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Web: www.mhsamorita.edu.bd Email: mhsamoritamcj@gmail.com

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).
6. Coffee drinking and cancer of the pancreas [editorial]. BMJ 1981;283:628.
7. Morse SS. Factors in the emergence of infectious disease. Emerg Infect Dis [serial online] 1995 Jan-Mar [cited 1996 Jue 5]; 1(1):[24 screens]. Available from: URL:http:// www. cdc.gov/ ncidoc/EID/eid.htm

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.
- Use tables /fig that are relevant to the study.
- 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:

  *, †, ‡, §, _, ¶, **, ††, ‡‡, §§, _ _, ¶¶, etc.
- Identify statistical measures of variations, such as standard deviation and standard error of the mean.
- Be sure that each table is cited in the text. If you use data from another published or unpublished source, obtain permission and acknowledge that source fully.

I A. 8 b) Illustrations (Figures)

Figures should be either professionally drawn and photographed, or submitted as photographic-quality digital prints. In addition to requiring a version of the figures suitable for printing, (for example, JPEG / GIF).

- Review the images of such files on a computer screen before submitting them to be sure that they meet their own quality standards. For x-ray films, scans, and other diagnostic images, as well as pictures of pathology specimens or photomicrographs, send sharp, glossy, black-and-white or color photographic prints, usually 127 _ 173 mm (5 _ 7 inches).
- Letters, numbers, and symbols on figures should therefore be clear and consistent throughout, and large enough to remain legible when the figure is reduced for publication.
- Photographs of potentially identifiable people must be accompanied by written permission to use the photograph.
- Figures should be numbered consecutively according to the order in which they have been cited in the text.

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I A. 8 c) Legends for Illustrations (Figures)

- Type or print the legends for illustrations using double spacing, starting on a separate page, with Arabic numerals corresponding to the illustrations.
- When symbols, arrows, numbers, or letters are used to identify parts of the illustrations, identify and explain each one clearly in the legend. Explain the internal scale and identify the method of staining in photomicrographs.

I A. 9. Units of Measurement

- Measurements of length, height, weight, and volume should be reported in metric units (meter, kilogram, or liter) or their decimal multiples.
- Authors should report laboratory information in both local and International System of Units (SI).
- Drug concentrations may be reported in either SI or mass units, but the alternative should be provided in parentheses where appropriate.

I A. 10. Abbreviations and Symbols

- Use only standard abbreviations; use of nonstandard abbreviations can be confusing to readers.
- Avoid abbreviations in the title of the manuscript.
- The spelled-out abbreviation should be used in parenthesis on first mention followed by the use of abbreviation in parenthesis unless the abbreviation is a standard and well established one like 'WHO'.

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- If a paper version of the manuscript is submitted, send the required number of copies of the manuscript and figures; they are all needed for peer review and editing, as the editorial office staff cannot be expected to make the required copies.
- Manuscripts must be accompanied by a cover letter, conflicts of interest form, authorship and declaration proforma .
- It also must be accompanied by certificate of approval from Ethical committee of respective Institution for original article.

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- All submitted manuscripts are subject to scrutiny by the Editor in-chief or any member of the Editorial Board.
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- Manuscripts fulfilling the requirements and found suitable for consideration are sent for peer review.
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- Finally, Editorial Board decides upon the publishability of the reviewed and revised/ modified submission.
- The reviewed and revised manuscript may be sent to the authors, and should be corrected and returned to the editorial office within one week. No addition to the manuscript at this stage will be accepted.
- All accepted manuscripts are edited according to the Journal's style.

I D. Checklist for Article Submission

As part of the submission process, authors are required to check off their submission's compliance with all of the following items, and submissions may be returned to authors that do not adhere to these guidelines.

Check Lists

Final checklists before you submit your revised article for the possible publication in the MH Samorita Med Coll J.

1. Forwarding/Cover letter and declaration form,
2. Authorship and conflicts of interest form,
3. Manuscript

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**
- Double spacing
- Font size should be 12 in arial
- Margins 5 cm from above and 2.5 cm from rest sides.
- Title page contains all the desired information
- Running title provided (not more than 40 characters)
- Headings in title case (not ALL CAPITALS, not underlined)
- References cited in superscript in the text without brackets after with/without comma (,) or full stop (.)
- References according to the journal's instructions – abide by the rules of Vancouver Style.
- **Language and grammar**
- Uniformity in the language
- Abbreviations spelt out in full for the first time
- Numerals from 1 to 10 spelt out
- Numerals at the beginning of the sentence spelt out.
- **Tables and figures**
- No repetition of data in tables/graphs and in text
- Actual numbers from which graphs drawn, provided
- Figures necessary should be of good quality (colour)
- Table and figure numbers in Arabic letters (not Roman)
- Labels pasted on back of the photographs (no names written)
- Figure legends provided (not more than 40 words)
- Patients' privacy maintained (if not, written permission enclosed)
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- Each table/figure in separate pages.

I E. Manuscript Format for a Research Article

- **Title**
- Complete title of the article
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- Mention conflict of interest if any
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- Give full title of the manuscript in the abstract page
- Not more than 200 words for case reports and 250 words for original articles
- Structured abstract including introduction, methods, results and conclusion are provided for an original article and introduction, case report and conclusion for case reports.
- Key words provided – arrange them in alphabetical order should be 3-5 in number.
- **Introduction**
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- 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
- Any recommendation
- **Acknowledgement**
- 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

Memory and Dementia

Karim ME

Memory refers to those capacity which enables one to store information in the brain and later its use. Memory is one of the vital cognitive functions of the brain. Important memory centers are piriform lobe, mammillary bodies, amygdaloid bodies, anterior part of the hypothalamus, prefrontal cortex, fornix and septal areas of the brain. There are four memory processes: registration, retention, recall and retrieval. Attention and concentration are two important factors for registration. Neurotransmitters related to memory are acetylcholine, dopamine, serotonin, gamma aminobutyric acid and somatostatin. There are two types of memory: short term and long term memory. First 15 to 30s seconds of memory is called short term memory and rest of memory that lasts beyond 30 seconds is called long term memory. In dementia short term memory is affected first and as the disease progresses then long term memory will be affected.[1]

Dementia is defined as chronic progressive deteriorating disorder of the brain. Its characteristic features are generalized impairment of memory, intelligence and deterioration of personality. Dementia is one of the debilitating disorder among the ten disabiling disorders declared by WHO. Dementia is a very common disorder. Prevalence of dementia in Bangladesh is 8.0 percent. Mean age is 67 years. Prevalence is more in female 11.6 percent and 4.2 percent in male.[2]

Dementia is classified into dementia of Alzheimer's type and dementia of non-Alzheimer's type. Important causes of dementia are Alzheimer's disease (45%), cerebrovascular disease (15%), cortical lewy body disease (10%), head trauma and Parkinson's disease (3%) each, motor neuron disease (2%), AIDS dementia and prion disease (>1%) each, unknown (15%).

Alzheimer's disease is a progressive neuro-degenerative disorder characterized by generalized impairment of memory, intelligence, deterioration of personality and occurring in the absence of clouding of consciousness.

Alzheimer's disease is more common in male. Important risk factors in Alzheimer's disease are family history of Alzheimer's disease (3.5%), family history of down's syndrome (2.7%), head trauma (0.85-2.67%), family history of Parkinson's disease (2.14%), maternal age 40+ (17%), epilepsy and encephalitis (1.6%) each, alcohol and general anesthesia, herpes zoster/simplex (1%) each and others (<1.0%).

Alzheimer's disease is the fourth major cause of death in the developed world after heart disease, cancer and stroke. It is largely a disease of elderly and afflicts an estimated 10 percent of the population over 65 years and 40 percent at those over 85 years.

Regarding etiology of Alzheimer's disease genetic factors play a role. Upto 40 percent of patients have a family history of dementia of Alzheimer's disease. Concordance rate for monozygotic twins is 43 percent and 8 percent for dizygotic twins. The genes for amyloid precursor protein on chromosome 21 may be involved.

Increased homocystine may be associated with Alzheimer's disease. Environmental risk factors are aluminum and silica in drinking water. In Alzheimer's disease there is marked deficiency of actetylcholine and associated enzyme choline acetyl transferase particularly in the cerebral cortex. There is also deficiency of dopamine, noradrenaline, serotonin, GABA and somatostatin.

Other proposed causes include abnormal regulation of cell membrane phospholipids metabolism and aluminum toxicity. Synaptic loss is the best correlate of increasing dementia. It is probable that synaptic loss is the primary morphological basis of the cognitive deficits in Alzheimer's disease. The destruction of synapsis is associated with the release of B-amyloid precursor protein into the extracellular spaces. Around 40% of synapses loss in the affected cortical areas.

Macroscopic histopathology of Alzheimer's disease shows the brain is small and shows generalized

cortical atrophy and widening of the sulci and compensatory lateral ventricles enlargement due to neuronal loss.

Microscopic histopathology of Alzheimer's disease shows senile plaques which are focal extracellular structure, composed of B-amyloid protein (breakdown B-amyloid precursor protein, aluminum and silica).

Neurofibrillary tangles are intracytoplasmic bodies originate from neuro-fibrils normally present in the neurons and made up of pair helically twisted tubules and tau protein. Granulovacular degeneration of neurons in the hippocampus and pyramidal cells. Vacuoles contain small argyrophilic granule and Hirano bodies are eosinophilic structures found in the proximate dendrites. Lewy bodies are found in 30% of all dementia. They are intracytoplasmic inclusion bodies found in the cerebral cortex. Amyloid angiopathy occurs due to deposition of amyloid of the cerebral blood vessels.

Clinical features of Alzheimer's disease are divided into 3 stages. First stage presented with impairment of memory, intelligence, disorientation for time, place and person, perseveration, restlessness, anxiety and depression. Second stage presented with dysphasia, apraxia, agnosia, emotional lability, apathy and neurological signs. Epileptic fits occur in 5-10 percent of cases. A degree of Kluver-Bucey syndrome and parkinsonism may occur. Hemiparesis, extension plantar responses and psychotic symptoms with delusion and hallucination may be seen towards the end of the second stage or later. Third stage presented with global cognitive decline, loss of personality, incontinence of urine and feces and a vegetative states reached. Progressive wasting and death is usually caused by pneumonia.

Differential diagnosis of Alzheimer's disease include multi-infarct dementia, acute confusional state, major depressive disorder, drug toxicity, AIDS, hypothyroidism, neuro-syphilis, alcoholism, nutritional deficiencies, space occupying lesion and normal pressure hydrocephalus. Appropriate investigations and history will confirm or exclude most of these possibilities.[1,3]

Management of Alzheimer's disease is multidisciplinary approach. It includes medical care, community care, governmental and non-governmental (NGO's) efforts which may bring comfort to the patients and their families.

(MH Samorita Med Coll J 2023; 6(2): 47-48)

Prof. Dr. Md. Enayet Karim
Professor of Psychiatry
MH Samorita Hospital & Medical College, Dhaka

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Clinical and Radiological Profile and Immediate Outcome of Neonate with Meconium-Stained Amniotic Fluid in a Tertiary Level Hospital

Kumer P[1], Rouf MA[2], Jahan YT[3], Rahman F[4], Shahidullah S[5], Khandokar S[6] , Parvin S[7]

Abstract:

Introduction: *Meconium passage in newborns is a developmentally programmed event, typically occurring within the first 24 to 48 hours after birth. Intrauterine meconium passage in near-term or term fetuses is associated with factors such as hypoxia and infection, and it can lead to meconium-stained amniotic fluid (MSAF). MSAF is a concerning sign of fetal compromise and is linked to increased perinatal mortality and morbidity, including respiratory distress, aspiration of meconium, and a high rate of neonatal intensive care admission. Meconium aspiration syndrome (MAS) is a serious condition that can develop in a subset of meconium-stained babies, with mortality rates ranging from 10 to 18%.*

Objective: *The general objective of this study was to investigate the clinical and radiological profiles of infants born with meconium-stained amniotic fluid and to observe and document their immediate outcomes, including any associated complications or health conditions.*

Materials and Methods: *This observational descriptive cross-sectional study was conducted at the Department of Neonatology, Sir Salimullah Medical College, Mitford Hospital in Dhaka over a six-month period, a total of 60 individuals were included. Various demographic, clinical, and laboratory variables were collected and analyzed, encompassing factors such as age, sex, gestational age, duration of labour, mode of delivery, clinical conditions of newborns, and relevant investigations including chest x-ray and complete blood count. The sample size was determined based on prevalence and allowable error, leading to a sample of 138, but due to constraints, the study was carried out with 60 participants.*

Results: *The results indicated that a substantial majority of the participants had a gestational age between 37-42 weeks and birth weight exceeding 2500 grams. The majority of participants were male. Regarding meconium-related factors, nearly 38.3% had meconium-stained liquor and ingestion, while 23.3% had meconium aspiration. In terms of labor duration and delivery mode, most stained and ingestion group participants had less than 12 hours of labor and underwent lower uterine cesarean section (LUCS). Fetal distress was prevalent in these groups. A significant number of mothers in all groups experienced premature rupture of membranes (PROM), with the aspiration group having the longest duration of PROM. Breathing difficulties, delayed cry, weak primitive reflexes, poor activities, added lung sounds, and elevated CRP levels were common findings.*

Conclusion: *In conclusion, this study examined newborns with meconium aspiration syndrome (MAS), highlighting a notable prevalence of meconium aspiration and frequent fetal distress among those with meconium-stained amniotic fluid. High cesarean section rates were observed, with some cases of premature rupture of membranes, particularly in the aspiration group. Abnormal radiological findings, such as hyperinflation were common, underscoring the complexity of MAS.*

Keywords: *Fetomaternal stress, APGAR score, Respiratory distress, Hyperinflation, CRP levels*

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1. *Dr. Prodip Kumer, Junior Consultant, Department of Paediatrics, Sir Salimullah Medical College Mitford Hospital, Dhaka.
2. Prof Dr. M. Abdur Rouf, Professor and Head, Department of paediatrics, MH Samorita Hospital and Medical College, Dhaka.
3. Dr. Yesmin Tanjin Jahan, Assistant Professor, Department of Paediatric Hematology and Oncology, Sir Salimullah Medical College Mitford Hospital, Dhaka.
4. Dr. Farhana Rahman, Assistant Professor, Dept. of Paediatric Nephrology, Sir Salimullah Medical College Mitford Hospital, Dhaka.
5. Dr. Shabnam Shahidullah, Assistant Professor, Department of Paediatric Nephrology, Sir Salimullah Medical College Mitford Hospital, Dhaka.
6. Dr. Sumona Khandokar, Junior Consultant, Department of Paediatrics, Sir Salimullah Medical College Mitford Hospital, Dhaka.
7. Dr. Sonia Parvin, Resident Physician (CC), Department of Paediatrics, Sir Salimullah Medical College Mitford Hospital, Dhaka.

***Address of correspondence:** Dr. Prodip Kumer, Junior Consultant, Department of Paediatrics, Sir Salimullah Medical College Mitford Hospital, Dhaka. Mobile: 01714872863, Email: drmalaker@gmail.com.

