# THE EFFECT OF MASS MEDIA EXPOSURES ON EARLY MARRIAGE

## Study on Ever-Married Indonesian Women 1976-2017

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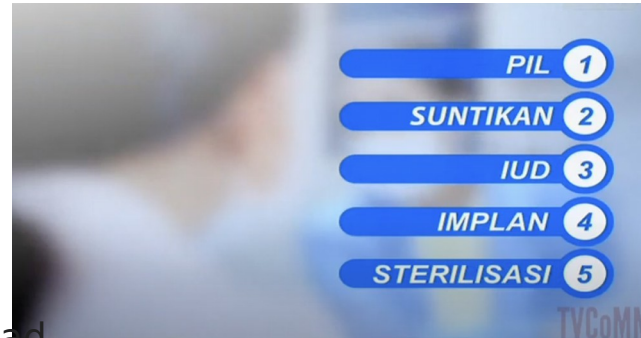
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# Agenda

# Magazine advertisement Promoting Family Planning in Indonesia

The Kondom Dua Lima Ad, 1986

# TV Advertisement promoting Five contraceptives methods



KlikKB app TV and Youtube ad

# Introduction

- Indonesia has experienced a rapid fertility decline from around five births per woman in the '70s and is currently around replacement level.

- Much of the fertility decline is attributable to the National Family Planning program, which started in 1972. The government extensively promotes family planning using FP field workers and mass media.

- By reviewing how Indonesian women were exposed to radio, print media, and television—specifically to family planning messages, this study will examine how mass media exposure influences age at first marriage

# Literature

Much evidence of mass media exposure correlates with fertility decline/decision (including timing of first birth), however:

- The social process in a society shapes fertility decision

- Social sciences and psychology studies have argued the importance of acknowledging the social process and the actual sequential effect on awareness on the attitudinal or behavioural level.

- Type of media? Distribution of media exposure? Exposure quantity?

- The time lag of the mass media effect.

# Research Questions & Significance

## Research Question

- What is the heterogeneity of marriage onset of Indonesian women?

- How does mass media exposure affect the age at the first marriage among Indonesian women?

## Significance

- Providing information on how mass media exposure, with emphasis on Family planning information, occurs in Indonesia, and how the changing of mass media types affects at of first marriage

- Providing data on the effect of mass media exposure on the timing of the first marriage

# Data, Variables & Method

## Data

1976 Indonesian World Fertility Survey (WFS; n=9115), 1987 National Indonesia Contraceptive Prevalence Survey (NCPS; n=11884), Indonesian Demographic Health Survey (IDHS) for survey year 1991 (n=22909), 1994 (n=28168), 1997 (28810), 2002-03 (n=29483), 2007 (n=32895), 2012 (45607), 2017 (49627)

Indonesian Census & Socio-economic Survey (for data comparison)

## Observed Variables

Dependent Variable: Age at first marriage → Recorded age at which respondents started to cohabitate and/or legally marry with her partner; Censoring→ the "survival" times for respondents who dropped out by being married is right-censored, with being married as the "failure" state

Independent Variables (**variable of interest**): mass media exposure (regularly listening to the radio, regularly watching TV, regularly reading newspapers/magazines) **and _whether the respondent was recently exposed to family planning information in the respected media_**.

