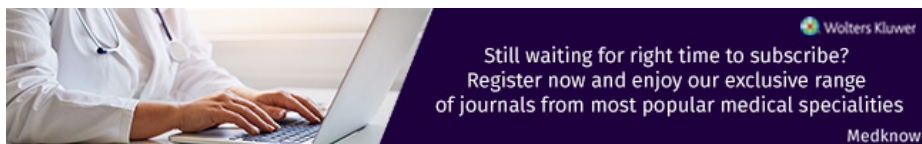




HOME ABOUT JOURNAL EDITORIAL BOARD CURRENT ISSUE ARCHIVES SEARCH INSTRUCTIONS SUBSCRIBE ADVERTISE

Login | Users online: 1039

[Ahead of print articles](#)



Search articles

SEARCH

➔ [TABLE OF CONTENTS - CURRENT ISSUE](#)

[ToC](#) [RSS](#)

October-December 2021 | Vol 46 | Issue 4

[Advanced search](#)

GET ALERTS IN EMAIL

JOIN US BECOME A REVIEWER

SEE ARTICLE STATISTICS FOR YOU

SUBMIT ARTICLES ONLINE

Recommend this Journal for Library



PubMed

Editorial Commentary

One world, one health

Suneela Garg, Bratati Banerjee

Introduction One of the first conditions of happiness is that the link between man and nature shall not be broken. Leo Tolstoy Health of the humans relies on well-functioning ecosy...

[\[Abstract\]](#) | [\[HTML Full text\]](#) | [\[PDF\]](#) | [\[Mobile HTML Full text\]](#) | [\[EPub\]](#)

View Point

Publication pressure versus ethics, in research and publication

Rakesh Bahl, Saransh Bahl

Research is undertaken to increase scientific knowledge. Knowledge enters the domain of science after it is presented to others. Publishing research, contributes to medical community's knowledge...

[\[Abstract\]](#) | [\[HTML Full text\]](#) | [\[PDF\]](#) | [\[Mobile HTML Full text\]](#) | [\[EPub\]](#)

View Point

Has national medical commission short-changed the subject of community medicine in its latest minimum requirements for Indian medical graduates? A systems review



Arun Gupta, Sushil Kumar Kaushik, Arun Kumar Yadav, Suraj Kapoor, Mayuri Verma, Vijay Bhaskar

System analysis is examination of various elements of a system with a view to ascertain whether the proposed solution to a problem will fit the system and in turn effect an overall improvement in th...

[\[Abstract\]](#) | [\[HTML Full text\]](#) | [\[PDF\]](#) | [\[Mobile HTML Full text\]](#) | [\[EPub\]](#)

[Read more....](#)

[Sitemap](#) | [What's New](#) | [Feedback](#) | [Copyright and Disclaimer](#)

© 2007 - 2022 Indian Journal of Community Medicine | Published by Wolters Kluwer - [Medknow](#)

Online since 15th September, 2007

[Editorial and Ethics Policies](#)

[View mobile site](#)

ISSN: Print -0970-0218, Online - 1998-3581



- HOME
- ABOUT JOURNAL
- EDITORIAL BOARD
- CURRENT ISSUE
- ARCHIVES
- SEARCH
- INSTRUCTIONS
- SUBSCRIBE
- ADVERTISE

Login | Users online: 1043

Ahead of print articles

Table of Contents



July-September 2021
Volume 46 | Issue 3
Page Nos. 363-579

Online since Wednesday, October 13, 2021

Accessed 29,649 times.

PDF access policy

Journal allows immediate open access to content in HTML + PDF

EPub access policy

Full text in EPub is free except for the current issue. Access to the latest issue is reserved only for the paid subscribers.

- View issue as eBook
- Issue statistics
- RSS

- About us
- Instructions
- Subscribe
- Advertise
- Search articles
- Contact us
- My Preferences
- Next Issue
- Previous Issue

- Show all abstracts
- Show selected abstracts
- Export selected to
- Add to my list

EDITORIAL COMMENTARY

- Evidence-based health policies and its discontents – Comparative global and Indian perspectives with a focus on the COVID-19 pandemic **POPULAR** p. 363
Saurav Basu
DOI:10.4103/ijcm.ijcm_622_21
[\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}

VIEW POINTS

- Medical termination of pregnancy (Amendment Bill, 2021): Is it enough for Indian women regarding comprehensive abortion care?? **POPULAR** p. 367
Sneha Kumari, Jugal Kishore
DOI:10.4103/ijcm.IJCM_468_20
[\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Improving treatment of substance use disorders through community drug treatment clinics: An experiential account p. 370
Ravindra Rao, Anju Dhawan, Arpit Parmar, Deepak Yadav, Roshan Bhad
DOI:10.4103/ijcm.IJCM_998_20
[\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}

REVIEW ARTICLES

- Approaches to assess e-health programs: A scoping review p. 374
Nitin Kumar Joshi, Pankaj Bhardwaj, Deepak Saxena, Praveen Suthar, Vibha Joshi
DOI:10.4103/ijcm.IJCM_340_20
[\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- A systematic review on the therapeutic relevance of hydroxychloroquine/chloroquine in the management of COVID-19 p. 380
Gerard McCabe, Dhruv Satya Sahni, Srishti Ramsaha
DOI:10.4103/ijcm.IJCM_539_20
[\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}

ORIGINAL ARTICLES

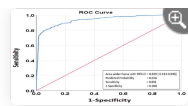
- Correlates of cigarette smoking among adolescents in India p.