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Introduction:

Meconium passage in new born is a developmentally programmed event normally occurring within the first 24 to 48 hours after birth. Intrauterine meconium passage in near-term or term fetus has been associated with fetomaternal stress factor like hypoxia and infection independent of fetal maturity. The incidence of meconium stained amniotic fluid is 12-22%.[1] MAS develops in 3 – 6% of meconium stained babies and being one of the leading causes of perinatal mortality, leads to 10 – 18% mortality in babies with MAS.[2,3] Meconium is the earliest stool of an infant. Unlike later feces, meconium is composed of materials ingested during the time the infant spends in the uterus: intestinal epithelial cells, lanugo, mucus, amniotic fluid, bile, and water. Presence of meconium in amniotic fluid is a potentially serious sign of fetal compromise and associated with an increased perinatal mortality and morbidities.[4,5]

It has been associated with poor perinatal outcome including low APGAR score, increased rate of respiratory distress, retraction, grunting, cyanosis and increased incidence of neonatal intensive care admission and high rate of perinatal death.[6] Meconium stained amniotic fluid is considered a harbinger of fetal compromise because of its direct correlation with fetal distress and increased likelihood of aspiration of meconium with resultant deleterious effects on the neonatal lung. Meconium staining of the amniotic fluid (MSAF) occurs in around 4% of deliveries before 37 weeks, 10-20% of term deliveries, and up to 30-40% of post-term deliveries. Presence of meconium below the vocal cord is known as meconium aspiration syndrome (MAS) and it is a disease of the term and near-term infant.[7] Aspiration can occur in utero with fetal gasping or after birth with the first breath of life. In a study in Nepal showed seven (14%) babies with MAS died after admission.[8]

Risk factors for mortality were small for gestational age (OR=7.2), 5 minute APGAR <7 (OR=6.5), severe HIE (OR=5.9), requirement for chest compression (OR=25.8), bag-mask ventilation (OR=9.9) at the time of delivery and need for assisted ventilation, either bubble CPAP and or mechanical ventilator after admission (OR=87.8). Another study showed the incidence of MSAF was 9.8% and of MAS was around 1.8%.[9] The characteristics of the babies associated with increased risk of MAS were low Apgar score at 5 minutes and presence of respiratory distress soon after birth. In this study all admitted patient (inborn and outborn) with meconium stained amniotic fluid were observed to see clinical profile (repiratory distress, tachypnoea, retraction, bulged chest, grunting, cyanosis, poor air entry, lung crepitation etc) and radiological profile (patchy infiltrates, coarse streaking lung field, flattening of diaphragm, pneumothorax, pneumomediastinum etc). Immediate outcome like perinatal asphyxia, development of MAS, persistent pulmonary hypertension of the newborn (PPHN), sepsis etc during hospital stay as well as the fate like improved, survived and discharged after recovery or death were seen.

Materials & Methods:

The study was conducted at the Department of Neonatology, Sir Salimullah Medical College Mitford Hospital, Dhaka, over a period of six months. An observational descriptive cross-sectional design was utilized, involving a study population of 60 individuals. In this study, various demographic variables including age, sex, and gestational age were collected and analyzed alongside clinical outcome variables such as the duration of labor, mode of delivery, obstructed labor, delayed cry, breathing difficulties, chest retraction, grunting, cyanosis, convulsions, percentage of death, respiratory rate, capillary refill time (CRT), reflex activities, percent saturation of oxygen (SpO2), CBG levels, and lung field/air entry assessments. Additionally, laboratory variables, including complete blood count (CBC), CRP levels, blood cultures (C/S), CXR, and Doppler echocardiography (when necessary), were also evaluated to comprehensively assess the health and clinical outcomes of the study sample. To determine the sample size the following formula was followed:

$$n = \frac{z^2\, pq}{d^2}$$

Here, n = Sample size, z =1.96 (at 5% level of significance or 95% confidence level). p =Prevalence (10%)= 0.10

q = 1 - p = 1- 0.10 = 0.90, d = Acceptable (allowable) error 5% (0.05)

So,

$$= \frac{(1.96)^2 \times 0.10 \times 0.90}{(0.05)^2}$$

$$= \frac{3.8416 \times 0.0196}{0.0025}$$

$$= 138.2976 \approx 138$$

The targeted sample size was 138. Due to time constraint and the scarcity of patients sample size was 60.

Babies both inborn and outborn met selection criteria as defined in this study were taken as a study sample. Detailed history of the newborn baby and mother regarding medical and obstetric problems were taken. Information about the duration of labour, mode of delivery, maternal disease, and maternal medication during pregnancy was recorded. Any other complications like obstructed labour, history of PROM, history of less fetal movement, or history of delayed cry were taken from parents and available medical records. A thorough physical examination was done and each baby was weighed in grams using a baby weighing scale. Gestational age was determined from the first day of the last menstrual period (when available) and also by using the Modified Ballard Scoring System. Clinical conditions of the babies like vital parameters, Oxygen saturation, capillary refill time (CRT), and capillary blood glucose (CBG) were observed and recorded. And relevant investigations like chest x-ray, and complete blood count (CBC) was done. According to the clinical condition of the babies they were categorized as only meconium stained, meconium stained with ingestion (where the meconium-stained fluid came out through Naso-gastric suction), and meconium stained with aspiration (where respiratory distress, poor air entry, and added sound in lungs were present). Data were collected by interview, physical, and lab examination using a structured questionnaire containing all the variables of interest. Statistical analyses were carried out by using the Statistical Package for Social Sciences version 22.0 for Windows (SPSS Inc., Chicago, Illinois, USA).

Results:

Table 1: Demographic characteristics of the study participants (N=60)

Characteristics	Frequency	Percentage
Gestational Age (weeks)		
< 37	8	13.3
37-42	52	86.7
Birth weight (gram)		
< 2500	6	10
≥2500	54	90
Median	2950	
Gender of the newborn		
Male	37	61.7
Female	23	38.3

Table-1 shows that, gestational age of most of the participants 86.7% (52) were between 37-42 weeks. Birth weight of the majority of the study participants 90% (54) was more than 2500 grams. Most of the study participants 61.7% (37) were male.

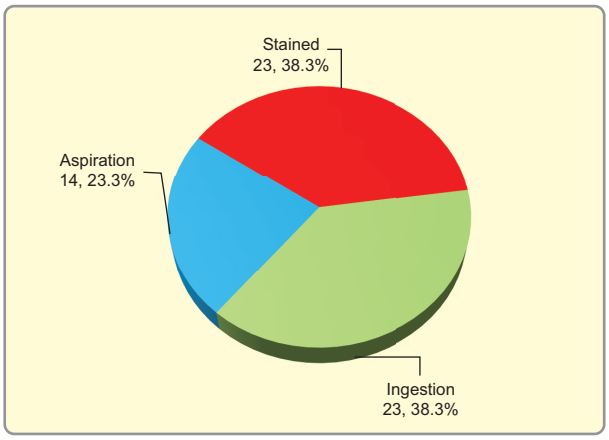

Figure 1: *Meconium condition of the study participants (N=60)*

Figure-1 shows that, 38.3% (23) participants had meconium-stained liquor and meconium ingestion, 23.3% (14) participants had meconium aspiration.

Table-2: Comparison of obstetric characteristics of the study participants (N=60)

Characteristics	Stained Frequency (%)	Ingestion Frequency (%)	Aspiration Frequency (%)
Duration of labor (hours)			
< 12	22 (43.1)	18 (35.3)	11 (21.6)
12-24	1 (11.1)	5 (55.6)	3 (33.3)
Mode of Delivery			
NVD	12 (52.2)	7 (30.4)	4 (17.4)
LUCS	11 (29.7)	16 (43.2)	10 (27)
Indication of LUCS			
Prolonged labor	2 (20)	6 (60)	2 (20)
Fetal distress	9 (34.6)	10 (38.5)	7 (26.9)
Others	0 (0)	0 (0)	1 (100)

Table 2 shows that duration of labor of most of the study participants of the stained group 43.1% (22), ingestion group 35.3% (18), and 21.6% (11) were less than 12 hours. The majority of the study participants of the stained group 29.7% (1), ingestion group 43.2% (16), and 27% (10) had LUCS. Most of the study participants of the stained group 34.6% (9), ingestion group 38.5% (10), and 26.9% (7) had fetal distress.

Table-3: Maternal risk factors (N=60)

Risk Factors	Stained Frequency (%)	Ingestion Frequency (%)	Aspiration Frequency (%)
Hypertension	2 (40)	1 (20)	2 (40)
Diabetes	2 (40)	3 (60)	0 (0)
PROM	16 (44.4)	17 (47.2)	3 (8.3)
	Mean ± SD	Mean ± SD	Mean ± SD
Age of the mother (year)	23.34 ± 3.51	21.26 ± 2.13	24.35 ± 4.81
PROM duration (hours)	6.28 ± 11.46	4.29 ± 5.62	9.00 ± 8.18

Table-4: Clinical profile of the study participants (N=60)

Clinical features	Stained Frequency (%)	Ingestion Frequency (%)	Aspiration Frequency (%)	p-value
Breathing difficulties				
Present	9 (25.7)	23 (65.7)	3 (8.6)	<0.001[s]
Absent	14 (56)	0 (0)	11 (44)	
First cry				
Immediately	9 (52.9)	2 (11.8)	6 (35.3)	0.028[s]
Delayed	14 (32.6)	21 (48.8)	8 (18.6)	
Reflexes				
Strong	11 (45.8)	3 (12.5)	10 (41.7)	0.001[s]
Weak	12 (33.3)	20 (55.6)	4 (11.1)	
Activity				
Good	9 (64.3)	0 (0)	5 (35.7)	0.001[s]
Moderate	6 (40)	4 (26.7)	5 (33.3)	
Poor	8 (25.8)	19 (61.3)	4 (12.9)	
SpO_2				
< 60	1 (100)	0 (0)	0 (0)	>0.99[ns]
60-80	1 (50)	1 (50)	0 (0)	
80-98	21 (42)	22 (38.6)	14 (24.6)	
Lung condition				
Normal breath sound	10 (45.5)	4 (18.2)	8 (36.4)	0.036[s]
Added sound	13 (34.2)	19 (50)	6 (15.8)	
Abdomen				
Hepatomegaly	2 (50)	2 (50)	0 (0)	0.161[ns]
Splenomegaly	2 (22.2)	2 (22.2)	5 (55.6)	
CBG				
< 4.20	15 (42.9)	14 (40)	6 (17.1)	0.389[ns]
4.20-8.60	8 (32)	9 (36)	8 (32)	
Evidence of Sepsis (raised CRP)				
< 6	16 (39)	12 (29.3)	13 (31.7)	0.035[s]
>6	7 (36.8)	11 (57.9)	1 (5.3)	

Table-3 shows that majority of the mothers of stained group 44.4% (16), 47.2% (17) of ingestion group, and 8.3% (3) of aspiration group had PROM. Duration of the PROM of the aspiration group was highest (9.00 ± 8.18 hours).

Table 4 shows that most of the participants in the ingestion group 65.7% (23) had breathing difficulties. Most of the participants in the three groups displayed delayed cries. Most of the participants of the stained and ingestion group had weak reflexes, poor activities, and added lung sounds.The majority of the study participants of the ingestion group had raised CRP. The statistical differences were significant ($p < 0.05$).

Table 5: Radiological profile of the study participants (N=60)

Radiological features	Stained Frequency (%)	Ingestion Frequency (%)	Aspiration Frequency (%)	p-value
Normal	7 (46.7)	8 (53.3)	0 (0)	0.045[s]
Abnormal	16 (35.6)	15 (33.3)	14 (31.1)	

Table 6: Abnormal Radiological findings of the study participants (N=60)

Radiological features	Frequency	Percentage (%)
Coarse infiltration	15	25
Streaky infiltration	12	20
Patchy opacity	10	16.7
Hyperinflation	8	13.3

Table 7: Outcome of the study participants (N=60)

Outcome	Stained Frequency (%)	Ingestion Frequency (%)	Aspiration Frequency (%)	p-value
APGAR score at 1st minute				
< 7	17 (34.7)	23 (46.9)	9 (18.4)	0.005[s]
≥7	6 (54.5)	0 (0)	5 (45.5)	
APGAR score at 5th minute				
< 7	3 (60)	2 (40)	0 (0)	0.433[ns]
≥7	20 (36.4)	21 (38.2)	14 (25.5)	
Resuscitation needed				
No	7 (38.9)	5 (27.8)	6 (33.3)	0.396[ns]
Yes	16 (38.1)	18 (42.9)	8 (19)	
Survival of the patient				
Survived	23 (39)	23 (39)	13 (22)	0.233[ns]
Dead	0 (0)	0(0)	1 (100)	
Duration of NICU stay (days)				
<5	16 (42.1)	9 (23.7)	13 (34.2)	0.003[s]
>5	7 (31.8)	14 (63.6)	1 (4,5)	

Table 5 shows that the majority of the study participants had abnormal radiological findings and the difference was statistically significant ($p < 0.05$).

Table 6 shows that most of the participants 25% (15) displayed coarse infiltration in the chest x-ray, followed by 20% (12) participants displayed streaky infiltration, 16.7% (10) participants had patchy opacity, and hyperinflation found in 13.3% (8) participants.

Table 7 shows that the majority of the participants of the three groups had APGAR scores less than seven after the first minute of birth and the difference was statistically significant ($p < 0.05$). Most of the patients needed resuscitation and only one patient died who had aspiration. The majority of patients of the ingestion group 63.6% (14) stayed in the NICU for more than 5 days and the difference was statistically significant.

Discussion:

The present study was undertaken to study the clinical profile of 60 babies with meconium aspiration syndrome in relation to their birth weight

and gestational age and their immediate outcome. In this study, 38.3% (23) of participants had meconium-stained liquor and meconium ingestion, 23.3% (14) participants had meconium aspiration. A study found that birth asphyxia was significantly high in meconium-stained amniotic fluid, whereas another study found only 12.9% of cases in their study.[10,11] A prospective study reported that fetal distress is common in infants who develop respiratory distress after MSAF.[12] In our study, Most of the study participants of the stained group 34.6% (9), ingestion group 38.5% (10), and aspiration group 26.9% (7) had fetal distress. In our study, the majority of the study participants in the stained group 29.7% (1), ingestion group 43.2% (16), and aspiration group 27% (10) had LUCS.

Our study correlates with the study conducted by Qadir et al. and Jain et al. in which the cesarean rates were 46.3% and 44.6%, respectively. [13,14] Incidence of PROM was found in 06.60% of cases.[15] In our study, 8.3% (3) of the aspiration group had PROM. In a study by Singh SN et al, in which 77.27% (17 of 22 neonates) with non-MAS respiratory distress, the cause could represent transient tachypnea of newborns without classical radiological findings, or culture-negative sepsis.[16] In our study, majority of the study participants of the ingestion group had raised CRP. In a study conducted by Espinheira et al, 63.9% of MAS cases had abnormal radiological findings where diffuse patchy infiltration was predominant followed by hyperinflation, pneumothorax, consolidation, and pneumo-mediastinum respectively.[17]

Patchy infiltration was the most common radiological finding. In their studies, X-ray findings were not grouped into thin and thick meconium.[18,19] In our study, hyperinflation was found in 13.3% (8) participants. In our study, the majority of the participants in the three groups had APGAR scores less than seven after the first minute of birth and the difference was statistically significant ($p < 0.05$). A study found that APGAR at 1 minute was <7 only in 7.5% of cases and another study found that Apgar at 1 minute was <7 in 25.40% of cases, while another study found APGAR score of <7 in as high as 69% of cases. [20-22]

Conclusion:

In conclusion, this study explored the clinical profile and immediate outcomes of newborns with meconium aspiration syndrome (MAS) in relation to factors like birth weight, gestational age, and fetal distress. Notably, a significant proportion of participants exhibited meconium aspiration, and fetal distress was a common finding in those with meconium-stained amniotic fluid. Cesarean section rates were relatively high, and the incidence of premature rupture of membranes (PROM) was observed among some participants, especially in the aspiration group. Abnormal radiological findings, including hyperinflation, were prevalent in this study.