Independent Variables (**allowed to co-vary**): residence (urban/rural), education, literacy, partner's education, wealth index (2002-2017)
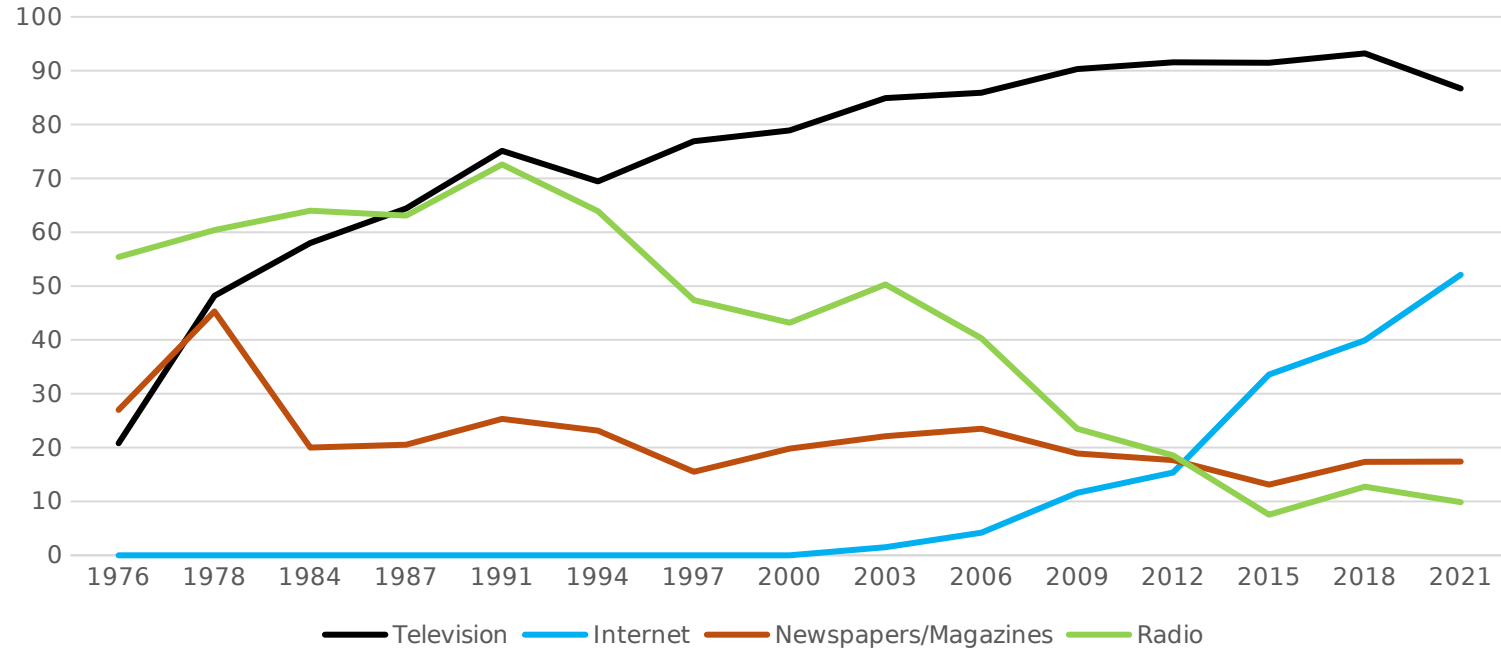
## Method

Descriptive statistics and survival analysis with the pooled data → to examine the effect of mass media exposure on the age of first marriage
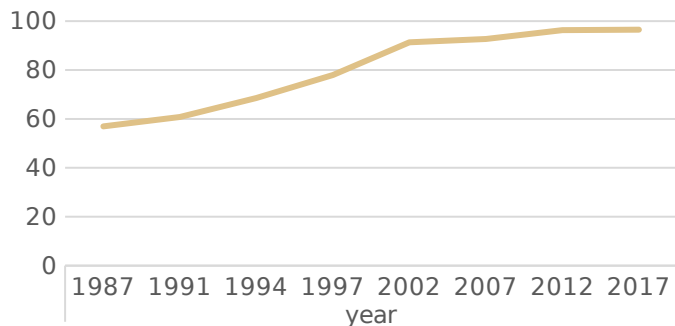
# Media Exposures – Susenas Data
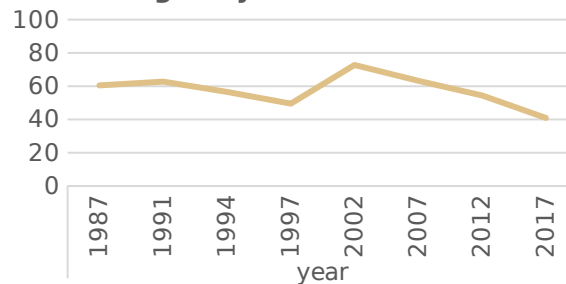## (All Indonesian Men and Women 1976-2021)