I'm finally diabetes free

Big Pharma hates her: she reversed her diabetes in 3 weeks

Healthy Anr

- SUBMIT ARTICLES ONLINE
- GET ALERTS IN EMAIL
- JOIN US BECOME A REVIEWER
- SEE ARTICLE STATISTICS FOR YOU
- Recommend this Journal for Library



Jai Kishun, Anup Kumar, Uttam Singh 389
DOI:10.4103/ijcm.IJCM_168_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Dietary risk with other risk factors of breast cancer p.
 Vijith Shetty, Rashmi Kundapur, Sachin Chandramohan, Sharon Baisil, Deepak Saxena 396
DOI:10.4103/ijcm.IJCM_227_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Pregaming on alcohol products among male college students in puducherry-mixed- p.
 methods study 401
 Divya Rajaseharan, Amol R Dongre
DOI:10.4103/ijcm.IJCM_421_20

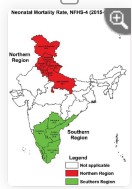
[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Differential and determinants of neonatal mortality: A comparative study in Northern and p.
 Southern Regions of India 405

Kamalesh Kumar Patel, Mukesh Kumar
DOI:10.4103/ijcm.IJCM_425_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Understanding social media usage and engagement among women to inform breast cancer p.
 knowledge and prevention practices: Cross - sectional study in Delhi -National Capital 411
 Region of India
 Nibha Sinha, Alka Sharma
DOI:10.4103/ijcm.IJCM_429_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Challenges faced by primary caretakers of adolescent girls with intellectual disability p.
 during their menstrual cycle in Puducherry: A mixed method study 416
 S Karthikayini, S Arun
DOI:10.4103/ijcm.IJCM_433_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



A review of maternal near miss cases in selected Hospitals in North-East India p.
 Vizovonuo Visi, Brogen Singh Akoijam 421
DOI:10.4103/ijcm.IJCM_476_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Discriminant function analysis of sleep quality and its determinants among general adult p.
 population of Ahmedabad City, Gujarat 425
 Jayshree Tolani, Venu Tejas Shah, Nitinkumar D Shah, Prutha Bakul Desai
DOI:10.4103/ijcm.IJCM_533_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Quality assessment of stillbirth review: A pilot study in ten high-priority Districts in p.
 Odisha 430
 Snigdha Singh, Manas Kumar Nayak, Prashanta Kumar Routray, Sushree Samiksha Naik,
 Nirmal Kumar Mohakud
DOI:10.4103/ijcm.IJCM_547_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Prevalence and determinants of adverse pregnancy outcomes among women in India: A p.
 secondary data analysis 434
 Kamalesh Kumar Patel, Rakesh Kumar Saroj, Mukesh Kumar
DOI:10.4103/ijcm.IJCM_569_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



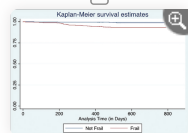
Prevalence of severe depression among adolescents in rural area of Odisha, India p.
 Sai Chandan Das, Mallicka , Prabhudarsan Sahoo, Pragyan Priyadarshini, RV Manasa 438
DOI:10.4103/ijcm.IJCM_570_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Frailty, disability, and mortality in a rural community-dwelling elderly cohort from p.
 Northern India 442
 Rama Shankar Rath, Rakesh Kumar, Ritvik Amarchand, Giridara P Gopal, Debjani Ram
 Purakayastha, Reshmi Chhokar, Venkatesh V Narayan, AB Dey, Anand Krishnan
DOI:10.4103/ijcm.IJCM_616_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Study on factors associated with depression among elderly and comparison of two scales p.
 used for screening 446
 Shashwat Nagar, Hirenkumar B Patel, Noopur Nagar, Darshan Mahyavanshi, SS Nagar,
 Naresh Godara
DOI:10.4103/ijcm.IJCM_627_20

[ABSTRACT] [HTML Full text] [PDF] [Mobile Full text] [EPub] [Sword Plugin for Repository]^{Beta}



Assessment of preventable risk factors of cardiovascular diseases among junior college p.
 students: A cross-sectional study 450
 Rujuta Sachin Hadaye, Ruhi Dass
DOI:10.4103/ijcm.IJCM_682_20



- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Provision of care following road traffic injuries in a district in South India: A qualitative analysis of stakeholder perspective p. 454
Shreyaswi M Sathyanath, Rashmi Kundapur, Sudhir H Prabhu, Anusha Rashmi
DOI:10.4103/ijcm.IJCM_704_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Cardiovascular morbidity, quality of life, and cost of care among diabetic patients: A comparative study from a Tertiary Care Hospital of Uttarakhand, India p. 459
Bhola Nath, Shiv Dutt Gupta, Ankita Kankaria, Ranjeeta Kumari
DOI:10.4103/ijcm.IJCM_739_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Strengths, weaknesses, and suggestions for improvement in postgraduate assessment in community medicine in India: A Delphi study p. 464
Amol R Dongre, John Norcini
DOI:10.4103/ijcm.IJCM_776_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Prevalence of asymptomatic bacteriuria and antimicrobial resistance profile among pregnant females in a Tertiary Care Hospital p. 469
Anjali Agarwal, Shreya Pandey, Ujjwal Maheshwari, MP Singh, Jyoti Srivastava, Seema Bose
DOI:10.4103/ijcm.IJCM_792_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Risk factors for colorectal cancer in Goa, India: A Hospital-based Case–Control study p. 474
Agnelo Menino Ferreira, Shradha U Chodankar, Frederick Satiro Vaz, Delia Basil D'souza, Manojkumar S Kulkarni
DOI:10.4103/ijcm.IJCM_848_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- The barrier to contraceptive use among multiparous women in Indonesia p. 479
Ratna Dwi Wulandari, Agung Dwi Laksono, Ratu Matahari
DOI:10.4103/ijcm.IJCM_902_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Hypovitaminosis D, dyslipidemia, and thyroid dysfunction among adolescents and their associations with blood pressure in a Northeastern City of India p. 484
Bidhan Goswami, Himadri Bhattacharjya, Shauli Sengupta, Bhaskar Bhattacharjee
DOI:10.4103/ijcm.IJCM_907_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Coherence between existing system of defining urban poor with kuppusswamy and Hashim's system; Which is more relevant? p. 489
Sanjivani Vishwanath Patil, Sudhanshu Ashok Mahajan, Prakash Prabhakarrrao Doke, Jayashree Sachin Gothankar
DOI:10.4103/ijcm.IJCM_912_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Constructing practical and realistic asset-based socioeconomic status assessment scale using principal component analysis for urban population of Puducherry, India p. 494
Vinayagamoorthy Venugopal, Amol R Dongre, Poomathy Ponnusamy
DOI:10.4103/ijcm.IJCM_925_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- A study on the emotional intelligence among teaching faculty of a medical college in South Karnataka p. 499
Raman Hulinaykar, Kusuma Achalkar, Ningangouda Parvatagouda, MM Angadi
DOI:10.4103/ijcm.IJCM_931_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Medication adherence to oral hypoglycemic drugs among individuals with Type 2 diabetes mellitus – A community study p. 503
Rajeev Aravindakshan, Sherin Billy Abraham, Rajalakshmy Aiyappan
DOI:10.4103/ijcm.IJCM_985_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}

SHORT COMMUNICATIONS 

- Effect of long-term regular Yoga on physical health of Yoga practitioners p. 508
Manisha Kalpesh Gohel, Ajay G Phatak, Utpala N Kharod, Bhanuprasad A Pandya, Balvantkumar L Prajapati, Utakarsh M Shah
DOI:10.4103/ijcm.IJCM_554_20
- [\[ABSTRACT\]](#) [\[HTML Full text\]](#) [\[PDF\]](#) [\[Mobile Full text\]](#) [\[EPub\]](#) [\[Sword Plugin for Repository\]](#)^{Beta}
- Underweight, overweight, and anemia among elderly persons in a rural area of Ballabgarh, Haryana p. 511
Sunanda Gupta, Rakesh Kumar, Mani Kalaivani, Baridalyne Nongkynrih, Shashi Kant, Sanjeev Kumar Gupta



[HOME](#) [ABOUT JOURNAL](#) [EDITORIAL BOARD](#) [CURRENT ISSUE](#) [ARCHIVES](#) [SEARCH](#) [INSTRUCTIONS](#) [SUBSCRIBE](#) [ADVERTISE](#)

Login | Users online: 1042

[Ahead of print articles](#)     

Editorial Board

Chief Editor

Dr. Pradeep Kumar
Professor, Dr MKS Medical College, Ahmedabad, Gujarat

Joint Editors

Dr. Rashmi Sharma
Associate Professor, GMERS Medical College Sola, Ahmedabad, Gujarat

Dr. Bhavesh Modi
Associate Professor, GMERS Medical College Gandhinagar, Gujarat

Editor

Dr. Deepak Saxena
Professor, IIPH, Gandhinagar, Gujarat

Managing Editor

Dr. Harsh Bakshi
Assistant Professor, GMERS Medical College Sola, Ahmedabad, Gujarat

Members (Elected)

Dr. Anupam Parashar,
IGMC, Shimla

Dr. Rakesh Bahl,
GMC, Jammu

Dr. Parag Chavda,
GMERSMC Gotri, Vadodara

Dr. Prakash Gattani,
Dr SCGMC, Nanded

Dr. MP Singh,
HIMS, Barabanki

Dr. Medhavi Agarwal,
RMCH Bareilly

Dr. Priyesh Marskole,
GMC Khandwa

Dr. Kamlesh Jain,
JNMC, Raipur

Dr. Moushumi Basu,
IPGMER, Kolkata

[About us](#)
[Instructions](#)
[Subscribe](#)
[Advertise](#)
[Search articles](#)
[Contact us](#)
[My Preferences](#)