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Study of Socio-Demographic Profile of Caesarean Sectioned Women of Cumilla District of Bangladesh

Rahman SMT[1], Shakil M[2], Rekha SA[3], Azam MF[4], Parveen R[5], Alam AU[6]

Abstract

Introduction: *Caesarean section (CS) is a major surgical procedure which needs sound medical justification based on the maternal and child health. Less than 5% of deliveries by CS in any population indicate a low antenatal and maternal care. There is no logical justification for any country to have C-section deliveries exceeding 10% to 15% of total child births.*

Objective: *This study has been undertaken to justify the socio-demographic characteristics of women behind this high current incidence rate of CS in Bangladesh.*

Materials & Methods: *The study was cross-sectional in design which was conducted in Medicare General Hospital, Jhaotola, Cumilla. Study population were women having caesarean delivery. The descriptive and quantitative data were collected based on the aim of the study. This study was conducted for a period of 6 months starting from July to December 2022. We had purposively selected 100 women in Cumilla district who had their caesarean delivery during the study period in the selected hospitals.*

Results: *In our study, we found that sixty percent of the respondent's age was more than 21 years to 30 years age range. According to their religion most of the respondents were Muslim 93 (93%), followed by Hindu 7 (7%). In concern of education of the respondent, more than sixty percent of the respondents were SSC and below, followed by Honours and above 21 (21%) and Upto HSC 17 (17%). According to occupation of the women having caesarean delivery, about eighty percent of of them were housewife followed by Job holder 17 (17%), Students 4 (4%). In concern Profession of husband of the women having caesarean delivery, most of them were Job holder 36 (36%) then followed by Businessman 33 (33%), Living abroad 27 (27%), Farmer 4 (4%). Most of the respondent's monthly family income was 30,000-40,000 BDT (32%), followed by 40,000-50,000 BDT (28%), 20,000-30,000 BDT (26%), >50,000 BDT (10%) and <20,000 BDT (4%). In case of number of family members, most of the respondents had 4-5 person 46 (46%) in their family then followed by >6 person 38 (38%), 2-3 person 16 (16%). Regarding age at marriage of the women having caesarean delivery most of them were in 18-22 years 70 (70%), then followed by >22 years 17 (17%), <18 years 13 (13%). According to the number of caesarean section previously 58% gave no history of caesarean section previously, 31% gave history of 1 caesarean section previously, 11% gave history of 2 caesarean sections previously. In cases of history of normal delivery and abortion previously, only 21% gave history of normal delivery and 12% gave history of abortion.*

Conclusion: *Age of the mother, educational level, parity, household socioeconomic status and level of education of household head have a stronger influence on caesarean section delivery. Government of Bangladesh should ensure that CS is only carried out when necessary at a medical standpoint, not for financial gain. Based on the study results, intervention could be designed and designing new policies can be taken to reduce CS deliveries by focusing more on the social and institutional factors rather than maternal characteristics.*

Keywords: *caesarean section, socio-demographic*

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1. *Dr. S.M. Tauhidur Rahman, Associate Professor & Head, Department of Anesthesia, Eastern Medical College, Cumilla
2. Dr. Mohammad Shakil, Associate Professor Dept. of Community Medicine, Army Medical College, Cumilla
3. Dr. Shamima Akter Rekha, Professor & Head, Dept. of Obs & Gynae, Eastern Medical College
4. Dr. Md.Fakhrul Azam, Asst. Professor, Eastern Medical College
5. Dr. Romana Parveen, Medical Officer, Chandina Health Complex
6. Dr. Anwar ul Alam, Associate Professor, Department of ENT, Eastern Medical College & Hospital, Cumilla

***Address of Correspondence:** Dr. S.M. Tauhidur Rahman, Associate Professor & Head, Department of Anesthesia, Eastern Medical College. Mobile no: 01712248371, E-mail: tauhid.dr@gmail.com

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Introduction

Caesarean section (CS) is a major surgical procedure which needs sound medical justification based on the maternal and child health. According to the World Health Organization (WHO), there is no logical justification for any country to have C-section deliveries exceeding 10% to 15% of total child births. However, less than 5% of deliveries by CS in any population indicates a low antenatal and maternal care.[1] CS is lifesaving when vaginal delivery poses a risk to the mother or baby due to obstructed labour, foetal distress or an abnormal position of the baby.[2,3] In CS the mother's abdomen and uterus are cut through to deliver babies.[4] A CS can be carried out in either an emergency or an elective manner, according to the circumstances. Elective CS is carried out throughout the pregnancy at a predetermined time to ensure the best obstetric care, anesthetic care, newborn resuscitation, and nursing care. On the other hand, emergency CS is carried out when a significant obstetric emergency poses a risk to the mother and the unborn child's life.[5,6,7] Globally, out of 213 million deliveries, CS accounted for 18.5 million indicating its increased rate. In the last two decades, the rate of CS has tripled.[8,9] In recent years, the number of CS deliveries has been increasing in developed and developing countries.[10] With an average yearly growth rate of 3.7% between 2000 and 2015, the global CS rate increased to 21.1% of all births in 2015. Between 2000 and 2015, the number of CS performed in South Asia doubled, with average yearly growth rates above 5%. In this region, the CS rate exceeded the WHO-recommended upper limit of 15% of all deliveries in 2015, reaching 18.1%. The CS rate in Bangladesh has increased dramatically over the past 20 years, going from 3% in 2001 to 33%.[11] Recently, in Bangladesh, the trends of CS without any complications remarkably have increased. In Bangladesh, various socio-demographic factors and the profit-making intention of private health clinics are responsible for rising rate of CS. Though the importance of CS is undeniable, it has several postpartum and postnatal complications. The most common postpartum complications among CS mothers are pain, infection in the incision area, post-partum depression, cystotomy, urinary complications. Several studies have shown that CS babies have faced different short-term complications such as allergic diseases, frequent infections and dysbiosis than a vaginal delivery baby.[12] CS conducted without clinical need can have adverse consequences for mothers and children. A 2008 WHO survey of 373 facilities across 24 countries found that unnecessary caesareans were associated with an increased risk of maternal mortality and serious outcomes for mothers and newborn infants, compared with spontaneous vaginal delivery.[13] Unnecessary CS is being happened due to the supplier's induced demand for the personal gains of the doctors and the hospital providers especially in private hospitals.[14] Globally in recent years the proportion of deliveries carried out by CS has risen considerably due to complex reasons including increase in women's demand for the procedure.[15] So far known, a few studies have been conducted on women's preference for delivery settings and factors associated with delivery through CS in Bangladesh. This study has been undertaken to justify the socio-demographic characteristics of women behind this high current incidence rate of CS in Bangladesh. We have observed that some socio-economic as well as demographic determinants are mostly responsible for choosing CS deliveries. Hence the objective of the study was to describe the most frequent socio-demographic characteristics of women having caesarean delivery in a selected hospital in Cumilla.

Materials & Methods

The study was cross-sectional in design which was conducted in Medicare General Hospital, Jhaotola, Cumilla. Study populations were women having caesarean delivery. This study was aimed to describe the prominent and mostly frequent socio-demographic and socio-economic characteristics of mothers who had their caesarean delivery. The descriptive and quantitative data were collected based on the aim of the study. This study was conducted for a period of 6 months starting from July to December 2022. We had purposively selected 100 women in Cumilla district who had their caesarean delivery during the study period in the selected hospital. The study was conducted using a standard questionnaire to collect the data from the respondent. The questionnaire included the information about selected women's living status, educational status, her profession, husband's profession and their income, their family and obstetric history. A paper-based questionnaire was developed according to the purpose of the study.

After constructing a sample questionnaire, data were collected 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: Age group of the women having caesarean delivery (n=100)

Age group (years)	Number	Percentage
16-20	24	24
21-25	30	30
26-30	30	30
31-35	10	10
36-40	6	6
Total	100	100

Table 1 shows that 60% of the respondent's age was more than 21 years to 30 years age range, then followed by 16-20 years age group, 31-35 years age group, 36-40 years age group respectively.

Table 2: Educational qualification of the women having caesarean delivery (n=100)

Educational qualification	Frequency	Percentage
SSC and below	62	62
Upto HSC	17	17
Honours and above	21	21
Total	100	100

Table 2 shows that most of them were SSC and below 62 (62%), followed by Honours and above 21 (21%) and Upto HSC 17 (17%).

Table 3: Religion of the women having caesarean delivery (n=100)

Religion	Frequency	Percentage
Muslim	93	93
Hindu	7	7
Total	100	100

Table 3 shows that most of the respondents were Muslim 93 (93%), followed by Hindu 7 (7%).

Table 4: Profession of the women having caesarean delivery (n=100)

Occupation	Frequency	Percentage
House wife	79	79
Student	4	4
Job holder	17	17
Total	100	100

Table 4 shows that most of the respondents were housewife 79 (79%), then followed by job holder 17 (17%), student 4 (4%).

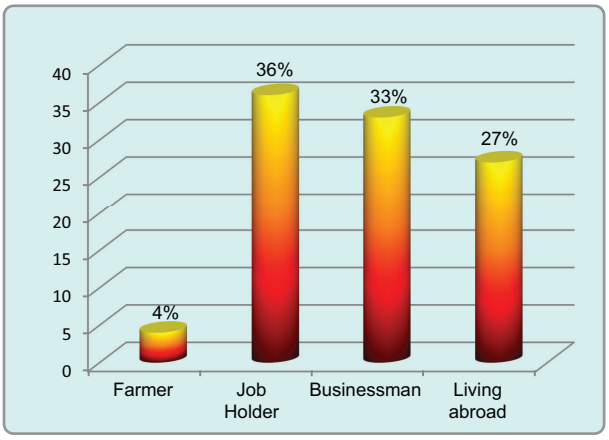

Figure 1: *Profession of the husband of women having caesarean delivery (n=100)*

Figure 1 shows that most of the respondent's husband were job holder 36 (36%), then followed by businessman 33 (33%), living abroad 27 (27%), farmer 4 (4%).

Table 5: Monthly family income of the women having caesarean delivery (n=100)

Monthly family income (BDT)	Frequency	Percentage
<20,000	4	4
20,000-30,000	26	26
30,000-40,000	32	32
40,000-50,000	28	28
>50,000	10	10
Total	100	100

Table 5 shows that most of the respondent's monthly family income were 30,000-40,000 BDT (32%), followed by 40,000-50,000 BDT (28%), 20,000-30,000 BDT (26%), >50,000 BDT (10%) and <20,000 BDT (4%).

Table 6: Family member of the women having caesarean delivery (n=100)

Number of family members	Frequency	Percentage
2-3	16	16
4-5	46	46
>6	38	38
Total	100	100

Table 6 shows that most of the respondent's family member number was 4-5 person 46 (46%) in their family then followed by >6 person 38 (38%) and 2-3 person 16 (16%).

Table 7: Age at marriage of the women having caesarean delivery (n=100)

Age at marriage (years)	Frequency	Percentage
<18	13	13
18-22	70	70
>22	17	17
Total	100	100

Table 7 shows that most of the respondents undergone for caesarean delivery at the age of 18-22 years 70(70%), then followed by >22 years 17(17%), <18 years 13(13%).

Table 8: Number of caesarean section previously of the women having caesarean delivery (n=100)

Number of caesarean section previously	Frequency	Percentage
0	58	58
1	31	31
2	11	11
Total	100	100

Table 8 shows that most of the respondents gave no history of caesarean section previously 58%, 31% gave history of 1 caesarean section previously, 11% gave history of 2 caesarean sections previously.

Table 9: History of normal delivery previously undergone (n=100)

Normal Delivery previously	Frequency	Percentage
Yes	21	21
No	79	79
Total	100	100

Table 9 shows that most of the respondents gave no history of normal delivery 79% and only 21% gave history of normal delivery

Table 10: History of abortion previously undergone (n=100)

History of abortion previously undergone	Frequency	Percentage
Yes	12	12
No	88	88
Total	100	100

Table 10 shows that most of the respondents gave no history of abortion previously, and only 12% gave history of abortion.

Discussion

In our country the delivery that is covered by skilled birth attendance is very low. Now a days the increased number of unnecessary caesarean delivery may be a serious threat to the maternal and perinatal health and that may cause the increased impact on maternal and perinatal morbidity and mortality. Now it is time to find out the possible determinants of unnecessary caesarean delivery. In this study, we reported the most prominent socio-demographic and socio-economic factors those were frequent among the caesarean women in Cumilla district of Bangladesh. In our study, we found that 60% of the respondent's age was more than 21 years to 30 years age range. Our finding is comparable with Hasan et al. (2015) who had also found an almost similar scenario (67.53%) of CS mothers were in the age range of 20 to 25 years or more in a study conducted at hospitals in Rajshahi city in Bangladesh.[16] But Manyeh et al. was not similar with us, they found women aged 34 years and above were more than thrice likely to undergo C-section compared to those <20 years (OR: 3.73, 95% CI: 1.45–5.17).[10] According to their religion most of the respondents were Muslim 93 (93%), followed by Hindu 7 (7%). In concern of education of the respondent, most of them were SSC and below 62 (62%), followed by Honours and above 21 (21%) and Upto HSC 17 (17%). Our result was not agreed with Mia MN et al. where CS delivery was higher among the women with higher education (34.0%).[17] Habiyakare C and Rutayisire E found in their study the majority of study respondents 766 (66.1%) had primary education which was similar with our study.[18] According to occupation of the women having caesarean delivery, most of them were housewife 79

(79%), then followed by job holder 17 (17%), students 4 (4%). In concern Profession of husband of the women having caesarean delivery, most of them were job holder 36 (36%), then followed by businessman 33 (33%), living abroad 27 (27%), Farmer 4 (4%). Our result was congruent with Zohra et al. that the most of the caesarean deliveries were reported for housewives (91.3%) and those women whose husbands were service holder (35.3%).[19] Hassan MM et al. reveals that the majority of the women (89.86%) among all respondents were housewives.[20] Most of the respondent's monthly family income were 30,000-40,000 BDT (32%), followed by 40,000-50,000 BDT (28%), 20,000-30,000 BDT (26%), >50,000 BDT (10%) and <20,000 BDT (4%). Shehwar et al. showed in their study that income variances in C-section delivery rates, out of 400 deliveries, maximum 102 (25.5%) were found in income group of Rs. 26000-35000 & 71 (17.75 %) were found in income group of above Rs. 106000- 500000.[21] In case of number of family member, most of the respondents has 4-5 person 46 (46%), in their family then followed by >6 person 38 (38%) and 2-3 person 16 (16%). Regarding age at marriage of the women having caesarean delivery, most of them were in 18-22 years 70 (70%), then followed by >22 years 17 (17%), <18 years 13 (13%). According to the number of caesarean section previously, 58% gave no history of caesarean section previously, 31% gave history of 1 caesarean section previously, 11% gave history of 2 caesarean section previously. In cases of history of normal delivery and abortion previously, only 21% gave history of normal delivery and 12% gave history of abortion.

Conclusion

Age of mother, educational level, parity, socioeconomic status and level of education of family head have a stronger influence on caesarean section delivery. Government of Bangladesh should ensure that CS is only carried out when necessary on a medical standpoint, not for financial gain. Based on the study results, intervention could be designed and designing new policies can be taken to reduce CS deliveries by focusing more on the social and institutional factors rather than maternal characteristics.