# Media Exposures - DHS Data
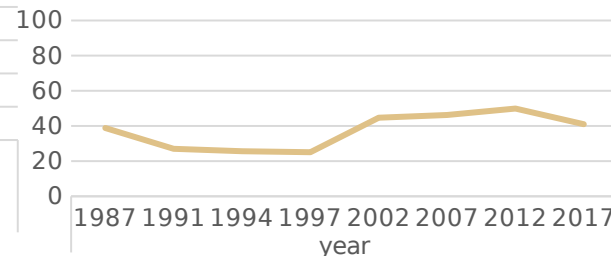## Ever-Married Indonesian Women (15-49)

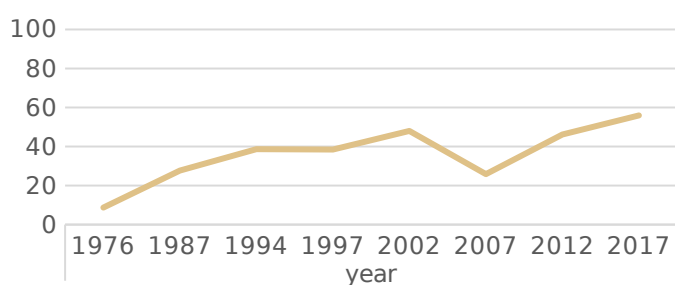**Percentage of Indonesian Women Regularly watch Television**

**Percentage of Indonesian Women Regularly listen to Radio**
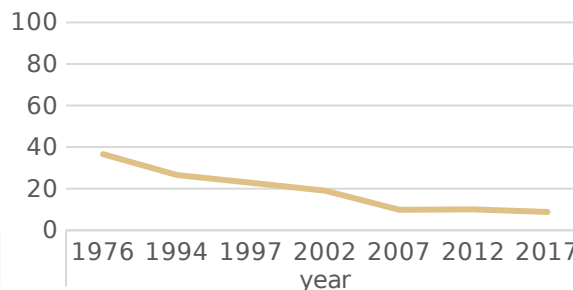
**Percentage of Indonesian Women Regularly read newspaper or magazine**

**Percentage of Indonesian Women Who saw FP info on TV**
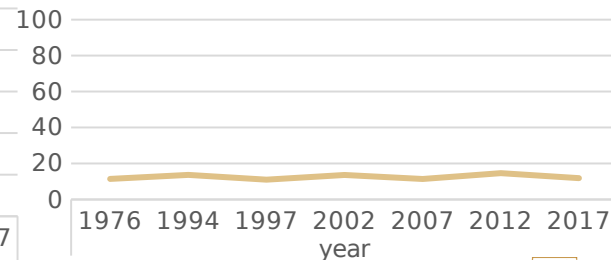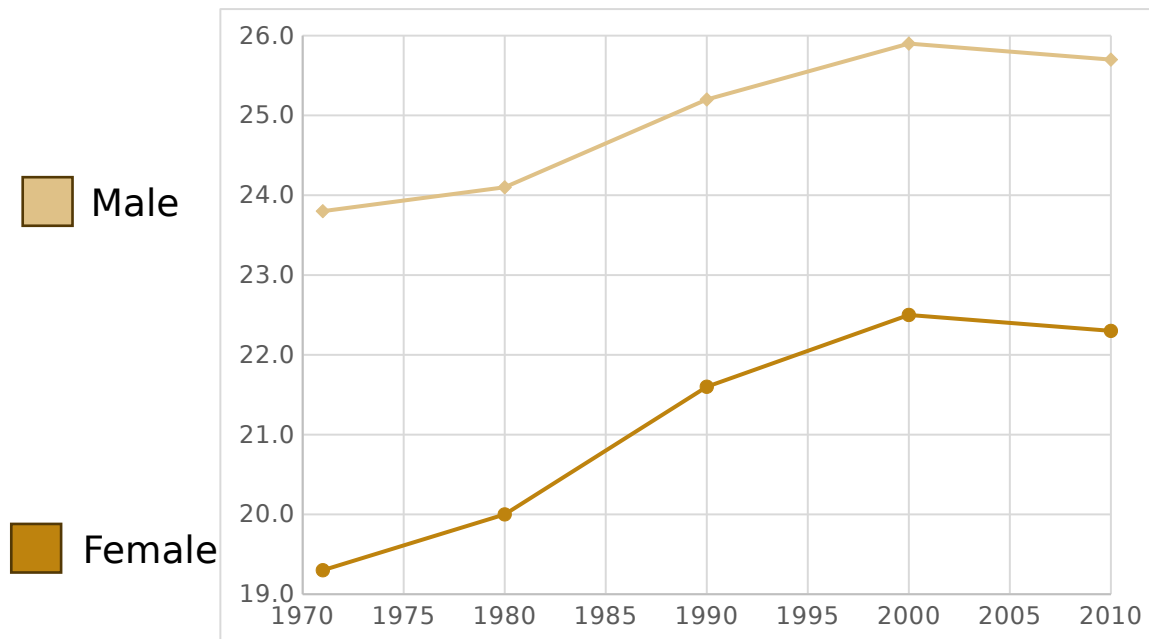
**Percentage of Indonesian Women Who heard FP info on Radio**