 **SUBMIT ARTICLES
ONLINE**

 **GET ALERTS IN
EMAIL**

 **JOIN US BECOME
A REVIEWER**

 **SEE ARTICLE
STATISTICS FOR YOU**

 **Recommend this
Journal for Library**

Dr. E Venkat Rao,
IMS & SUM Hospital, Bhubaneswar

Dr. S. Karthikeyan,
PSGIMSR, Coimbatore

Dr. A. Newton Raj,
PIMS, Puducherry

Members (National)

Dr. AK Bhardwaj, Shimla

Dr. AM Kadri, Ahmedabad

Dr. Amita Kashyap, Jaipur

Dr. Anil Purty, Puducherry

Dr. Anku Moni Saikia, Guwahati

Dr. Bhaskaran Unnikrishnan, Mangalore

Dr. BS Garg, Wardha

Dr. BWC Sathiyasekaran, Chennai

Dr. CS Pandav, Delhi

Dr. DCS Reddy, Lucknow

Dr. Devi Madhavi, Visakhapatnam

Dr. Dinesh Paul, Bhopal

Dr. K Vijayakumar, Kochi

Dr. Mohan Doibale, Aurangabad

Dr. Neeraj Agarwal, Patna

Dr. Pradeep Kasar, Jabalpur

Dr. Raghunath Misra, Kolkata

Dr. RC Goyal, Tiruchirappalli

Dr. RK Baxi, Vadodara

Dr. Sairu Philip, Alappuzha

Dr. Sanjay Zodpey, Delhi

Dr. Trilochan Sahu, Bhubaneswar

Dr. Vikas Bhatia, Bibinagar

Dr. Vimala Thomas, Secunderabad

Dr. Vivek Adhish, Delhi

Dr. VK Srivastava, Lucknow

Members (International)

Dr. Christian Borgemeister
Director, Centre for Development Research, Bonn, Germany

Dr. Graham Serjeant
Professor, Emeritus Faculty of Medical Science, University of the West Indies, Kingston, Jamaica.

Dr. Jenny Ruducha
Lead Partner, Braintree Global Health, MA, USA

Dr. Patrick Moonan
Senior Epidemiologist, Global HIV & TB, US CDC, Atlanta, USA

Dr. Sagar Galwankar
Assistant Professor, Emergency Medicine, UF North Jacksonville, Florida, USA

Dr. Samir Shah
Consultant, Communicable Disease Surveillance & Control, Directorate General of Health Affairs, Muscat, Sultanate of Oman

Dr. Shamita Misra

Associate Professor, Clinical Family and Community Medicine, MU School of Medicine, Missouri, USA

Dr. Thomas Kistemann

Head, WHO Collaborating Center for Health Promoting Water Management and Risk Communication, Bonn, Germany

[Sitemap](#) | [What's New](#) | [Feedback](#) | [Copyright and Disclaimer](#)

© 2007 - 2022 Indian Journal of Community Medicine | Published by Wolters Kluwer - [Medknow](#)

Online since 15th September, 2007

[Editorial and Ethics Policies](#)



[View mobile site](#)

ISSN: Print -0970-0218, Online - 1998-3581

The Barrier to Contraceptive Use among Multiparous Women in Indonesia

Ratna Dwi Wulandari, Agung Dwi Laksono¹, Ratu Matahari²

Department of Administration and Health Policy, Faculty of Public Health, Universitas Airlangga, Surabaya, ¹Center of Research and Development for Humanities and Health Management, National Institute of Health Research and Development, Indonesia Ministry of Health, Jakarta, ²Department of Reproductive Health, Faculty of Public Health, Ahmad Dahlan University, Yogyakarta, Indonesia

Abstract

Background: The lack of perception related to the risk of pregnancy and contraceptive use's side effects is the main reason for not using contraceptives. **Objective:** This study aimed to analyze barriers to contraceptive use among multiparous women in Indonesia. **Methods:** This study employed the 2017 Indonesia Demographic and Health Survey. The analysis unit was multiparous women aged 15–49 years old, and the sample was 25,543 women. The contraceptive use was the dependent variable, while the independent variables analyzed were residence, age, education, employment, wealth, and insurance. The study used a binary logistic regression to determine the barriers. **Results:** Women in urban areas were 1.100 times more likely not to use contraceptives than women in rural areas. All categories of age group are more likely to use contraception than the 45–49 age group. Multiparous women who had low education had a higher possibility of not using contraceptives. Unemployed multiparous women were 1.008 times more likely not to use contraceptives than employed multiparous women. In terms of wealth status, women with all wealth status tended not to use contraceptives than the richest. **Conclusions:** Multiparous women in Indonesia had five barriers to not using contraceptives. These included living in urban, being at younger ages, having no education, being unemployed, and having low wealth status.