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Radiological Evaluation of the Lumbosacral Angle in Adult Bangladeshi People of Different Body Weight

Afrin L[1], Chowdhury MS[2], Nawshin N[3]

Abstract

Introduction: *In case of musculoskeletal disorders overweight and obesity have been identified as independent risk factors. However, the association between obesity and low back pain remains controversial. Radiology is the gold standard method that include the Lumbosacral angle which is useful for diagnosis, treatment and follow up of the low back disorder.*

Objective: *The objective of this study was to evaluate the effects of body mass index (BMI) on lumbosacral angles in both sexes of adult Bangladeshi people.*

Materials and Methods: *This cross-sectional analytical study was conducted at Department of Anatomy of Rangpur Medical College, Rangpur from a period of July 2018 to June 2019. One twenty-four (124) digital radiographs of both sex, age ranging from 20 to 45 years were taken. LSA was measured in lateral view of lumbar spine. Before taking radiograph, body mass index was calculated and subjects were grouped according to BMI into group A-normal weight, B-overweight, C-obese in both sexes. The data were analyzed and comparison between three groups A, B and C of both sexes was done.*

Results: *Higher mean value of LSA was found in obese than normal weight and overweight subjects in male. But the difference reached statistically significant level when compare was done between B and C group in male. In case of females, higher mean value was found in overweight. When comparison was done between male and females of three weight groups, it was observed that males had higher value in normal weight and obese group, but in overweight group females had higher value than males. However, no difference reached statistically significant level.*

Conclusion: *There was an increase in lumbosacral angles in individuals with raised BMI that may result in biomechanical changes in the lumbosacral spine, which increase the incidence of low back pain.*

Key words: *Bodyweight, radiographic measurement, body mass index, lumbosacral angle, low back pain, methods.*

(MH Samorita Med Coll J 2023; 6(2): 62-65)

Introduction:

Increased body mass index (BMI) has been identified as an independent risk factor for the development of symptoms that is related with musculoskeletal disorders (MSDs).[1-3] The question whether obesity is a risk factor for low back pain has given rise to conflicting reports with no clear causal link between obesity and low back pain. A systematic review of the relationship between obesity and low back pain revealed inconsistent results. BMI is one of the indices of overweight and obesity.[4]

The effect of overweight and obesity on the geometric angles of the lumbosacral spine (lumbosacral angles) is of clinical importance. The shape and geometry of the lumbosacral spine have been reported to be of importance in the occurrence of low back pain.[5,6] Many studies have examined the relationship between changes in the angles of the lumbar spine

1. *Dr. Luisa Afrin, Assistant Professor, Department of Anatomy, Delta Medical College
2. Dr. Md. Shahjahan Chowdhury, Professor, Department of Anatomy, Delta Medical College
3. Dr. Nadia Nawshin, Associate Professor, Department of Anatomy, Delta Medical College

***Address of Correspondence:** Dr. Luisa Afrin, Assistant Professor, Department of Anatomy, Delta Medical College, Mirpur-1, Dhaka. Mobile:01728349989, Email: luisa.17july@gmail.com

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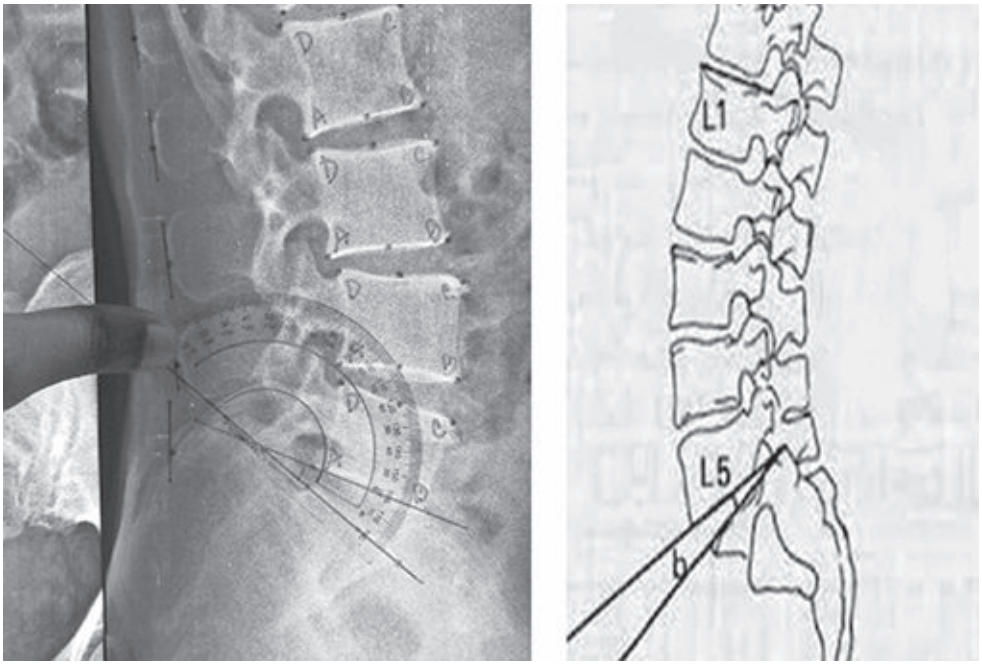
and low back pain. The increase in lumbosacral angles was associated with increased risk of low back pain.[7] However, little is known about the effects of overweight and obesity on these angles. The aim of this study was to evaluate the effects of BMI on lumbosacral angles. LSA >15° has been reported to increase the compressive and shearing forces at L_5/S_1 facet joint. The facet joints in the lumbar vertebrae are not adapted for weight bearing but rather for preventing excessive rotation. Therefore, minor biomechanical changes in the lumbosacral segment will result in exaggerated shearing and compressive forces at the lumbosacral facet joints, giving rise to mechanical low back pain[8,9].

Materials and Methods:

This cross-sectional analytical study was conducted at the Department of Anatomy, Rangpur Medical College, Rangpur from a period of July 2018 and June 2019. The patient who came for another cause rather than musculoskeletal system was requested to do an X-ray of lumbar spine. One hundred twenty four plain digital X-ray were collected from the Radiology Department of a well-known diagnostic center of Rangpur. LSA was measured in lateral view of lumbar spine. Informed written consent was obtained from the subjects informing details of the purpose of the study. Subjects age ranging from 20 to 45 years were chosen by convenient sampling as per inclusion and exclusion criteria. Before taking radiograph body mass index (BMI) were calculated and subjects were grouped according to BMI into group A-normal weight, B-overweight, C-obese. Among them twenty-two, twenty and twenty subjects of both sexes were included in group A, B and C respectively. According to WHO (1995) normal weight is defined as BMI 20–24.9 kg/m^2. overweight is defined as BMI 25– 29.9 kg/m^2 and obesity is defined as BMI 30–39.9 kg/m^2;[10] The study was approved by the Ethical Review Committee of Rangpur Medical College, Rangpur. All the measurements were done with the help of 30 cm long transparent ruler and protractor directly on a well illuminated view box and findings were recorded in millimeters.

Lumbosacral angle

The angle between the line across the plane of the inferior surface of the fifth lumbar vertebra and the upper surface of the S1 vertebra defined as 'b' in figure B. It was measured on lateral radiograph by a 30 cm long transparent ruler. Lines for the measurement of the angle were drawn with a pencil, using appropriate landmarks. The angle was measured in degrees using a protractor[11] (Figure B).



A B

Figure-1: *(A) Photograph showing procedure of measurement of lumbosacral angle of male in lateral view, (B) Schematic diagram showing procedure of measurement of lumbosacral angle in lateral view*

Table 1: Comparison of Lumbosacral angle (in degree) in between normal weight, overweight, obese in both sexes

Gender	Normal weight (A) Mean ± SD(range)	Over weight (B) Mean ± SD(range)	Obese (C) Mean ± SD(range)	p value (p ≤0.05)
Male	16.27 ± 4.4810-28	16.20 ± 3.5810-24	19.00 ± 4.9019-28	A vs B = NS
				A vs C = NS
				B vs C = S
Female	15.91 ± 4.1010-24	17.20 ± 4.1810-26	16.25 ±4.3810-23	A vs B= NS
				A vs C= NS
				B vs C= NS

Comparison between normal weight, over weight and obese male and female was done
S= Significant
NS= non-significant

Table 2: Comparison between normal weight, overweight, obese subject regarding lumbosacral angle (in degree) in male and female

Gender	Normal weight Mean ± SD	p value	Over weight Mean ± SD	p value	Obese Mean ± SD	p value
Male	16.27 ± 4.48	.780	16.20 ± 3.58	.421	19.00 ± 4.90	.069
Female	15.91 ±4.10	.780	17.20 ± 4.18	.421	16.25 ±4.38	.069

Results are shown as meanSD

Statistical processing of data

The data collected were processed according to their distributions, central tendencies and dispersions. Then results were prepared in terms of ranges, frequency distributions, mean values, standard deviations (SD), percentage value etc. as applicable. Mathematical relationships for measurements of two groups were calculated by statistical analyses unpaired students't' test. The level of significance was set as p≤0.05 at 95% confidence intervals. The Statistical analyses were done by using the SPSS software package for windows version 16.00.

Results:

Table1 shows the lumbosacral angle (LSA) in both sexes in three weight groups.

It was observed from table that higher mean value of LSA was found in obese than normal weight and overweight subjects in male. In case of females, it was higher in overweight. But the difference reached statistically significant level when compare was done between overweight and obese group in male only.

In all groups of both sexes, highest mean value of LSA was found in obese in male and lowest value was found in normal weight in female.

When comparison was done between male and females of three weight groups, it was observed that males had higher value in normal weight and obese group, but in overweight group females had higher value than males. However, no difference reached statistically significant level (Table 2)

Discussion:

The study revealed some statistically important findings about the effect of overweight and obesity on lumbosacral angle radiologically in both sexes. But there is no published work on radiological evaluation of effect of BMI on lumbosacral angle in our country. So, present study could not be compared with any previous similar study of Bangladesh. Hence a comparative discussion on the

results of different variables of measurement of LSA related with age and gender were done with that of different authors and researchers of the other countries.

In the present study, comparison was done regarding lumbosacral angle (LSA) between normal weight, overweight and obese group of both sexes. The study revealed statistically significant($p \leq 0.05$) difference was found only between B and C group in male. However, no value varies significantly in females. When comparison was done between male and female groups, statistically no significant difference was found.

The findings of Atta-Alla et al[12] works on Lebanese female (age ranging from 19 to 67 years), mean value was found 15.9 which was almost similar to our present study in case of normal weight group female. On comparison with other researcher Damasceno et al[13], Agichani et al[14] and Okpala[15] as all the studies showed that mean value was significantly higher in females than males. Their results were similar with present study in case of overweight group only as female mean value was non significantly higher (17.20) than the mean value of male (16.20).

Conclusion:

The present study reveals that there was statistically significant(($p \leq 0.05$)) difference which was found only between B and C group in female. Also, this study shows the Lumbosacral angle was increased in overweight female and obese male indicating high BMI affecting the biochemical changes in lumbosacral segment may cause mechanical LBP.

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Review Article

HBsAg Positive in Pregnancy: What to Do Next?

Bari N[1], Ghosh J[2], Begum NA[3], Parvin MB[4], Kohinoor GA[5], Islam MS[6], Andalib S[7]

Abstract

Hepatitis B virus (HBV) infection represents a significant global health challenge, particularly in infants who are at high risk for chronic infection and associated mortality if untreated. This review article delves into the virology of HBV, with an emphasis on its structural components and key viral proteins. The Hepatitis B e antigen (HBeAg) is highlighted as a critical marker for active viral replication and disease severity. Pregnancy introduces unique challenges regarding HBV transmission, primarily concerning vertical transmission from mother to child. Effective screening strategies, such as routine hepatitis B surface antigen (HBsAg) testing during pregnancy, are essential for early detection and intervention. The prompt administration of the hepatitis B vaccine and hepatitis B immunoglobulin (HBIG) within 12 hours of birth is crucial for preventing perinatal transmission. Additionally, maternal antiviral therapy, especially with tenofovir during late pregnancy, significantly reduces the transmission risk. Post-vaccination serologic testing (PVST) is recommended to assess the immune response in infants born to HBV-infected mothers. This testing is vital for distinguishing between vaccine-induced immunity and potential HBV infection, ensuring appropriate management and care.

Keywords: *Hepatitis B Surface Antigen (HBsAg), Mother-to-Child Transmission (MTCT), Hepatitis B Vaccine, Hepatitis B Immunoglobulin (HBIG), Maternal Antiviral Therapy, Post-vaccination Serologic Testing (PVST).*

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Introduction:

Hepatitis B is a disease of significant global concern. Infants infected with hepatitis B have a 90% likelihood of developing chronic infection, which can persist throughout their lives. Without treatment, approximately 25% of children with chronic hepatitis B may succumb to conditions related to the infection, such as liver cirrhosis, or liver cancer. The transmission of hepatitis B from a pregnant mother to her unborn child can occur easily, either during a cesarean section or vaginal birth [1]. According to the World Health Organization (WHO), there were 257 million chronic HBV infections worldwide in 2015, with 900,000 deaths attributed to HBV infections, primarily due to cirrhosis or hepatocellular carcinoma. Most adult deaths related to HBV infections are a result of infections contracted within the first five years of life or at birth [2].

Virology:

The Hepatitis B virus (HBV) is a small, enveloped, hepatotropic DNA virus belonging to the Hepadnaviridae family. The virus particles, or

1. * Prof. Dr. Nahla Bari, Professor and Head, Department of Obstetrics & Gynecology, MH Samorita Hospital & Medical College, Dhaka, Bangladesh.
2. Dr. Jhumur Ghosh, Associate Professor, Department of Hepatology, MH Samorita Hospital and Medical College, Dhaka, Bangladesh.
3. Dr. Nargis Ara Begum, Senior Consultant Neonatology & Paediatrics, United Hospital Ltd.
4. Prof. Dr. Mosammat Bilkis Parvin, Professor, Department of Obstetrics and Gynaecology, MH Samorita Hospital and Medical College, Dhaka, Bangladesh.
5. Dr. Gulshan Ara Kohinoor, Professor, Department of Obstetrics and Gynaecology, MH Samorita Hospital and Medical College, Dhaka, Bangladesh.
6. Dr. Md. Sadiul Islam, Intern Doctor, MH Samorita Hospital & Medical College, Dhaka, Bangladesh.
7. Prof. Dr. Sofia Andalib, Professor, Head of the Department of Microbiology, Medical College for Women & Hospital, Dhaka, Bangladesh.

***Address of correspondence:** Prof. Dr. Nahla Bari, Professor and Head, Department of Obstetrics & Gynecology, MH Samorita Hospital & Medical College, Dhaka, Bangladesh. Mobile no: 01713015891, Email: nahlabari18@gmail.com

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virions, are composed of an outer lipid envelope and a nucleocapsid core made up of core protein, with a diameter of 32-40 nm[3,4]. The nucleocapsid houses the viral DNA and a DNA polymerase with reverse transcriptase activity. The HBV genome encodes five major proteins via four genes: polymerase, core-related antigen, surface antigen (HBsAg), e antigen (HBeAg), and the replication cofactor HBx[5]. The core protein, coded by gene C (HBcAg), is involved in the production of HBeAg through the proteolytic processing of the pre-core protein. The DNA polymerase is encoded by gene P, while gene S codes for the surface antigen (HBsAg). The protein coded by gene X, although not fully understood, is linked to the development of liver cancer by stimulating genes that promote cell growth and inactivating growth-regulating molecules [3,6].

HBsAg is abundantly present in the blood, along with an excess of its surface protein. The HBV pre-core gene encodes the nonstructural protein known as HBV e antigen (HBeAg), which is released by infected hepatocytes. HBeAg can be detected early in acute or chronic HBV infection, typically 6–12 weeks after exposure to the virus, shortly after the appearance of HBsAg. HBeAg is a significant marker of active liver disease, indicating high viral replication and infectivity[7]. Approximately 90% of infants born to HBeAg-positive mothers become chronic carriers, whereas less than 5% of infants born to HBeAg-negative HBsAg carrier mothers become chronic carriers. The risk of mother-to-infant transmission is linked to the HBV replication status in the mother. Both maternal HBeAg and HBV DNA are reliable indicators of viral replication [7,8].

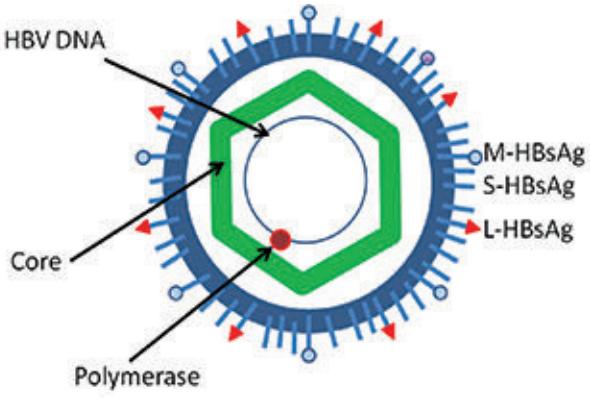


Figure 1: *Structure of HBV*

Acute and chronic HBV infection during pregnancy

Acute hepatitis development is not uncommon during pregnancy, and HBV is a critical factor to consider, especially in non-immune individuals with risk factors such as sexual or blood exposure. Symptoms like nausea, vomiting, fatigue, and abdominal discomfort might initially be mistaken for normal pregnancy symptoms or conditions like hyperemesis gravidarum, particularly during the first trimester [3,8]. This can delay the diagnosis of HBV. Pregnancy itself results in immunosuppression which might exacerbate a chronic inactive HBV infection. Such changes can lead to an HBV "flare," when HBV flares are detected, it is crucial to consider other possible causes such as co-infections with hepatitis A, C, D, or E, or drug toxicity, which might mimic an HBV flare—typically marked by elevated levels of alanine aminotransferase (ALT) and HBV DNA. More than 10% of pregnant women with chronic HBV experience these flares, which are more likely to occur and become significant during the postpartum period. Although these flares can cause substantial increases in ALT levels, they are generally mild and rarely lead to severe liver damage or jaundice. Nevertheless, they should prompt consideration of other potential causes such as co-infections or drug toxicity [8]. The relationship between HBV infection and other complications of pregnancy, such as eclampsia, preterm labor, and gestational diabetes, remains unclear, though some studies suggest possible links [9].

