

Indoor Air Pollution and Child Health in Pakistan

Report of a seminar held at the Aga Khan University, Karachi, Pakistan 29 September 2005



This report was prepared by Dr Tauseef Ahmad Khan (Aga Khan University) and Dr Anita KM Zaidi (Aga Khan University), with input from the presenters and teams.

WHO wishes to thank Aga Khan University, Karachi, for hosting this workshop, and especially Dr Anita KM Zaidi for the major role played in organizing it. WHO is grateful to the Departments of Paediatrics (Prof. Z.A. Bhutta, Dr. A. Zaidi. Dr T.A. Khan) and Community Medicine (Prof. M. Kadir; Dr Z. Fatmi, Dr R. Siddiqui) for supporting the seminar.

Cover picture: House with an open fireplace, Northern Areas, Pakistan. (C) BACIP.

WHO Library Cataloguing-in-Publication Data:

Indoor air pollution and child health in Pakistan : report of a seminar held at the Aga Khan University, Karachi, Pakistan, 29 September 2005.

"This report was prepared by Tauseef Ahmad Khan (Aga Khan University) and Anita KM Zaidi (Aga Khan University)"—Acknowledgements.

1. Air pollution, Indoor. 2. Wood fuels. 3. Child. 4. Environmental health. 5. Pakistan. I. Khan, Tauseef Ahmad. II. Zaidi, Anita K. M. III. World Health Organization.

ISBN 92 4 159416 9 ISBN 978 92 4 159416 5 (NLM classification: WA 754)

© World Health Organization 2006

All rights reserved. Publications of the World Health Organization can be obtained from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel: +41 22 791 3264; fax: +41 22 791 4857; email: bookorders@who.int). Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to WHO Press, at the above address (fax: +41 22 791 4806; email: permissions@who.int).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

The named authors alone are responsible for the views expressed in this publication.

Contents

Executive summary	1
Background	2
Objectives of the seminar and subsequent workshop	3
Content of the presentations	4
Opening	4
The health burden of indoor air pollution: Overview of the global evidence	4
The health and demographic impact of biomass fuel use: A cross country comparison	7
Energy for sustainable development in the context of Millennium Development Goals	7
Indoor air pollution from household fuels in Pakistan	9
Preliminary analyses of indoor air pollution and low birth weight (LBW) in Southern Pakistan	10
Studying the health impacts of reduced indoor air pollution: the Guatemala randomised controlled trial	12
Fuel efficient stove project in Changa Manga forest, Punjab	13
Household energy interventions in northern areas of Pakistan	13
Market place of fuel-efficient technologies in Pakistan	15
Summary session	16
Proposal development workshop of studies on indoor air pollution interventions in Pakistan and their impact on health	18
Contents of the workshop	18
Brief overview of future plans of study by each of the participating development organizations	18
Annexes	
Annex 1: Institution participating in the seminar	23
Annex 2: Agenda of the seminar on indoor air pollution from household fuels	25
Annex 3: Agenda for the workshop	27

Annex 4: List of agencies and institutions present at the workshop

Executive summary

Indoor air pollution (IAP) is one of the major risk factors for pneumonia related morbidity and death in children world-wide. It is also associated with other adverse health outcomes in children such as low birth weight and chronic bronchitis, and with lung cancer, cataract and possibly cardiovascular disease in adults. Biomass fuel (wood, crop residues, animal dung) which is being used in four fifths of all households in Pakistan is the major source of IAP when it is burned for cooking, space heating and lighting homes. Biomass is mostly burned in inefficient three-stone stoves leading to incomplete combustion and high levels of indoor air concentration of smoke. There is a dearth of scientific studies in Pakistan to relate IAP to health effects; consequently IAP is not a recognized environmental hazard at policy level.