Keywords: Contraceptive use, family planning, multiparous women, parity, women's health

INTRODUCTION

The maternal mortality rate (MMR) in Indonesia was still high, with an estimated 126 deaths per 100,000 live births. In comparison, the MMR among women of childbearing age was 264–285 cases per 100,000 live births in 2015. A family planning program aims to improve the quality of mothers' and children's lives, which is the primary indicator of reproductive health, by controlling the population through contraception.^[1,2] The Indonesian government first launched a family planning program in 1969 to provide contraceptive services, reduce births, and promote gender equality. The government demonstrated the family planning program's success in increased contraceptives from 8.6% in 1973 to 53.1% in 1993.^[3]

A previous study informed that 91% of women living in low-middle income countries had a-year pregnancy interval after the first birth and standard postpartum contraception methods, thereby creating the risk of unwanted pregnancy.^[4,5]

The low number of contraceptive users was related to the high MMR, unwanted pregnancies, and frequent pregnancy intervals, implying pregnancy complications and childbirth.^[6] A study in the rural areas of Burkina Faso found that women who had a son had pregnancy intervals of >1 year (women with a minimum birth interval of 2 years can reduce the risk of maternal mortalities by 30% and infant mortality by 10%). The economic level among the women was right, and the women tended to use modern contraception. However, the women who traveled >5 kilometers from their house to health services were reluctant to use contraceptives.^[7] A family regards a child

Address for correspondence: Dr. Ratna Dwi Wulandari, Department of Administration and Health Policy, Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia, Universitas Airlangga Campus C Mulyorejo, Surabaya 60115, Indonesia. E-mail: ratna-d-w@fkm.unair.ac.id

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Wulandari RD, Laksono AD, Matahari R. The barrier to contraceptive use among multiparous women in Indonesia. *Indian J Community Med* 2021;46:479-83.

Received: 17-10-20, **Accepted:** 02-08-21, **Published:** 13-10-21

Access this article online

Quick Response Code:



Website:
www.ijcm.org.in

DOI:
10.4103/ijcm.IJCM_902_20

as a gift from God. Seen from the child's gender preference, the community believed a child would live a long life. If the child is male, he is not involved in warfare. Meanwhile, women's low bargaining power related to reproduction and vital belief/religion also determined their partners' fertile age as the unmet need.^[8]

A study of long-term contraceptive use in Indonesia pointed out that the number of contraceptive users was relatively lower in Indonesia compared to other countries in Southeast Asia. The percentage of contraceptive users in Vietnam, Cambodia, and Thailand were 78%, 79%, and 80%, respectively.^[2] Simultaneously, the number of modern contraceptive users in the Philippines, Cambodia, Bangladesh, and India was 35%, 42%, 48%, and 49%.^[9] The long-term use of modern contraceptives, such as Intrauterine Devices (IUDs) and implants, was still low.^[4] Based on the Indonesia Demographic and Health Survey (IDHS) data in 2017, the number of contraceptive users in Indonesia fell from 57.9% to 57.2% in 2017. The types of modern contraception mostly selected by couples in childbearing age were injection (53.5%), pills (20.3%), implants (8.8%), IUD (8.1%), tubectomy (5.8%), condoms (3.0%), vasectomy (0.3%), lactation amenorrhea method (2%), and emergency contraception (0.1%).^[10]

Insufficient knowledge of pregnancy risks and the side effects of contraceptive use were the main reasons for not using contraceptives.^[4,11] Women of childbearing age were reluctant to use contraception because they were more interested in using traditional contraception methods (herbal medicine, massage, and calendar methods). Besides, access to contraception, for example, expensive contraceptive costs, was still a barrier to childbearing age women. This condition has implications for the high number of unmet needs in Indonesia. Unmet need is a condition in which women who want to limit or avoid pregnancies do not use contraceptives.^[12] The number of unmet need groups in Indonesia decreased from 11.4% in 2015 to 9.91% in 2019.^[13] Therefore, this study aimed to analyze barriers to contraceptive use among multiparous women in Indonesia.

METHODS

Data source

This study utilized secondary data of the 2017 IDHS. The analysis unit used was women of childbearing age (15–49 years) who have given birth to live babies twice or more (multiparous).^[14] The weighted sample was 25,543 multiparous women selected using stratification and multistage random sampling.

Procedure

The 2017 IDHS has passed the ethical test from the National Research and Development Agency, the Ministry of Health of the Republic of Indonesia. The authors removed all respondents' identities from the data set after they have agreed and signed an agreement to be involved in the 2017 IDHS. This study obtained the permission of secondary data used for analysis on <https://dhsprogram.com>.

Variables

The study identified contraceptives use from the respondents' condition at the time of the interview. Contraceptives use consists of two categories: Yes and no.

The independent variables involved residence, age, education, employment, wealth, and health insurance. The type of residence consists of two categories, namely, urban and rural. The study divided the age group at 5-year intervals into seven groups: 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, and 45–49. The education level consists of four strata, namely, no education, primary, secondary, and higher. Employment status consists of two categories, namely, unemployed and employed.

The study determined wealth status based on the wealth index calculation. The wealth index was a composite measure of a household's cumulative living standard. The study calculated wealth index using easy to collect data on a household's ownership of selected assets, such as televisions and bicycles; materials used for housing construction; and types of water access and sanitation facilities. The wealth index consists of five categories: The poorest, poorer, middle, richer, and the richest.^[10]

Health insurance is the owner of any health insurance. Health insurance consists of two categories: No (uninsured) and yes (insured).