**Percentage of Indonesian Women Who read FP info on newspaper/magazine**

# Singulate Mean Age at First Marriage Indonesian Census 1971-2010



Source:
2019 World Marriage
Data  (UN DESA)

# Singulate Mean Age at First Marriage
# WFS & DHS 1976-2017



Male

Female

Source:
2019 World Marriage
Data  (UN DESA)
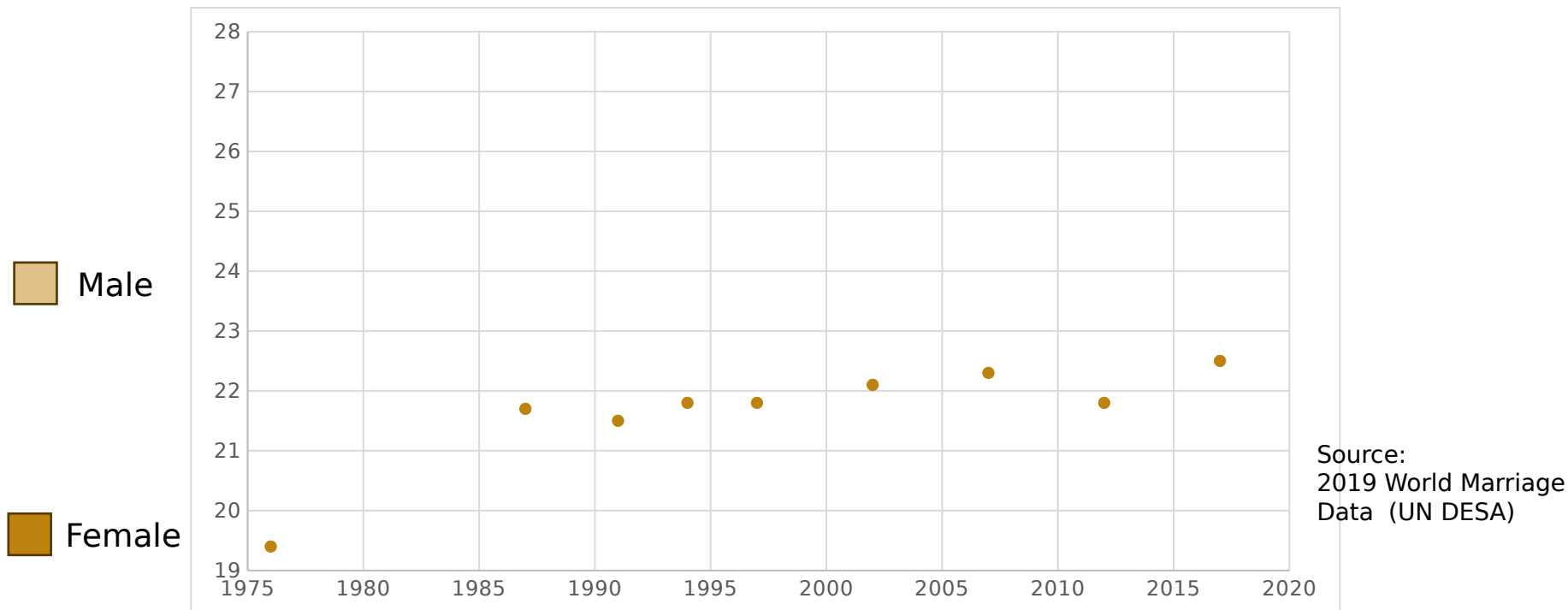
# Analysis