How mothers get infected?

Transmission of the hepatitis B virus (HBV) primarily occurs through parenteral blood exposure, sexual contact, or vertical transmission from her. The virus spreads when an individual comes into contact with blood, semen, or other body fluids from an infected person. This can happen in several ways: from an infected mother to her baby during birth, through sexual contact with an infected person, or through direct contact where infected blood enters another person's bloodstream via breaks in the skin or mucous membranes [1].

Mother-to-child transmission (MTCT)

HBV transmission from mother to infant is closely linked to the mother's HBV replication status. The presence of maternal HBeAg and the levels of HBV-DNA in maternal serum are dependable indicators of viral replication, with the latter being more strongly associated with the risk of transmission. Despite the administration of postnatal active and passive immunizations, vertical transmission of HBV can still occur [2,3]. There are three theoretical pathways for the transmission of HBV from an infected mother to her infant:

- Intranatal transmission during delivery, where the infant is exposed to the virus during the birthing process.

- Transplacental transmission of HBV in utero, where the virus passes from the mother to the fetus through the placenta.
- Postnatal transmission during care or through breast milk, where the virus can be transmitted to the infant after birth either through close contact or breastfeeding.

One of the most likely pathways for HBV intrauterine infection is through the transplacental leakage of HBeAg-positive maternal blood. This can occur due to uterine contractions during pregnancy and the disruption of placental barriers, which might happen in situations like threatened preterm labor or spontaneous abortion. These events can allow the virus to pass from the mother to the fetus through the placenta. Transmission of HBV to the infant at the time of birth is believed to be a result of exposure to maternal cervical secretions and maternal blood that contain the virus. Breastfeeding by cracked nipple is another route of transmission of HBV from mother to child [10].

Screening of a pregnant woman

Screening for HBV is crucial for pregnant women as the virus can be transmitted from mother to child and may cause pregnancy-related complications such as miscarriage, preterm birth, gestational diabetes, pre-eclampsia, and fetal growth retardation[11]. Therefore, all pregnant women should undergo routine HBsAg screening during their initial prenatal check-up, ideally in the first trimester of each pregnancy, regardless of their previous testing or vaccination status. For those not screened during prenatal visits, especially women who engage in high-risk behaviors or exhibit clinical hepatitis symptoms, testing should be performed upon hospital admission for childbirth [10].

The importance of HBsAg screening in pregnant women cannot be overstated, as it is vital for managing and preventing Hepatitis B transmission to the newborn. If a woman tests positive for HBsAg, it needs further assessment of the viral load through HBV DNA testing, or HBeAg[2]. HBsAg Negative Women need no further HBV-specific actions, allowing focus on standard prenatal care.

Interpreting Hepatitis B Blood Test Results

Interpretation & Action Needed	HBsAg Hepatitis B Surface Antigen	HBsAb (anti-HBs) Hepatitis B Surface Antibody	HBcAb (anti-HBc) Hepatitis B Core Antibody
Not Immune - Not Protected Has not been infected, but still at risk for possible hep B infection. Vaccine is needed.	–	–	–
***Immune Controlled - Protected** Surface antibodies present due to natural infection. Has recovered from a prior hep B infection. Cannot infect others. No vaccine is needed.	–	+	+
Immune - Protected Has been vaccinated. Does not have the virus and has never been infected. No vaccine is needed.	–	+	–
Infected Positive HBsAg indicates hep B virus is present. Virus can spread to others. Find a doctor who is knowledgeable about hep B for further evaluation. More Testing Needed.	+	–	+
***Could be Infected** Result unclear - possible past or current hep B infection. Find a doctor who is knowledgeable about hep B for further evaluation. More Testing Needed.	–	–	+

Prophylaxis

Vaccination

All infants born to HBsAg-positive women should receive single-antigen HBV vaccine and HBIG within 12 hours of birth, administrated at different injection sites to ensure comprehensive protection [12]. At least the birth dose of the hepatitis B vaccine must be administered immediately after birth, preferably within the first 12-24 hours of life, to safeguard these infants. If recommended and accessible, HBIG should also be administered concurrently. For premature infants weighing less than 2000 grams, the first vaccine dose administered at birth should not be considered as part of the vaccine series. This is due to the potentially decreased effectiveness of the HBV vaccine in these infants. Instead, it's recommended to administer three additional doses of the vaccine, totaling four doses in all, starting when the infant reaches one month of age [10]. The World Health Organization (WHO) advocates for infants born to hepatitis B-positive individuals to receive their first dose of the hepatitis B vaccine within 24 hours of birth. Ideally, HBIG should also be administered. Subsequent doses of the hepatitis B vaccine should be given according to the recommended schedule to ensure complete protection[13]. According to the EPI schedule of Bangladesh, the First dose of the pentavalent vaccine starts from 6 weeks and then 10, 14 weeks accordingly with at least 4 weeks intervals. The administration site of the vaccine is the outer part of the left mid-thigh intramuscularly [14].

Maternal anti-viral therapy

To lower MTCT, the American College of Gastroenterology (ACG) and the American Association for Study of liver disease (AASLD) both strongly advise starting antivirals in highly viremic individuals between weeks 28 and 32 of pregnancy. Telbivudine and tenofovir continue to be first-line treatments. In a recent prospective experiment, telbivudine at 600 mg/d started at 20–32 weeks of gestation was given to highly viremic mothers (HBV DNA >107 log copies/mL) to compare the rates of perinatal transmission to mothers who received no treatment; all offspring received routine immunoprophylaxis. Before birth, the treatment arm's mean viral load significantly decreased, and no further evidence of fetal transmission was seen [15].

Concerning antiviral treatment, TDF (tenofovir) is frequently suggested as the primary medication. Pregnant women already on TBV (telbivudine), LAM (lamivudine), or TDF when they conceive should maintain their current regimen. Nevertheless, if they are taking different antiviral medications, it is advised to switch to TDF. Various health guidelines uniformly advise administering antiviral therapy, specifically tenofovir or telbivudine, to pregnant women who have significant viral loads, beginning between the 28th and 32nd weeks of pregnancy [3,10].

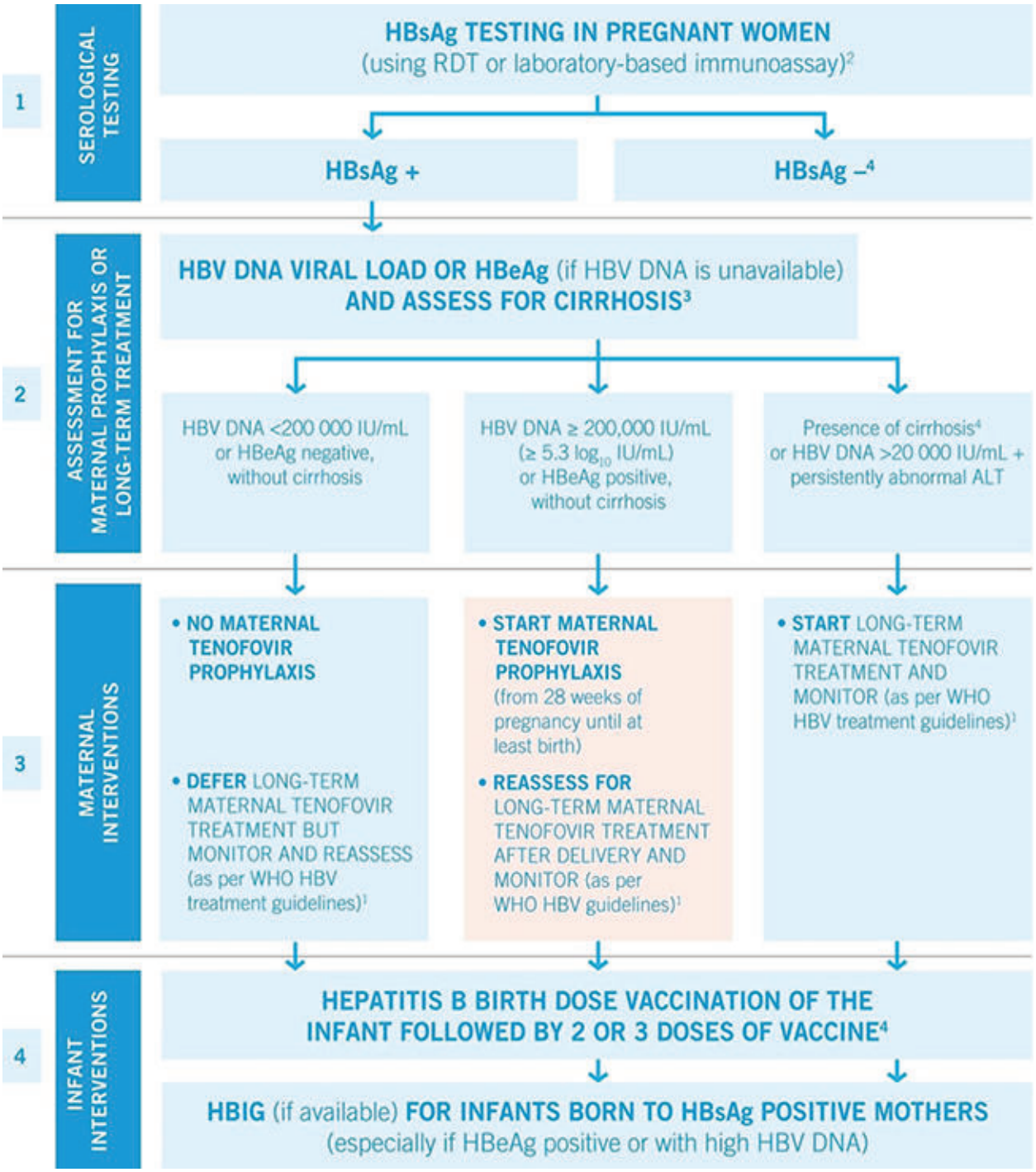
According to WHO recommendation, pregnant women who test positive for HBV infection (HBsAg positive) with an HBV DNA ≥5.3 log10 IU/mL (≥200,000 IU/mL2) will receive tenofovir prophylaxis from the 28th week of pregnancy until at least birth, to prevent mother-to-child transmission of HBV [2,3]. Tenofovir is a Nucleoside and Nucleotide Reverse Transcriptase Inhibitors (NRTIs). It has 2 formulations. Tenofovir alafenamide fumarate which is a Phosphonoamidate prodrug of tenofovir and Tenofovir disoproxil fumarate which is Acyclic nucleoside phosphonate [16].

Breastfeeding

HBsAg, HBeAg, and HBV DNA are present in the breast milk of mothers who are infected with the hepatitis B virus. The current guidelines from the World Health Organization state that there is no increased risk of HBV transmission through breastfeeding, even without immunization. However, it's advised to refrain from breastfeeding if the mother has cracked or bleeding nipples, as this could result in the mixing of serous exudates with breast milk, potentially leading to the transmission of hepatitis B [15].

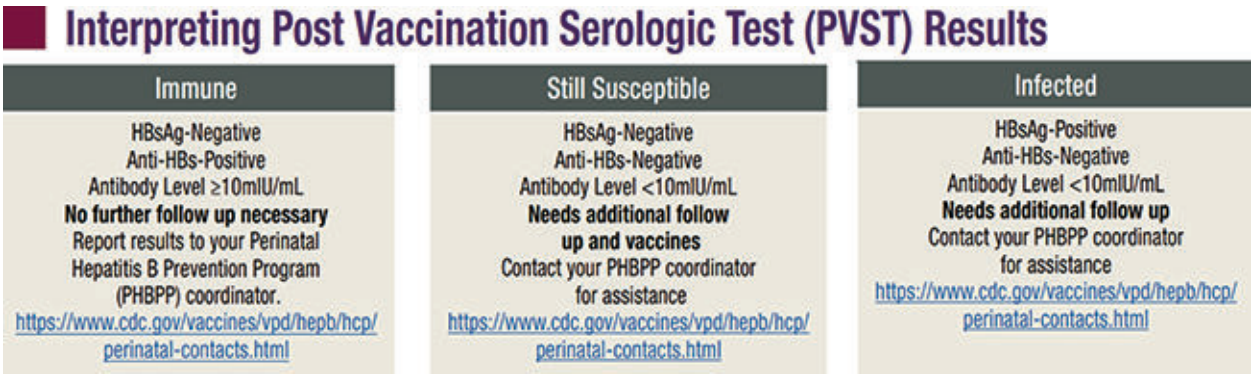
Postvaccination serologic testing (PVST)

All infants born to mothers who are infected with hepatitis B, or tested positive for the hepatitis B surface antigen (HBsAg) during pregnancy or at delivery, should undergo post-vaccination serologic testing (PVST). This testing is crucial as it helps determine whether the infant has either developed immunity or has been infected with HBV. PVST should exclusively include tests for hepatitis B surface antigen (HBsAg) and hepatitis B surface antibody (anti-HBs). It is recommended that PVST be conducted between the



Source: World Health Organization, Prevention of mother-to-child transmission of hepatitis B virus: guidelines, World Health Organization, 2020.

ages of 9 to 12 months, or 1 to 2 months after the completion of the vaccine series, particularly if the vaccination schedule was delayed. Conducting tests before the age of 9 months may lead to false positives for anti-HBs, as it could detect passive antibodies from the HBIG given at birth, rather than an actual immune response to the vaccine. Additionally, since the administration of HBIG at birth can extend the HBV incubation period, delaying the testing until 9 months allows for more accurate detection of any late-developing HBV infection [3,12].



Conclusion:

Addressing HBV infection during pregnancy is critical for public health due to the high risk of mother-to-child transmission. Routine HBsAg screening during pregnancy allows for early detection and timely intervention. Administering the hepatitis B vaccine and hepatitis B immunoglobulin (HBIG) within 12 hours of birth is essential to prevent perinatal transmission. Additionally, maternal antiviral therapy with tenofovir in late pregnancy further reduces the risk of transmission. Post-vaccination serologic testing ensures effective immunization of infants. These combined strategies, along with safe breastfeeding practices, are vital for reducing HBV transmission and protecting maternal and infant health. Collaborative public health efforts are essential to address this global health challenge effectively.

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Case Report

A Case of Congenital Ectropion in Down Syndrome

Islam MR[1], Akther KU[2], Ghosal S[3], Siddiqua A[4]

Abstract

Congenital bilateral ectropion of the eyelids is a rare, benign condition reported in ophthalmic literature. It is more frequently associated with Down syndrome, ichthyosis, and sporadic cases in newborns from black population. A rare case of primary congenital ectropion of all 4 eyelids in a child with Down syndrome is reported to emphasise the problems of surgical management. Congenital ectropion is associated with other eyelid abnormality and usually requires surgical measures to protect the cornea.

Keywords: Down syndrome, congenital ectropion,

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Introduction

Congenital ectropion (eyelid eversion) is a relatively rare clinical entity, which can be alarming to parents and caregivers of the affected neonate. Its etiology, though unknown, has been associated with a number of intrauterine and genetic factors[1]. The treatment could be conservative, by the use of medications and watchful waiting, and through surgical correction[1]. Although this condition is said to be rare, this article report a case of congenital ectropion with down syndrome and common cold.

Case Report

A 8 month-old boy presented with clinical features of common cold and Down syndrome like generalized hypotonia, upward slant of eyes, ectropion (Fig1), low set ears, small mouth with protruding tongue (Fig 2), simian crease and clinodactyly. He was the first child of a 25-year-old woman. Pregnancy was uneventful with regular antenatal follow-ups. The child was full term and was born by normal vaginal delivery, with no instrumentation. His bilateral ectropion of the eyelids were noticed since the neonatal period. His cardiovascular system examination was normal. His karyotyping was 47 XY, + 21. His ophthalmic examination revealed epicanthic folds, bilateral ectropion, euryblepharon and lid retraction. There was no cataract but exposure keratitis was present. There was no retinal detachment. Visual acuity can not access as he was not cooperative, but his vision was grossly intact. His intraocular pressure was normal. The ophthalmologist advised lateral tarsorrhaphy later if symptomatic treatment with corneal lubricants, moisture shields fails. He was advised for regular follow up and surgery. But the parents refused surgery and lost follow up.