Data analysis

In the first stage, the study used a multicollinearity test. The test was to ensure that the independent variables do not have multicollinearity. Then, the Chi-square test was employed to select variables used until the final step. For the dependent variable's nature, the analysis used binary logistic regression to determine barriers to contraceptive use among multiparous women in Indonesia. All stages of statistical analysis utilized SPSS software version 22.0 IBM SPSS Statistics 22.0 (IBM, Armonk, New York, United States).

RESULTS

The Eastern regions had the broadest coverage of multiparous women with no contraceptive use.

Table 1 illustrates a descriptive statistic of multiparous women with other related variables. Table 1 shows that women who lived in rural areas dominated by multiparous women who did not use contraceptives. Based on the age group, multiparous women who used contraceptives were mainly aged 35–39 years, while multiparous women who did not use contraceptives were 45–49 years.

Table 1 informs that both contraceptive use categories were dominated by those with secondary education based on education level. Seen from the employment category, employed multiparous women dominated both types of contraceptive use.

Based on the wealth status, the poorest women dominated both categories of contraceptive use. In both types of contraceptive use, multiparous women who had health insurance were dominant.

Table 2 explains the binary logistic regression test results of barriers to contraceptive use among multiparous women in Indonesia. Multiparous women who lived in urban areas were 1.100 times more likely not to use contraceptives than multiparous women who lived in rural areas (odds ratio [OR] 1.100; 95% confidence interval [CI] 1.100–1.100). It indicated that although the number of multiparous women living in urban areas was not too different from rural areas, they were more likely not to use contraceptives than those in rural areas. It suggested residing in urban areas became one of the barriers to contraceptive use among multiparous women in Indonesia.

Table 1 informs that all age groups are more likely to use contraception than the 45–49 age group. This information shows that older age is a barrier to contraceptive use among multiparous women in Indonesia.

Multiparous women with no education had 2.686 times the probability of not using contraceptives than those with higher education (OR 2.686; 95% CI 2.685–2.687). Multiparous women with primary education were 1.005 times more likely not to use contraceptives than those with higher education (OR 1.005; 95% CI 1.005–1.005). Meanwhile, women with secondary education levels were 0.975 times more likely to not use contraceptives than women with higher education (OR 0.975; 95% CI 0.975–0.975). Women who had low education had a higher possibility of not using contraceptives. It pointed out that having no education was one of the barriers to contraceptive use among multiparous women in Indonesia.

Table 2 informs those unemployed women had 1.008 times more possibilities not to use contraceptives than employed women (OR 1.008; 95% CI 1.008–1.008). It suggested that unemployment became a barrier to contraceptive use among multiparous women in Indonesia.

The poorest multiparous women were 1.623 times more likely to not use contraceptives than the richest multiparous women (OR 1.623; 95% CI 1.623–1.624). Women with wealth status in the more deficient category had 1.082 times more possibilities not to use contraceptives than the richest women (OR 1.082; 95% CI 1.082–1.082). Women with wealth status in the middle category were 1.059 times more likely not to use contraceptives than the richest women (OR 1.059; 95% CI 1.059–1.059). Women with the more decadent category in the more affluent category had 1.055 times the probability of not using contraceptives than the richest women (OR 1.055; 95% CI 1.055–1.055). The results showed that women with all wealth status tended not to use contraceptives than the richest. The works consider poverty as another barrier to contraceptive use among multiparous women in Indonesia.

DISCUSSION

This study revealed that living in urban areas was one of the barriers to contraceptive use among multiparous women in Indonesia. It was pretty surprising because it contradicted the previous research, which informed that public access to

health services in Indonesian urban areas generally tended to be better than rural areas.^[15,16] Better facilities of reproductive health services in urban areas did not necessarily increase contraceptive use among multiparous women in Indonesia.

The analysis found that the age variable was another barrier among multiparous women in Indonesia for using contraceptives or not. Several studies also state a similar finding in the previous studies in Burkina Faso, Peru, and 23 countries in Latin America and the Caribbean.^[17,18] This present study discovered in Indonesia that multiparous women of older ages tend not to use contraceptives.

Another finding showed having no education became a barrier to contraceptive use among multiparous women in Indonesia. It corroborated the previous research, which found that family planning education and knowledge strongly affected contraceptive use.^[19] Low education was closely related to an inadequate understanding of family planning. This barrier made women still hold tight the myths and misconceptions against modern contraception.^[20] Decisions of using contraceptives or not among women with low education levels depended on the husbands' decisions.^[21]

Table 1: Descriptive statistics of multiparous women in Indonesia (n=25,543)