A one day seminar was held at The Aga Khan University (AKU), Karachi, to raise awareness of household energy issues, indoor air pollution and its effect on child health. Participants discussed global evidence regarding health impacts of IAP, the role of energy utilization in alleviation of poverty, and possible interventions to improve child health outcomes in the context of sustainable development. The seminar was attended by over 400 participants from a wide range of organizations including NGOs involved with dissemination of fuel efficient stoves and health education, policy makers, international agencies and funding bodies. Presentations ranged from topics related to the situation of indoor air pollution and household energy issues globally and in Pakistan, to local initiatives such as fuelefficient stoves and promotion of liquefied petroleum gas. Fuel-efficient stoves and cooking devices used by various non-governmental organizations in Pakistan were displayed in a related exhibition. During the final session, participants developed follow-up action points to raise awareness about indoor air pollution in Pakistan and develop locally acceptable and sustainable solutions. The event was covered in the press, television and radio.

The seminar was followed by a three day workshop for 20 participants from selected NGOs and academic institutions to develop proposals for research projects for selected sites to document the impact of interventions on air pollution on child health and social and economic circumstances of households.

Background

Indoor air pollution is one of the major risk factors for pneumonia and deaths from pneumonia in children, and also associated with other adverse health outcomes such as low birth weight and chronic bronchitis in children and lung cancer, tuberculosis, cataract and possibly cardiovascular disease in adults. Biomass fuel is the major source of IAP when it is burned for cooking, space heating and lighting homes.

Biomass is the major fuel used for cooking and heating in Pakistan, accounting for about 86% of total household energy consumption. Wood, crop residues and animal dung are the major sources of biomass fuels used in Pakistan. Biomass is mostly burned in inefficient three-stone stoves leading to incomplete combustion and high levels of indoor air concentration of smoke containing particles and harmful gases (CO, NO_x). There is dearth of scientific studies in Pakistan to relate IAP to health effects. IAP is not a recognized environmental hazard at policy level. Therefore, generally, few efforts have been undertaken in this regard so far in Pakistan.

The WHO Department of Child and Adolescent Health and Development recently commissioned a review of the situation in Pakistan, a country with both a high childhood pneumonia burden and high biomass fuel use.¹ This review was used as a background paper for the workshop.

¹ http://www.who.int/child-adolescent-health/New_Publications/CHILD_HEALTH/DP/WHO_FCH_CAH_05.06.pdf

Objectives of the seminar and subsequent workshop

The seminar was convened to:

- Raise awareness of household energy issues and indoor air pollution and its effect of health at policy level.
- Identify and discuss possible and locally acceptable interventions for improving indoor air pollution in the context of development projects.

The seminar was followed by a 3-day workshop with selected research and implementation organisations to:

• Develop proposals for research projects for selected sites to document the impact of the improvement of indoor air pollution on health, particularly child health.

Content of the presentations

Opening

Dr Muhammad Khurshid, Dean Medical College and Professor Zulfiqar Ahmed Bhutta, Department of Paediatrics of The Aga Khan University, Karachi, welcomed all the participants on behalf of AKU.

Dr Hadi Bux Jatoi, Director General Health, Sindh, was the invited chief guest. A message was read on his behalf in which he sent a warm welcome to all the guests, including national and international experts who had gathered to try to solve problems of child health resulting from breathing heavily polluted air in their homes. He emphasized the importance of education and development to improve the health of people and highlighted the damage to the environment caused by cutting down of trees for firewood. The minister thanked all the participants at the end and hoped that they may come up with possible interventions for improving indoor air pollution in Pakistan.

To set the scene, Dr. Martin Weber, WHO, Geneva, gave an overview on the global situation of deaths in children under 5 years of age, and risk factors for deaths, of which indoor air pollution was one of the most important ones.

The health burden of indoor air pollution: Overview of the global evidence

Dr Nigel Bruce Division of Public Health University of Liverpool Email: ngb@liv.ac.uk

The Energy Ladder	
Increasing cleanliness, efficiency, cost and convenience	Electricity

Around half of the world's population still rely on solid fuels for their everyday household energy needs, some 2.4 billion on biomass (wood, animal dung and crop wastes) and 0.5 billion on coal (mainly in China). Globally,

预览已结束, 完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5 29706