Figure 1: *Bilateral ectropion*

1. *Md. Rafiqul Islam, Assistant Professor, Department of Pediatrics, Gonoshasthaya Samajvittik Medical College, Dhaka .
2. Khandokar Urmina Akther, Resident, Department of Pediatric Neurology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka.
3. Sharmistha Ghosal, Junior consultant, Pediatrics, Govt employee hospital, Dhaka.
4. Ayesha Siddiqua, Assistant Registrar, Pediatric Gastroenterology, Dhaka Medical College, Dhaka.

***Address of Correspondence:** Md. Rafiqul Islam, Department of Pediatrics, Gonoshasthaya Samajvittik Medical College, Dhaka. Email: rafiqulislamgsvmc@gmail.com, Phone: 01723775820.

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Figure 2: *Bilateral ectropion with protruded tongue*

Discussion

Congenital ectropion of the upper eyelids was first described by Adams in 1896[2,3,4]. Later, Gilbert and co-workers described two more cases associated with Down syndrome[5,6]. This rare condition has been reported more frequently in black infants[1,2,3,4,7,8] associated with ichthyosis and in infants with trisomy 21[1,5,8-14]. Although the condition is generally bilateral and asymmetrical, some unilateral cases have been described[8,11,13]. Down syndrome encompasses numerous ocular abnormalities like myopia, keratoconus, nystagmus, epiblepharon, brushfields spots, hypertelorism, epicanthus, convergent strabismus, cataracts, blepharo-conjuctivitis with the epicanthal folds, and the typical mongoloid slant to the eyelid fissures being the most obvious periocular findings[6,12]. Although the pathophysiology of congenital upper eyelid ectropion is unknown, multiple factors have been implied, including absence of an effective lateral canthal ligaments, lateral elongation of the eyelid, hypotonia of the orbicularis, vertical shortening of the anterior lamella, and failure of the orbital septum to fuse with the levator aponeurosis[1,2,4,6,11-14]. Treatment of congenital upper eyelid ectropion is controversial.

Different options have been suggested. Some believe that a simple and conservative management with lubricants ointments and moist chambers may be enough to prevent desiccation of the exposed conjunctiva, reduction of conjunctival edema and to allow spontaneous inversion of the eyelid within 2 to 3 weeks[3,7,11,13]. Surgical treatment for more severe cases that did not respond to conservative treatment include sub-conjunctival injection of hyaluronic acid[4,8,13], tarsorraphy,[2,3,6,7] tarsorraphy with excision of redundant conjunctiva[5,7], fornix suture[3,13] full-thickness skin graft[1,2,5,11], full-thickness horizontal lid shortening[2,6] and attachment of the orbital septum to the levator aponeurosis[2]. Most cases of congenital eversion of the eyelids without Down syndrome responded to patching or taping of the eyelids and the use of ointments,[3,6,7,11,13] however surgical intervention may be necessary in patients with Down syndrome[6,12,14]. Prevention of exposure keratopathy is one of the major goals of management. Management to the congenital ectropion in these cases should include the correction of the underlying anterior lamella shortening with full-thickness skin grafts that should be extended beyond the horizontal limb of the canthal tendon to compensate for subsequent contraction of the graft. In addition, horizontal lid laxity needs to be addressed with a lateral and medial tarsal strip procedure and a fullthickness pentagonal lid resection. In our case, we referred the case for surgical correction but lost follow up.

Conclusion:

Congenital ectropion is a rare abnormality that can threaten the cornea and visual acuity if not treated early. We report this boy to create awareness among pediatricians and ophthalmologists about the eye findings in Down syndrome. Congenital ectropion in Down syndrome may resolve spontaneously or may need surgical management to avoid exposure keratopathy.

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Case Report

Managing Complete Heart Block after Percutaneous Coronary Intervention: A Case Report

Iqbal SMM[1], Khan MT[2], Hamim AF[3], Majumder NM[4]

Abstract:

Development of Complete Atrioventricular Heart Block (CAVB) after successful elective Percutaneous Coronary Intervention (PCI) to the Left Anterior Descending artery (LAD) is considered to be a very rare complication post procedure. Here we present a case of a 60 year old male patient, who underwent elective PCI to soon after develop complete heart block, that required a temporary pacemaker and another PCI.

Key words: *PCI, LAD, CAVB, Pacemaker*

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Introduction:

Complete Atrioventricular Heart Block (CAVB) is commonly seen in cases of acute coronary syndromes, especially in Inferior STEMI. It is rarely seen as a complication resulting from percutaneous coronary intervention (PCI) to the left anterior descending artery (LAD)[1] . Here we report a case where a patient required a temporary pacemaker and balloon angioplasty after the development of complete AV heart block following elective PCI to LAD.

Case Report:

A 60-year-old male patient, previously treated for NSTEMI was admitted two months later for elective percutaneous coronary intervention. The patient had a past medical history of diabetes mellitus and dyslipidemia.

He had undergone coronary angiogram (CAG) 2 months ago where he was diagnosed as having triple vessel disease with 95% stenosis in the proximal segment of LAD, 90% diffuse lesion in the proximal segment of Left Circumflex artery (LCX) and 99% stenosis in the mid-segment of Right Coronary Artery (RCA) with 99% stenosis in mid-segment of Posterior Descending Artery (PDA). After Heart team discussion; Coronary Artery Bypass Grafting (CABG) was recommended. But the patient refused.Elective PCI to LAD and Staged PCI to RCA was planned. On admission, physical examination revealed pulse rate of 60 bpm, blood pressure of 110/70 mmHg, respiratory rate of 16 breaths/min, all other systemic examinations were unremarkable. An electrocardiogram before procedure revealed sinus rhythm, 60 beats per min, with significant ST depression from V3 to V6 (Fig-1).

Bedside Echocardiography showed moderate LV systolic dysfunction (EF: 40%). The following day, the patient had undergone PCI and a 3.0 mm x 30 mm drug eluting stent deployed at 10 atm which was post dilated with a 3.5 mm x 08mm balloon inflated at 14 atm. The first septal branch was occluded (Fig-2 A, B).

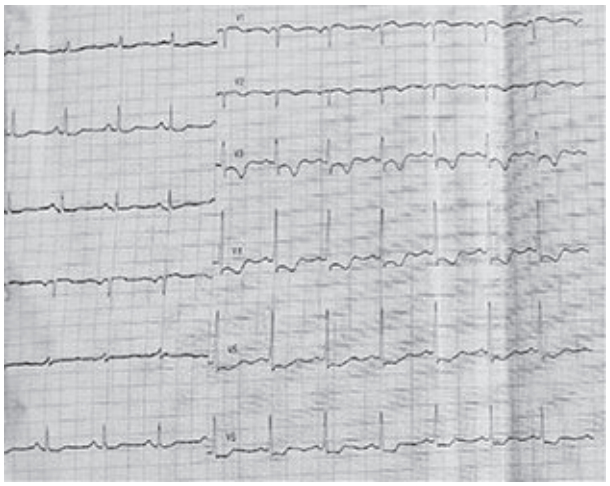

Figure1: *ECG on admission*

1. *Dr S M Mamun Iqbal, Professor, Department of Cardiology, MH Samorita Medical College Hospital.
2. Dr Mafuza Tabassum Khan, Medical Officer, Department of Cardiology, MH Samorita Medical College Hospital.
3. Dr Ashir Faishal Hamim, Medical Officer, Department of Cardiology, MH Samorita Medical College Hospital.
4. Dr Nurullah Mujahid Majumder, Medical Officer, Department of Cardiology, MH Samorita Medical College Hospital.

* **Address of correspondence:** Dr S M Mamun Iqbal, Professor, Department of Cardiology, MH Samorita Medical College Hospital.
Email: kironk56@yahoo.com, Cell no: 01715498482

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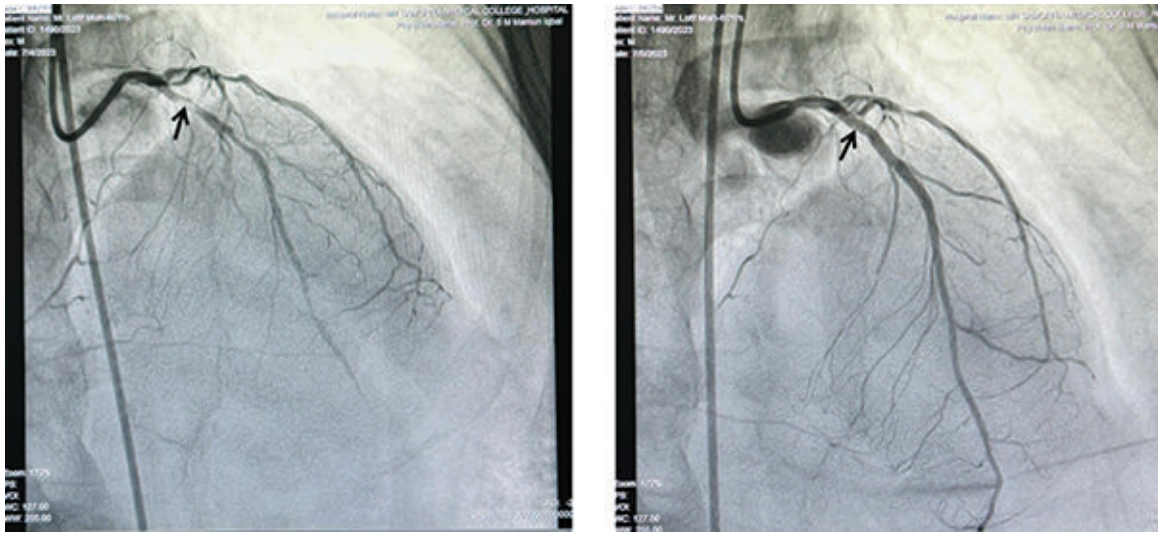


A B

Figure 2: *(A) Lesion in LAD (as marked by arrow) with poor distal flow, (B) Post PCI: Good distal flow with occluded 1st septal artery (as marked by arrow*)

The entire procedure was well tolerated by the patient. After the procedure, the patient was brought to the CCU for observation. Patient became hypotensive, so he was on Noradrenaline support. ECG showed RBBB (Fig-3).

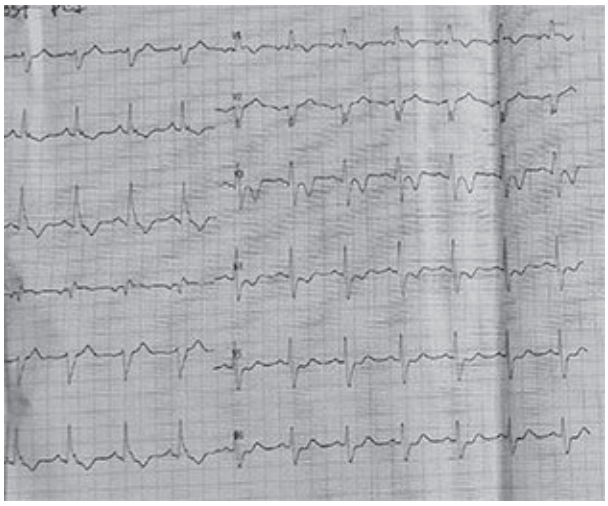


Figure 3: *ECG (post-procedure) RBBB*

On Day 2 post procedure, he complained of dizziness and chest pain. On examination, his heart rate was 40 bpm and BP was non recordable. ECG showed complete atrioventricular heart block. Intravenous atropine was given, without much improvement, a 6 Fr temporary transvenous pacemaker (TPM) was inserted (Fig-4).

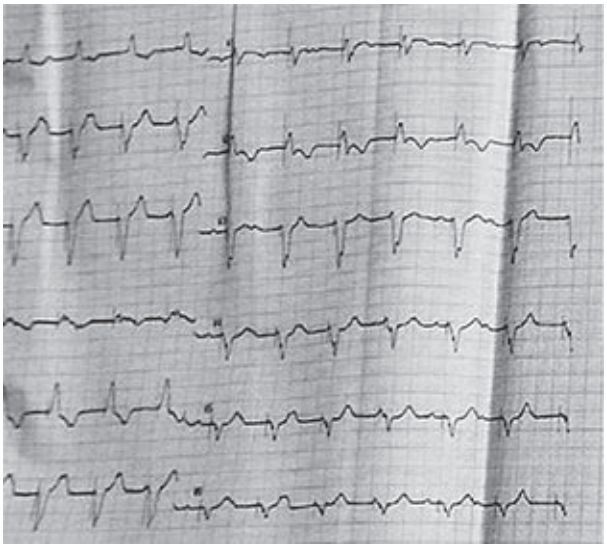
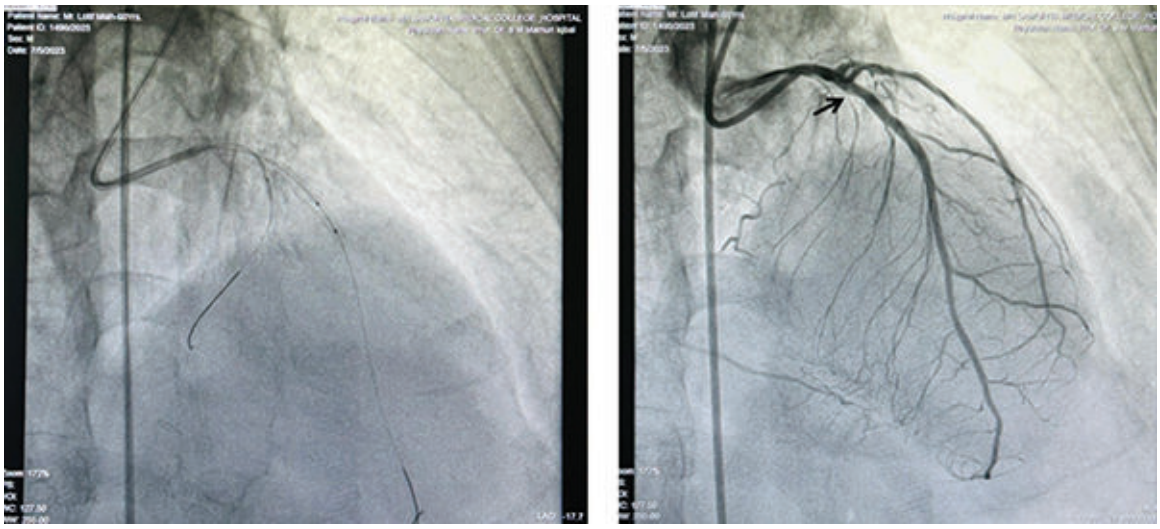


Figure 4: *TPM in situ*

A coronary angiogram was done showing a patent stent in LAD but a closed septal branch (Fig-5 (A)(B)). The blocked artery was reopened successfully by advancing the guide wire 0.014" Hydrophilic through the stent placed previously. Balloon angioplasty was performed using a 1.5 x 12 mm, Non-compliant balloon. Afterwards, he was dependent on the pacemaker for 24 hours following the procedure. Normal sinus rhythm was restored and the pacemaker was removed. Patient was discharged, days after the index procedure.



A B

Figure 5: *(A) The 1st septal branch was recrossed with wire and balloon dilatation of ostial lesion was done, (B) Flow in 1st septal branch is restored (as marked by arrow)*

Discussion:

Complete Heart block albeit rare can be a possible complication after percutaneous coronary intervention, especially to the LAD. PCI to LAD is frequently performed across the septal branches. Risk of occlusion of these branches becomes higher because of thrombus dislodgement or plaque shift during procedure. Septal artery occlusion can lead to many issues. Some of them are anginal symptoms, infarction, arrhythmias, congestive heart failure and in this case conduction disturbances. The septal artery emerges from the LAD at a right angle and pierces the interventricular septum[2]. Regarding this case, there was a new onset of RBBB post procedure which could have been an occult sign of infarction of the interventricular septum and the conduction system being endangered. Returning the blood flow did not result in quick correction of the complete heart block. However, the patient was hemodynamically improved and within 24 hours post procedure, he achieved sinus rhythm.