Variable	Contraceptive use		P
	Yes, n (%)	No, n (%)	
Type of place of residence			
Urban	8546 (50.9)	4234 (48.4)	<0.001***
Rural	8247 (49.1)	4516 (51.6)	
Age group			
15-19	15 (0.1)	11 (0.1)	<0.001***
20-24	416 (2.5)	194 (2.2)	
25-29	1793 (10.7)	707 (8.1)	
30-34	3584 (21.3)	1361 (15.6)	
35-39	4463 (26.6)	1748 (20.0)	
40-44	3934 (23.4)	1989 (22.7)	
45-49	2588 (15.4)	2740 (31.3)	
Education level			
No education	255 (1.5)	409 (4.7)	<0.001***
Primary	5879 (35.0)	3393 (38.8)	
Secondary	8595 (51.2)	4016 (45.9)	
Higher	2064 (12.3)	932 (10.7)	
Employment status			
Unemployed	6784 (40.4)	3386 (38.7)	0.007**
Employed	9995 (59.6)	5363 (61.3)	
Wealth status			
Poorest	3620 (21.6)	2605 (29.8)	<0.001***
Poorer	3265 (19.4)	1628 (18.6)	
Middle	3280 (19.5)	1518 (17.3)	
Richer	3299 (19.6)	1507 (17.2)	
Richest	3329 (19.8)	1492 (17.1)	
Health insurance			
No	6138 (36.6)	3295 (37.7)	0.083
Yes	10,654 (63.4)	5455 (62.3)	

P<0.05, **P<0.01, ***P<0.001

Table 2: The result of binary logistic regression of the barrier to contraceptive use among multiparous women in Indonesia (n=25,543)

Predictors	Do not use contraception			
	Significant	AOR	LB	UB
The type of place of residence				
Urban	<0.001***	1.100	1.100	1.100
Rural	-	-	-	-
Age group				
15-19	<0.001***	0.643	0.643	0.644
20-24	<0.001***	0.461	0.461	0.461
25-29	<0.001***	0.369	0.369	0.369
30-34	<0.001***	0.360	0.360	0.361
35-39	<0.001***	0.391	0.391	0.391
40-44	<0.001***	0.483	0.483	0.483
45-49	-	-	-	-
Education level				
No education	<0.001***	2.686	2.685	2.687
Primary	<0.001***	1.005	1.005	1.005
Secondary	<0.001***	0.975	0.975	0.975
Higher	-	-	-	-
Employment status				
Unemployed	<0.001***	1.008	1.008	1.008
Employed	-	-	-	-
Wealth status				
Poorest	<0.001***	1.623	1.623	1.624
Poorer	<0.001***	1.082	1.082	1.082
Middle	<0.001***	1.059	1.059	1.059
Richer	<0.001***	1.055	1.055	1.055
Richest	-	-	-	-

$P < 0.05$, $P < 0.01$, $***P < 0.001$. Note: 95% CI. CI: Confidence interval, AOR: Adjusted odds ratio, LB: lower bound; UB: upper bound

This study's results are in line with several previous studies, which often find education a positive determinant of output in the health sector.^[15,22,23] On the other hand, several studies also found poor education as a barrier to achieving better performance in the health sector.^[24,25]

Another barrier to contraceptive use was unemployment among multiparous women in Indonesia. Employed women tended to choose to limit the number of children. Employed women could decide for themselves whether to use contraceptives or not, i.e., being not dependent on their husbands' or partners' decisions.^[26]

The results also explained poverty became another barrier to contraceptive use among multiparous women in Indonesia. It was consistent with the previous research that found low wealth status was a barrier to access contraceptive use and health services in general.^[19] In the Indonesian setting, costs as a barrier related to access to services and access to transportation. In many peripheral areas, such a wall was the consequence that imposes the archipelagic state.^[27]

Overall, the barriers to contraceptive use in Indonesia were largely preventable variables.^[28] Policymakers responsible

for the family planning program in Indonesia have to focus on tackling obstacles, as this present study has revealed. Policies that focus on target groups with clear and detailed characteristics are required to accelerate the coverage of contraceptive use among multiparous women in Indonesia.

CONCLUSIONS

Based on the results, the study concluded that multiparous women in Indonesia face five barriers to contraceptive use. These barriers include living in urban areas, being of older ages, having no education, being unemployed, and having low wealth status.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Spagnoletti BR, Bennett LR, Kermod M, Wilopo SA. 'I wanted to enjoy our marriage first... but I got pregnant right away': A qualitative study of family planning understandings and decisions of women in urban Yogyakarta, Indonesia. *BMC Pregnancy Childbirth* 2018;18:1-4.
- Harzif AK, Mariana A, Malik DM, Silvia M, Lovita BT. Factors associated with the utilization of long-acting reversible contraceptives among family planning clients at the Pameungpeuk Rural Hospital, Indonesia. *F1000Res* 2018;7:1891.
- Fogarty MJ. Impacts of contraception on women's decision-making agency in Indonesia. *Undergrad Econ Rev* 2019;15:1-38.
- Dev R, Kohler P, Feder M, Unger JA, Woods NF, Drake AL. A systematic review and meta-analysis of postpartum contraceptive use among women in low- and middle-income countries. *Reprod Health* 2019;16:154.
- Islam AZ. Factors affecting modern contraceptive use among fecund young women in Bangladesh: Does couples' joint participation in household decision making matter? *Reprod Health* 2018;15:112.
- Namasivayam A, Lovell S, Namutamba S, Schluter PJ. Predictors of modern contraceptive use among women and men in Uganda: A population-level analysis. *BMJ Open* 2020;10:e034675.
- Wulifan JK, Mazalale J, Jahn A, Hien H, Ilboudo PC, Meda N, *et al.* Factors associated with contraceptive use among women of reproductive age in rural districts of burkina faso. *J Health Care Poor Underserved* 2017;28:228-47.
- Abdi B, Okal J, Serour G, Temmerman M. "Children are a blessing from God" – A qualitative study exploring the socio-cultural factors influencing contraceptive use in two Muslim communities in Kenya. *Reprod Health* 2020;17:1-11.
- Westoff CF. Unmet need for modern contraceptive methods. *DHS Anal Stud* 2012;1-62.
- National Population and Family Planning Board, Statistics Indonesia, Ministry of Health, The DHS Program. The 2017 Indonesia Demographic and Health Survey. Jakarta; 2018. Available from: <https://www.dhsprogram.com/pubs/pdf/FR342/FR342.pdf>. [Last accessed on 2020 Aug 12].
- Laksono AD, Wulandari RD, Matahari R. The association between recent sexual activity and the use of modern contraceptive methods among married/cohabiting women in Indonesia. *J Public Health Res* 2020;9:1885.
- Wulandari RD, Laksono AD, Sandra C. Individual characteristics and media exposure as predictors of smoking behavior among married men in Indonesia. *J Crit Rev* 2020;7:9756-63.
- Yuliati LN, Simanjuntak M, Oktriyanto O. The influence of information access, knowledge, perception of family planning's risks, and husband's support on interest of using contraception for unmet need group. *J Ilmu*

