Bangladesh, accounting for 18% of all under-5 deaths. The Government of Bangladesh adopted the WHO recommended Integrated Management of Childhood Illness (IMCI)-strategy in 1998 for outpatient management of pneumonia, which was scaled-up nationally by 2014. This paper reports the service availability and readiness related to IMCI-based pneumonia management in Bangladesh. We conducted a secondary analysis of the Bangladesh Health Facility Survey-2017, which was conducted with a nationally representative sample including all administrative divisions and types of health facilities. We limited our analysis to District Hospitals (DHs), Maternal and Child Welfare Centres (MCWCs), Upazila (sub-district) Health Complexes (UHCs), and Union Health and Family Welfare Centres (UH&FWCs), which are mandated to provide IMCI services. Readiness was reported based on 10 items identified by national experts as 'essential' for pneumonia management.

Results: More than 90% of DHs and UHCs, and three-fourths of UH&FWCs and MCWCs provide IMCI-based pneumonia management services. Less than two-third of the staff had ever received IMCI-based pneumonia training. Only one-third of the facilities had a functional ARI timer or a watch able to record seconds on the day of the visit. Pulse oximetry was available in 27% of the district hospitals, 18% of the UHCs and none of the UH&FWCs. Although more than 80% of the facilities had amoxicillin syrup or dispersible tablets, only 16% had injectable gentamicin. IMCI service registers were not available in nearly one-third of the facilities and monthly reporting forms were not available in around 10% of the facilities. Only 18% of facilities had a high-readiness (score 8–10), whereas 20% had a low-readiness (score 0–4). The readiness was significantly poorer among rural and lower level facilities ($p < 0.001$). Seventy-two percent of the UHCs had availability of one of any of the four oxygen sources (oxygen concentrators, filled oxygen cylinder with flowmeter, filled oxygen cylinder without flowmeter, and oxygen distribution system) followed by DHs (66%) and MCWCs (59%).

Conclusion: There are substantial gaps in the readiness related to IMCI-based pneumonia management in public health facilities in Bangladesh. Since pneumonia remains a major cause of child death nationally, Bangladesh should make a substantial effort in programme planning, implementation and monitoring to address these critical gaps to ensure better provision of essential care for children suffering from pneumonia.

Keywords: IMCI, Pneumonia, Service availability, Service readiness, And Bangladesh

HEART METABOLISM IN SEPSIS-INDUCED CARDIOMYOPATHY—UNUSUAL METABOLIC DYSFUNCTION OF THE HEART

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Int. J. Environ. Res. Public Health 2021, 18, 7598.

https://doi.org/10.3390/ijerph18147598

Due to the need for continuous work, the heart uses up to 8% of the total energy expenditure. Due to the relatively low adenosine triphosphate(ATP) storage capacity, the heart's work is dependent on its production. This is possible due to the metabolic flexibility of the heart, which allows it to use numerous substrates as a source of energy. Under normal conditions, a healthy heart obtains approximately 95% of its ATP by oxidative phosphorylation in the mitochondria. The primary source of energy is fatty acid oxidation, the rest of the energy comes from the oxidation of pyruvate. A failed heart is characterised by a disturbance in these proportions, with the contribution of individual components as a source of energy depending on the aetiology and stage of heart failure. A unique form of cardiac dysfunction is sepsis-induced cardiomyopathy, characterised by a significant reduction in energy production and impairment of cardiac oxidation of both fatty acids and glucose. Metabolic disorders appear to contribute to the pathogenesis of cardiac dysfunction and therefore are a promising target for future therapies. However, as many aspects of the metabolism of the failing heart remain unexplained, this issue requires further research.

Keywords: heart failure; sepsis; sepsis-induced cardiomyopathy; cardiac metabolism; metabolic remodelling; intensive care

Notes and News

(MH Samorita Med Coll J 2022; 5(1): 46)

CME Presentations (July– December 2021)

No.	Date	Department	Presenter	Topic
1.	08.08.2021	Forensic Medicine	Dr. Nafsin Nur Morshed Bhuiyan Lecturer	Lightning: The New Natural Disaster
2.	22.08.2021	Dermatology and Venereology	Dr. Sarkar Mahbub Shamim Associate Professor	Biologics in Psoriasis
3.	05.09.2021	Medicine Microbiology Community Medicine	Dr. Adiba Fairuz Lecturer, Community medicine Dr. Ashik Ahmed Lecturer, Microbiology Dr. Amoolya Soti Dr. Mansura Trima Intern, Medicine	Dengue: An Update
4.	19.09.2021	Nephrology	Dr. Muhammad Ehsan Jalil Associate Professor	Approach to Acute Kidney Disease
5.	26.09.2021	Pharmacology	Dr. Nabila Haque	Antimicrobial Resistance- A Global Concern
6.	03.10.2021	Biochemistry	Students of 2nd year MBBS	Biochemical Aspect of Thyroid Disorders
7.	17.10.2021	Ophthalmology	Dr. Somir Hossain Registrar Dr. Sama Alam Auotrie Intern, Ophthalmology	Orbital cellulitis
8.	31.10.2021	Intensive Care Unit	Dr. Ahsina Jahan Lopa Consultant, Intensive Care Unit	Bangladesh Perspective in Covid 19 and Critical Care
9.	14.11.2021	Physiology & Medicine	Dr. Fatema Tuz Zohora Oyshi Intern, Medicine Students of 2nd year MBBS	01. Physiology of Blood Pressure 02. Hypertension and its Management
10.	22.11.2021	Pharmacology Microbiology Medicine Community Medicine	Dr. Halima Ahmed Lecturer, Pharmacology Dr. Tarikul Islam Lecturer, Microbiology Dr. Tonmoy Bairagi Lecturer, Community Medicine	Awareness about Antimicrobial Resistance
11.	28.11.2021	Paediatric dentistry (Dental Unit)	Dr. Sultana Parveen Asst. Prof & Head, Paediatric Dentistry Anjuman Ara Shimul Consultant Nutritionist	01. Detection of Early Childhood Caries 02. Role of Nutrition in Child's Growth & development
12.	05.12.2021	Cardiology	Prof. Dr. S.M Mamun Iqbal Professor & head, Cardiology	Acute Coronary Syndrome: From CCU to Cathlab
13.	12.12.2021	ENT	Dr. Sabiha Akter Asst. Registrar Dr. Sama Alam Aoutrie Intern, ENT	Tonsillitis & Adenoid