Conclusion:

Although LAD interventions are routinely done, development of complete heart block is rare. Nevertheless, it is important to make sure that the septal perforator arteries are not compromised, putting the patient at a significant risk of developing irreversible conduction abnormalities. Early reversal of complete heart block may prevent the need for a permanent pacemaker.

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Case Report

Unveiling a Neglected Case: Antipsychotic-Induced Tardive Syndrome in an Elderly Female from a Rural Setting

Momin S[1], Mondol S[2], Ali MS[3]

Abstract

Introduction: *The incessant use of antipsychotics is increasing at an unprecedented rate, both in urban and rural healthcare settings of developing countries like Bangladesh without appropriate follow-up. As a result, the rate of drug-induced extrapyramidal symptoms [EPS] is also increasing causing a variety of distressing acute and delayed involuntary movement disorders. Typical antipsychotics such as flupentixol have more potential to induce EPS.*

Case Report: *A 60-year-old female presented with complaints of repetitive involuntary movements of both upper and lower limbs, mouth and eyes for the last 10 years. She had been taking flupentixol with melitracen as an anxiolytic, prescribed by a local physician, for the previous 11 years. Over the 10 years, the patient gradually developed parkinsonism, dystonic features and orofacial dyskinesia, which greatly hampered her quality of life. As a result, she started to visit many physicians, and her management commenced accordingly. However, she responded poorly to treatment.*

Conclusion: *Prolonged use of antipsychotics especially flupentixol may present with debilitating extra-pyramidal syndrome which is often irreversible. Therefore, the irrational use of antipsychotics should be avoided. Given the considerable health risks involved, it's high time we enact legislation in our country to curb the misuse of this medication.*

Keywords: *Antipsychotic drugs, Flupentixol, Tardive Syndrome*

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Introduction:

The advent of antipsychotic drugs has revolutionized the management of psychosis and psychiatric illnesses globally. However, in developing countries like Bangladesh, both in urban and rural settings, the incessant use of these medications has become a growing concern now[1]. This can result from reliance on non-specialist healthcare providers for medication prescriptions and sometimes self-medication, without adequate monitoring or oversight. Among all antipsychotics flupentixol and melitracen combination is the most commonly misused medicine, both in urban and remote areas of Bangladesh[1].Flupentixol/melitracen is a combination of two psychoactive agents flupentixol and melitracen. It is designed for short-term usage only. Flupentixol is a thiazolyl antipsychotic, and melitracen is a tricyclic antidepressant[2]

The indiscriminate and prolonged use of this medication may lead to a spectrum of Extrapyramidal Symptoms [EPS], ranging from mild to severe. The onset of EPS can be classified as Acute (i.e. occurring within hours to days after exposure), Subacute (i.e. occurring weeks after drug exposure)

1. *Dr Sabrina Momin, Assistant Professor, Department of Medicine, MH Samorita Hospital & Medical College, Tejgaon, Dhaka, Bangladesh.
2. Dr Setu Mondol, Intern doctor, MH Samorita Hospital & Medical College, Tejgaon, Dhaka, Bangladesh.
3. Dr Md. Sekender Ali, Associate Professor, MH Samorita Hospital & Medical College, Tejgaon, Dhaka, Bangladesh.

***Address of Correspondence:** Dr Sabrina Momin, Assistant Professor, Department of Medicine, MH Samorita Hospital & Medical College, Tejgaon, Dhaka, Bangladesh, Mobile:0173840477, Email: sabrina_miti06@yahoo.com

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and Tardive (i.e. occurring months to years after drug exposure). Four common EPS are recognized, namely drug-induced parkinsonism, akathisia, acute dystonia and tardive dyskinesia. The incidence of Tardive syndrome is estimated to increase linearly by 5% annually during the first 5 years of treatment, after which time it tends to plateau; 49% after 10 years, and 68% after 25 years[2].

Typical antipsychotics especially Flupentixol have a higher potential for inducing EPS. EPS become prominent when more than 70-80% of the dopamine [D2] receptors in the basal ganglia(nigrostriatal pathway)are blocked[3]. Treatment options, especially for Tardive Syndromes, are often disappointing and frequently necessitate long-term palliative care, particularly in cases where these conditions significantly impact a patient's quality of life and are refractory to conventional treatment[4].

Case Report:

A 60-year-old female, hailing from Madaripur village of Bangladesh, non-diabetic, hypertensive presented with complaints of repetitive involuntary movements of both upper and lower limbs, mouth and eyes for the last ten years and slowness of movement for the same duration. Eleven years ago, she was first diagnosed with hypertension by a local healthcare provider. She was prescribed Amlodipine and Flupentixol with Melitracen. According to the patient, she responded well, leading to a lack of routine follow-up. One year after she noticed gradual development of spasms and involuntary movements of different body parts along with bradykinesia which increased in severity over the last 5 years. Still, the patient didn't visit any physician and continued taking anti-psychotic drug. Over the period she first developed features of parkinsonism in the form of tremors, bradykinesia, gait disturbances and dystonic features [Neck Dystonia (torticollis), Hand Dystonia, Blepharospasm]. Over the last 2 years, she noticed lip smacking, pouting, grinding and grimacing (tardive dyskinesia) which was initially mild and then became extensive and persisted throughout the day. This could be uppressed by herself occasionally and by voluntary actions, such as talking or chewing. However, it was not associated with extremity, truncal movement, or unusual vocalization [Tardive Tourette syndrome]. Movements disappeared during sleep but were aggravated by physical and mental stress. Gradually all the symptoms were so severe that her quality of life was greatly hampered and she resorted to visiting a local physician for the first time during these 10 years.

The antipsychotic drug was discontinued and no obvious withdrawal symptoms were noted afterwards according to the patient. She has no history of feeling of inner restlessness or inability to remain still (excludes akathisia). There is no history of any underlying psychiatric illness or other neurological symptoms. She has been post-menopausal for the last 10 years.

- General physical examination revealed a thinly built body with normal vital parameters. Cardiovascular, respiratory and gastrointestinal examinations were unremarkable.

CNS examination revealed

- Higher psychic functions: Normal [well alert, co-operative, maintains good eye contact, we could build a good rapport with the patient, no signs of self-neglect or psychosis]
- Cranial nerves including fundus examination: normal.
- Speech: Low volume and monotonous, suggestive of hypokinetic dysarthria [Drug-induced parkinsonism], mild slurred speech [Tardive Dyskinesia].
- Motor system examinations showed: Bilateral blepharospasm, and prominent and taut neck muscles indicating neck dystonia. Both upper limbs and lower limbs showed coarse tremors, cogwheel and lead-pipe rigidity in both upper limbs and repetitive involuntary orofacial dyskinesia in the form of lip-smacking, grimacing, teeth-grinding, biting, and chewing movements (evaluated by Abnormal Involuntary Movement Scale AIMS).
- Muscle power: 5/5 on the Medical Research Council (MRC) scale, Deep tendon reflexes: Normal in all four limbs with bilateral flexor plantar response, Gait: slow with decreased arm swing.
- Sensory, cerebellar and autonomic functions are intact.

Abnormal Involuntary Movement Scale (AIMS)

Instructions: Complete the examination procedure before making ratings. Circle score for each item.

Patient Name:	Date:	None	Minimal, may be extreme normal	Mild	Moderate	Severe
Facial and Oral Movements						
1. Muscles of Facial Expression e.g., movements of forehead, eyebrows, periorbital area, cheeks; include frowning, blinking, smiling, grimacing		0	1	2	3	4
2. Lips and Perioral Area e.g., puckering, pouting, smacking		0	1	2	3	4
3. Jaw e.g., biting, clenching, chewing, mouth opening, lateral movement		0	1	2	3	4
4. Tongue Rate only increases in movement both in and out of mouth, NOT inability to sustain movement		0	1	2	3	4
Extremity Movements						
5. Upper (arms, wrists, hands, fingers) Include choreic movements (i.e., rapid, objectively purposeless, irregular, spontaneous); athetoid movements (i.e., slow, irregular, complex, serpentine). DO NOT include tremor (i.e., repetitive, regular, rhythmic).		0	1	2	3	4
6. Lower (legs, knees, ankles, toes) e.g., lateral knee movement, foot tapping, heel dropping, foot squirming, inversion and eversion of foot		0	1	2	3	4
Trunk Movements						
7. Neck, shoulders, hips e.g., rocking, twisting, squirming, pelvic gyrations		0	1	2	3	4
Global Judgments						
8. Severity of abnormal movements		0	1	2	3	4
9. Incapacitation due to abnormal movements		0	1	2	3	4
10. Patient's awareness of abnormal movements (rate only patient's report) 0 = not aware; 1 = aware, no distress; 2 = aware, mild distress; 3 = aware, moderate distress; 4 = aware, severe distress		0	1	2	3	4
Dental Status						
11. Current problems with teeth and/or dentures?		No	Yes			

Figure 1: *Abnormal Involuntary Movement Scale (AIMS): Quick assessment tool for diagnosis, Severity assessment, Treatment response of tardive dyskinesia[4](Score of AIMS: Severe in 3 areas from first domain and global judgements)*

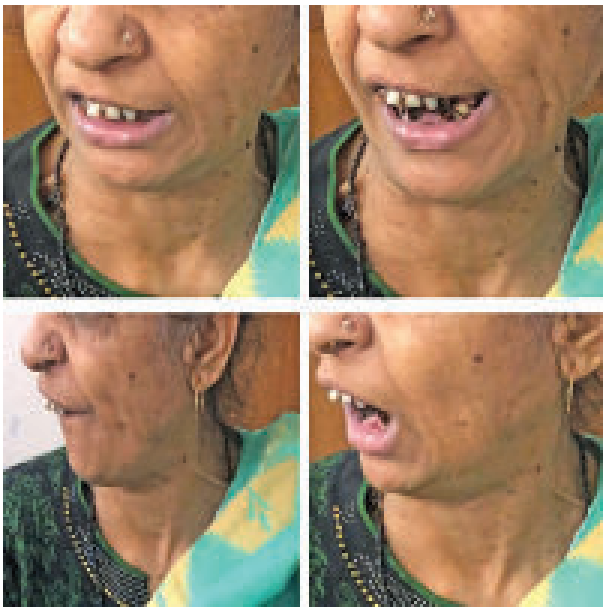

Figure 2 : *Series of pictures depicting orofacial dyskinesia (lip smacking, grinding, grimacing) and neck dystonia*

The patient, diagnosed with flupentixol-induced tardive syndrome, missed routine investigations along with brain imaging, copper, and lead level screenings, as well as the next follow-up appointment.

Discussion

- The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) define Tardive Syndrome [TS] as a Dopamine Receptor Blocking agent (DRBA) induced movement disorder that persists or worsens despite discontinuation or change in medication dosage. Symptoms must persist for a month or more after discontinuing medication to confirm TS diagnosis [1]. In this case, symptoms persisted [although not worsened] for about 4 months even after cessation of the offending drug.
- The symptoms of TS typically emerge after 1–2 years of continuous exposure to a DRBA and

almost never before 3 months [2]. The patient was on DRBA for several years [11 years].

- Patients may suffer simultaneously from more than one tardive syndrome. In a large study of patients with tardive dystonia, 55% had concomitant classical tardive dyskinesia and 31% had tardive akathisia[5]. She had three types of Tardive syndrome simultaneously [Tardive dystonia, Tardive parkinsonism & Tardive dyskinesia].
- Risk factors for developing Tardive Syndrome are female, elderly, post-menopausal, long duration of antipsychotic drug , high dose, typical antipsychotic drug, poly antipsychotic use, diabetes mellitus, previous history of mood disorder or psychosis, smoking, alcohol, substance abuse, genetic predisposition, brain damage (infarction, atrophic change, brain tumour, head trauma)[6]. In this case, the risk factors were female gender, old age, post-menopausal state, exposure to typical antipsychotic, long duration, and tobacco leaf chewing.
- We managed the patient by withdrawing the offending typical Antipsychotic drug and switching to an atypical antipsychotic with lower dopamine receptor 2 (D2) affinity, Vesicular monoamine 2 (VMAT 2) inhibitor: Tab. Tetrabenazine (12.5mg) twice daily, Anticholinergic drug: Tab. Trihexyphenidyl (2 mg) twice daily, Adjuvant treatment: Tab. Baclofen (10mg), Tab. Clonazepam (1mg), High dose antioxidants (vitamin E), Tab. Melatonin. The main principle of treatment was to start with the lowest possible dose with a gradual dose escalation. The patient was also referred to the Movement Disorder Clinic and Occupational Therapy Centre.
- To further optimize the patient's treatment, we could have gradually increased the current medication dosage while weighing the risk-benefit ratio and assessing the treatment response. Two FDA-approved medications, Valbenazine and Deutetrabenazine, are available for the treatment of Tardive Dyskinesia in adults[7], and we had planned to initiate one of these therapies. Additionally, a gradual withdrawal of anticholinergic medications, with a switch to Amantadine, which improves both drug-induced Parkinsonism and Tardive Dyskinesia, might have provided further benefit. Botulinum Toxin A injections could also be considered to address dystonia and dyskinesia[8]. Monitoring the patient's progress using AIMS would allow for timely adjustments to the treatment plan based on the patient's response.

Challenges while treating the case:

- Anticholinergic drugs improve Drug-induced parkinsonism [DIP] but worsen tardive dyskinesia [TD]. On the other hand, Tetrabenazine improves tardive dyskinesia but has the potential to worsen Parkinsonism & Depression[9]. As a result, it became quite difficult to treat the patient.
- Tardive Syndrome is often irreversible [especially after prolonged exposure][9].
- Patient missed the next Follow-up visit again [Long Distance, economic barrier, lack of caregiver].

Conclusion

Antipsychotic-induced EPS not only imposes physical discomfort but also induces profound social and functional disabilities. To prevent the patient from encountering unfortunate circumstances, avoiding the relentless use of DRBA is crucial. Despite being unapproved by drug regulatory agencies in several countries, the flupentixol & melitracen combination is still widely available and sold in multiple countries including Bangladesh. Given the considerable health risks involved, it's high time we enact legislation in our country to stop the production and misuse of this combination medication. Nevertheless, promising advancements in new medications for Tardive Dyskinesia [Deutetrabenazine, Valbenazine] offer hope for patients facing this challenging condition.

Acknowledgement

We acknowledge the patient for giving consent to write and publish this case report.

Conflict of interest

The author declared no conflict of interest.

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Abstract From Current Literatures

(MH Samorita Med Coll J 2023; 6(2): 83-86)

The Association Between Chronic Disease and Serious COVID-19 Outcomes and Its Influence on Risk Perception: Survey Study and Database Analysis

Authors of this article: Pedro Almeida Laires[1, 2] ; Sónia Dias[1, 2]; Ana Gama[1, 2]; Marta Moniz[1, 2]; Ana R Pedro[1, 2]; Patricia Soares[1, 2]; Pedro Aguiar[1, 2]; Carla Nunes[1, 2]

Background: COVID-19, a viral respiratory disease first reported in December 2019, quickly became a threat to global public health. Further understanding of the epidemiology of the SARS-CoV-2 virus and the risk perception of the community may better inform targeted interventions to reduce the impact and spread of COVID-19.

Objective: In this study, we aimed to examine the association between chronic diseases and serious outcomes following COVID-19 infection, and to explore its influence on people's self-perception of risk for worse COVID-19 outcomes.

Methods: This study draws data from two databases: (1) the nationwide database of all confirmed COVID-19 cases in Portugal, extracted on April 28, 2020 (n=20,293); and (2) the community-based COVID-19 Barometer survey, which contains data on health status, perceptions, and behaviors during the first wave of COVID-19 (n=171,087). We assessed the association between relevant chronic diseases (ie, respiratory, cardiovascular, and renal diseases; diabetes; and cancer) and death and intensive care unit (ICU) admission following COVID-19 infection. We identified determinants of self-perception of risk for severe COVID-19 outcomes using logistic regression models.