- Kel dan Konsum 2019;12:157-68.
14. Wulandari RD, Laksono AD. Is parity a predictor of neonatal death in Indonesia? Analysis of the 2017 Indonesia demographic and health survey. *Indian J Forensic Med Toxicol* 2020;14:2161-6.
 15. Seran AA, Laksono AD, Sujoso AD, Masruroh M, Ibrahim I, Baharia MN, *et al.* Does contraception used better in urban areas?: An analysis of the 2017 IDHS (Indonesia Demographic And Health Survey). *Syst Rev Pharm* 2020;11:1892-7.
 16. Laksono AD, Wulandari RD, Soedirham O. Urban and rural disparities in hospital utilization among Indonesian adults. *Iran J Public Health* 2019;48:247-55.
 17. Ponce de Leon RG, Ewerling F., Serruya SJ, Silveira MF, Sanhueza A, Moazzam A, *et al.* Contraceptive use in Latin America and the Caribbean with a focus on long-acting reversible contraceptives: Prevalence and inequalities in 23 countries. *Lancet Glob Heal* 2019;7:e227-35.
 18. Soriano-Moreno DR, Soriano-Moreno AN, Mejia-Bustamante A, Guerrero-Ramirez CA, Toro-Huamanchumo CJ. Factors associated with highly effective contraceptive use among reproductive-age women in Peru: Evidence from a nationwide survey. *Eur J Obstet Gynecol Reprod Biol* 2020;245:114-20.
 19. Ba DM, Ssentongo P, Agbese E, Kjerulff KH. Prevalence and predictors of contraceptive use among women of reproductive age in 17 sub-Saharan African countries : A large population-based study. *Sex Reprod Healthc* 2019;21:26-32.
 20. Mushy SE, Tarimo EA, Fredrick Massae A, Horiuchi S. Barriers to the uptake of modern family planning methods among female youth of Temeke District in Dar es Salaam, Tanzania: A qualitative study. *Sex Reprod Healthc* 2020;24: Article number 100499.
 21. Böttcher B, Abu-El-Noor M, Abu-El-Noor N. Choices and services related to contraception in the Gaza strip, Palestine: Perceptions of service users and providers. *BMC Womens Health* 2019;19:165.
 22. Megatsari H, Laksono AD, Ibad M, Herwanto YT, Sarweni KP, Geno RAP, *et al.* The community psychosocial burden during the COVID-19 pandemic in Indonesia. *Heliyon* 2020;6:e05136.
 23. Laksono AD, Wulandari RD, Ibad M, Kusriani I. The effects of mother's education on achieving exclusive breastfeeding in Indonesia. *BMC Public Health* 2021;21:14.
 24. Rohmah N, Yusuf A, Hargono R, Laksono AD, Masruroh, Ibrahim I, *et al.* Determinants of teenage pregnancy in Indonesia. *Indian J Forensic Med Toxicol* 2020;14:2080-5.
 25. Wulandari RD, Laksono AD. Determinants of knowledge of pregnancy danger signs in Indonesia. *PLoS One* 2020;15:e0232550.
 26. Blackstone SR. Women's empowerment, household status and contraception use in Ghana. *J Biosoc Sci* 2017;49:423-34.
 27. Ipa M, Widawati M, Laksono AD, Kusriani I, Dhewantara PW. Variation of preventive practices and its association with malaria infection in eastern Indonesia: Findings from community-based survey. *PLoS One* 2020;15:e0232909.
 28. Gele AA, Musse FK, Shrestha M, Qureshi S. Barriers and facilitators to contraceptive use among Somali immigrant women in Oslo: A qualitative study. *PLoS One* 2020;15:e0229916.