Results: Respiratory, cardiovascular, and renal diseases were associated with mortality and ICU admission among patients hospitalized due to COVID-19 infection (odds ratio [OR] 1.48, 95% CI 1.11-1.98; OR 3.39, 95% CI 1.80-6.40; and OR 2.25, 95% CI 1.66-3.06, respectively). Diabetes and cancer were associated with serious outcomes only when considering the full sample of COVID-19–infected cases in the country (OR 1.30, 95% CI 1.03-1.64; and OR 1.40, 95% CI 1.03-1.89, respectively). Older age and male sex were both associated with mortality and ICU admission. The perception of risk for severe COVID-19 disease in the study population was 23.9% (n=40,890). This was markedly higher for older adults (n=5235, 46.4%), those with at least one chronic disease (n=17,647, 51.6%), or those in both of these categories (n=3212, 67.7%). All included diseases were associated with self-perceptions of high risk in this population.

Conclusions: Our results demonstrate the association between some prevalent chronic diseases and increased risk of worse COVID-19 outcomes. It also brings forth a greater understanding of the community's risk perceptions of serious COVID-19 disease. Hence, this study may aid health authorities to better adapt measures to the real needs of the population and to identify vulnerable individuals requiring further education and awareness of preventive measures.

JMIR Public Health Surveill 2021;7(1):e22794

doi:10.2196/22794

Keywords: COVID-19 (2883); risk factors (108); morbidity (42); chronic disease (255); risk (244); perception (210); outcome (111); association (27)

Opportunities, barriers, and recommendations in down syndrome research

James A Hendrix[1], Angelika Amon[2], Leonard Abbeduto[3], Stamatis Agiovlasitis[4], Tarek Alsaied[5], Heather A Anderson [6], Lisa J Bain [7], Nicole Baumer[8], Anita Bhattacharyya [9 10], Dusan Bogunovic[11], Kelly N Botteron[12], George Capone[13], P riya Chandan [14], Isabelle Chase [15], Brian Chicoine [16], Cécile Cieuta-Walti[17], Lara R DeRuisseau[18], Sophie Durand [19], Anna Esbensen[20], Juan Fortea [21], Sandra Giménez [22], Ann-Charlotte Granholm[23 24], Laura J Hahn[25], Elizabeth Head[26], Hampus Hillerstrom[1], Lisa M Jacola[27], Matthew P Janicki [28], Joan M Jasien[29], Angela R Kamer[30], Raymond D Kent[9], Bernard Khor [31], Jeanne B Lawrence [32], Catherine Lemonnier [19], Amy Feldman Lewanda[33], William Mobley[34], Paul E Moore[35],

Linda Pollak Nelson [36], Nicolas M Oreskovic [37 38], Ricardo S Osorio[39], David Patterson [23 40], Sonja A Rasmussen [41], Roger H Reeves[42], Nancy Roizen[43], Stephanie Santoro[38 44], Stephanie L Sherman[45], Nasreen Talib [46], Ignacio E Tapia [47], Kyle M Walsh [48], Steven F Warren [49], A Nicole White [50], Guang William Wong [42 51], John S Yi [52]

Affiliations Expand

- PMID: 34268067
- PMCID: PMC8279178
- DOI: 10.3233/trd-200090

Background: Recent advances in medical care have increased life expectancy and improved the quality of life for people with Down syndrome (DS). These advances are the result of both pre-clinical and clinical research but much about DS is still poorly understood. In 2020, the NIH announced their plan to update their DS research plan and requested input from the scientific and advocacy community.

Objective: The National Down Syndrome Society (NDSS) and the LuMind IDSC Foundation worked together with scientific and medical experts to develop recommendations for the NIH research plan.

Methods: NDSS and LuMind IDSC assembled over 50 experts across multiple disciplines and organized them in eleven working groups focused on specific issues for people with DS.

Results: This review article summarizes the research gaps and recommendations that have the potential to improve the health and quality of life for people with DS within the next decade.

Conclusions: This review highlights many of the scientific gaps that exist in DS research. Based on these gaps, a multidisciplinary group of DS experts has made recommendations to advance DS research. This paper may also aid policymakers and the DS community to build a comprehensive national DS research strategy.

Keywords: Alzheimer's disease; Down syndrome; autism spectrum disorder; autoimmune disease; cognitive development; congenital heart disease; intellectual disability; leukemia; muscle hypotonia; obesity; obstructive sleep apnea; period.

Obesity and Cardiac Conduction Block Disease in China

Peipei Liu [1], Yanxiu Wang [2], Xiaofu Zhang [3], Zihao Zhang [1], NaiHui Zhao [1], Wenli Ou [1], Guodong Wang [2], Xuemei Yang [4], Man Li [4], Yaya Zhang [1], Xiuhong Yang [1 3], Shouling Wu [2]

Affiliations Expand

- PMID: 37955899
- PMCID: PMC10644217
- DOI: 10.1001/jamanetworkopen.2023.42831

Importance: Although a high body mass index (BMI) has been found to be associated with increased risk of cardiac conduction block (CCB) in older adults, no further studies have investigated the association between obesity and CCB in the general population.

Objective: To investigate the association between obesity and CCB, including its subtypes.

Design, setting, and participants: This cohort study used data from participants in the Kailuan Study in China (2006-2018) who had completed a physical examination in 2006 (baseline) and had not experienced CCB before baseline. Data analysis was conducted from March to September 2023.

Exposures: Obesity status was defined by BMI in 3 groups: normal weight (18.5 to <24), overweight (24 to <28), and obesity (≥28).

Main outcome and measures: The primary outcome was CCB, which was diagnosed from standard 12-lead electrocardiography. The primary end point included high-grade atrioventricular block (HAVB), complete right bundle branch block, complete left bundle branch block, left anterior fascicular block (LAFB), and left posterior fascicular block. First-degree atrioventricular block (FAVB), second-degree type 1 AVB, HAVB, complete and incomplete right and left bundle branch block, LAFB, and left posterior fascicular block were considered separately as secondary end points.

Results: Among 86 635 participants (mean [SD] age, 50.8 [11.9] years; 68 205 males [78.7%]), there were 33 259 individuals with normal weight (38.4%), 37 069 individuals with overweight (42.8%), and 16 307 individuals with obesity (18.8%). The mean (SD) follow-up was 10.6 (3.07) years. In the multivariable Cox proportional hazards regression analysis, obesity was associated with an increased risk of

incident CCB (hazard ratio [HR], 1.21; 95% CI, 1.04-1.42) vs normal BMI. In secondary analysis, obesity was associated with an increased risk of FAVB (HR, 1.44; 95% CI, 1.21-1.73), HAVB (HR, 1.99; 95% CI, 1.03-3.82), and LAFB (HR, 1.29; 95% CI, 1.03-1.62) vs normal BMI. There was no association between obesity and other CCB subtypes. Obesity was associated with a greater increase in risk of CCB vs normal BMI in older (aged e"65 years; HR, 1.44; 95% CI, 1.05-1.96) vs younger (aged <65 years; HR, 1.13; 95% CI, 0.96-1.34) participants (P for interaction < .001) and those with diabetes (HR, 2.16; 95% CI, 1.24-3.76) vs without diabetes (HR, 1.19; 95% CI, 1.02-1.39) (P for interaction = .02).

Conclusions and relevance: This study found that obesity was associated with an increased risk of CCB, with greater increases in risk for FAVB, HAVB, and LAFB. Individuals who were older and those who had diabetes had larger increases in risk.

Risk factors for the mortality of hepatitis B virus-associated acute-on-chronic liver failure: a systematic review and meta-analysis

Hanyun Tu [1], Rong Liu [2], Anni Zhang [3], Sufei Yang [4], Chengjiang Liu [5]

Affiliations Expand

- PMID: 37789279
- PMCID: PMC10548554
- DOI: 10.1186/s12876-023-02980-4

Background: Hepatitis B virus-associated acute-on-chronic liver failure (HBV-ACLF) has been confirmed as a prevalent form of end-stage liver disease in people subjected to chronic HBV infection. However, there has been rare in-depth research on the risk factors for the mortality of HBV-ACLF. This study aimed at determining the risk factors for the mortality of HBV-ACLF.

Methods: The relevant research was selected from four electronic databases that have been published as of August 2023. The existing research was reviewed in accordance with the inclusion and exclusion criteria. The level of quality of previous research was evaluated using the Newcastle-Ottawa scale. Moreover, a pooled estimate of the odds ratios (ORs) with their associated 95% confidence intervals (CIs) was provided through a meta-analysis. The data were combined, and the risk variables that at least two studies had considered were analyzed. The publication bias was examined through Egger's test and Begg's test.

Results: Twenty two studies that conformed to the inclusion criteria were selected from 560 trials. Eight risk variables in terms of HBV-ACLF mortality were determined, which covered INR (OR = 1.923, 95% CI = 1.664-2.221, P < 0.001), Monocytes (OR = 1.201, 95% CI = 1.113-1.296, P < 0.001), Cirrhosis (OR = 1.432, 95% CI = 1.210-1.696, P < 0.001), HE (OR = 2.553, 95% CI = 1.968-3.312, P < 0.001), HE grade (OR = 2.059, 95% CI = 1.561-2.717, P < 0.001), SBP (OR = 1.383, 95% CI = 1.080-1.769, P = 0.010), Hyponatremia (OR = 1.941, 95% CI = 1.614-2.334, P < 0.001), as well as HRS (OR = 2.610, 95% CI = 1.669-4.080, P < 0.001).

Conclusion: The most significant risk factors for HBV-ACLF mortality comprise HRS, HE, and HE grade, followed by INR and hyponatremia. The Monocytes, cirrhosis, and SBP have been confirmed as the additional key risk factors for HBV-ACLF mortality.

Keywords: Acute-on-chronic liver failure; Hepatitis B virus; Meta-analysis; Mortality; Risk factors; Systematic review.

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The 3% Oxygen Desaturation Index is an Independent Risk Factor for Hypertension Among Children with Obstructive Sleep Apnea

Hai-Hua Chuang [1 2 3], Chao-Yung Wang [4], Li-Pang Chuang [5], Yu-Shu Huang [6], Hsueh-Yu Li [7], Tuan-Jen Fang [7], Rong-Ho Lin [2], Li-Ang Lee [3 7]

Affiliations Expand

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- PMCID: PMC9208670
- DOI: 10.2147/NSS.S362557

Background: Obstructive sleep apnea (OSA) and obesity are both directional risk factors of hypertension. Chronic intermittent hypoxemia (IH) is a commonly observed pathophysiological mechanism involved in multiple comorbidities of OSA. However, their interactions are not well understood in children. This study aimed to investigate the associations of IH indexes (oxygen

desaturation index 3% [ODI3], mean peripheral oxygen saturation [SpO_2], least SpO_2, and time with SpO_2 < 85%), apnea-hypopnea index, and weight status with hypertension in a sample of pediatric OSA patients.

Methods: The medical records of 365 pediatric OSA patients were retrospectively reviewed in this cross-sectional study. Demographics, anthropometrics, standard in-laboratory polysomnography, and nocturnal blood pressure were collected. Multivariate logistic regression with forward selection was used to identify independent predictors of hypertension.

Results: Multivariate logistic regression analysis showed that ODI3 (odds ratio [OR] = 1.02, 95% confidence interval [CI] = 1.01-1.03) and body mass index z-score (OR = 1.34, 95% CI = 1.12-1.60) were independent continuous predictors of pediatric hypertension, whilst severe OSA (OR = 2.62, 95% CI = 1.60-4.29) and overweight/obesity (OR = 2.63, 95% CI = 1.59-4.34) were independent categorical predictors. Traditional risk factors including male sex (OR = 2.33, 95% CI = 1.02-5.33), late childhood/adolescence (OR = 1.98, 95% CI = 1.01-3.88), and overweight/obesity (OR = 2.97, 95% CI = 1.56-5.67) combined with sleep hypoxemia (least SpO_2 d" 95%) (OR = 2.24, 95% CI = 1.16-4.04) predicted hypertension (R^2 = 0.21) in the severe IH subgroup (n = 205), while the no/mild IH subgroup (n = 160) had an entirely different predictor, severe OSA (OR = 3.81, 95% CI = 1.49-9.74) (R^2 = 0.07).

Conclusion: The close relationships among IH, overweight/obesity, and hypertension highlight the importance of reducing IH and body weight in children with OSA.

Keywords: children; intermittent hypoxemia; obesity; obstructive sleep apnea; oxygen desaturation index; predictive model.

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Effects of added salt reduction on central and peripheral blood pressure

[Article in English, Portuguese]

Ana Carolina Arantes [1 2], Ana Luiza Lima Sousa [1 2], Priscila Valverde de O Vitorino [3], Paulo Cesar B Veiga Jardim [1 2], Thiago de Souza Veiga Jardim [1 2], Jeeziane Marcelino Rezende [1], Ellen de Souza Lelis [3], Rafaela Bernardes Rodrigues [1], Antonio Coca [4], Weimar Kunz Sebba Barroso [1 2]

Affiliations Expand

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- PMCID: PMC7792722
- DOI: 10.36660/abc.20180426

Background: Although the effects of salt intake reduction on casual blood pressure have been extensively studied in hypertensive individuals, data on reductions of added salt on arterial stiffness in both normotensive and prehypertensive subjects are scarce.

Objective: To evaluate the effects of progressive reduction in added salt intake (from 6 grams to 4 grams per day) on peripheral and central blood pressure and arterial stiffness in normotensive, prehypertensive and hypertensive individuals.

Methods: This was a single-blinded clinical trial with 13 weeks of follow-up. Normotensive (d" 130/85 mmHg), prehypertensive (e" 130 e < 139/e" 85 e < 90 mmHg) and stage 1 hypertensive individuals (< 139/≥85 and < 90 mmHg) were assessed. Casual blood pressure measurements and ambulatory blood pressure monitoring were performed using the automated OMRON 705CP device, and central blood pressure was measured using the Sphygmocor®. Twenty-four-hour urinary sodium excretion and the amounts of added salt consumed were measured. Statistically significance level was set at p < 0.05 for all analysis.

Results: A total of 55 participants (18 normotensive, 15 prehypertensive and 22 hypertensive), median age 48 years (IQR:39-54) were studied. The groups were not different in age or sex. No difference was observed in blood pressure or sodium excretion levels before and after the intervention. No significant changes in arterial stiffness parameters were observed.

Conclusion: The progressive reduction in added salt intake during a period of 13 weeks did not cause significant reductions in peripheral and central blood pressure. (Arq Bras Cardiol. 2020; 114(3):554-561).

Notes & News

(MH Samorita Med Coll J 2023; 6(2): 87)

CME Presentations
(January– June 2023)

No.	Date	Department	Presenter	Topic
1.	08.01.2023	Psychiatry	Prof. Dr. Md. Enayet Karim Prof & Head	Sleep Disorder
2.	24.01.2023	Cardiology	Dr. Mahfuza Tabassum Medical Officer Dr. Nurullah Mujahid Medical Officer	A Female Presenting with Acute Breathlessness
3.	05.02.2023	Paediatrics	Dr. Gazi Mohammad Imranul Haque Associate Professor	A Journey of a Preterm Newborn with Difficult Breathing
4.	26.02.2023	Anatomy	Dr. Sadia Sultana Jui Dr. Masud Rana Dr. Hafiz Mahmud Lecturers	Artery supply of heart
5.	12.03.2023	Anaesthesiology	Dr. Mahboob Hasan Assistant Professor	On Table Complication of Subarachnoid block
6.	29.03.2023	Radiology & Imaging	Dr. Fatema Sharmin Associate Professor	Imaging in Acute Pancreatitis
7.	09.04.2023	Physical Medicine & Rehabilitation	Dr. Supriya Sarker Assistant Professor	Soft Tissue Rheumatism
8.	30.04.2023	Surgery	Dr. Raka Mustary Khan Assistant Professor	Burn – The Burning issue
9.	07.05.2023	Biochemistry	Dr. Farzana Afroze Senior Lecturer	Serum Vitamin D and Serum Calcium Status in β - Thalassemia Major Children
10.	28.05.2023	Transfusion Medicine	Dr. Shayma Hamid Assistant Professor	Blood Component Therapy
11	04.06.2023	Forensic Medicine	Dr. Zarin Mahjabin Lecturer	Kerosene Oil Poisning

Following student obtained honors in respective subject against her name:

Name	Course	Type of Exam	Year of Exam	Exam. Roll No.	Subject
Maisha Tasmim	MBBS	Final Prof	May 2023	5218	Obs & Gynae