This Study will look at data from Ever-Married Women using DHS. Cox Proportional Hazard will examine the effect of media exposures (TV, Radio, Print, Internet) as the variable of interest. The modelling will be:

- In each year of the survey for each variable of interest

- Only looking at women married within 5 years of the survey date (assumption: media exposure and other characteristics are the same)

# Cox Proportional Hazard of Marrying Early based on types of mass media exposures, in each survey years (1976-2017)

| Year | 1976 | | 1987 | | 1991 | | 1994 | | 1997 | | 2002 | | 2007 | | 2012 | | 2017 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable | Base HR | Adjusted HR | Base HR | Adjusted HR | Base HR | Adjusted HR | Base HR | Adjusted HR | Base HR | Adjusted HR | Base HR | Adjusted HR | Base HR | Adjusted HR | Base HR | Adjusted HR | Base HR | Adjusted HR |
| Watching TV Regularly | N/A | N/A | .75*** | .34*** | 0.86*** | .47** | 0.82** | .40*** | 0.88*** | .48** | .87** | .50*** | .84** | .32*** | .90** | .49*** | .92*** | .55** |
| Saw FP on TV | .57*** | .16*** | .77*** | .36*** | N/A | N/A | .81** | .37*** | .88*** | 0.61*** | .86** | .54*** | .80** | .41*** | .85** | .50*** | .90*** | .58*** |
| Listening to Radio regularly | N/A | N/A | .87*** | .51*** | 0.99 | .72** | 0.905 | 0.92 | .94*** | .76** | .87** | .68*** | .84** | .57*** | .84** | .53*** | .85*** | .56** |
| Hear FP on Radio | .82*** | .47*** | N/A | N/A | N/A | N/A | .92** | .63*** | .95*** | .79*** | .90** | .74** | .82** | .60** | .82** | .55*** | 0.87*** | .62*** |
| Reads Newspapers/Magazines Regularly | N/A | N/A | .64*** | .19*** | .64*** | .20** | .65** | .25*** | .62*** | .22** | .65** | .25*** | .64** | .22*** | .67** | .27*** | .72*** | .31*** |
| Read FP on News/Magazines | .62*** | .23*** | N/A | N/A | N/A | N/A | .65** | .24*** | .67*** | .24** | .61** | .21*** | .62** | .16*** | .65** | .21*** | .71*** | .27*** |

Adjusted HR: controlling all other covariates: **education, partner's education, living in rural/urban, literacy, use of contraceptives, working in the last 12 months**

# Cox Proportional Hazard of Marrying Early by being exposed the Internet, controlling wealth (2017)

| Variable | Base HR | Adjusted HR Controlling All Other Covariates (all survey years) |
|---|---|---|
| Using the Internet Regularly | .76*** | .14*** |

Adjusted HR: controlling all other covariates: **education, partner's education, living in rural/urban, literacy, use of contraceptives, working in the last 12 months, wealth index, survey year, and interaction of wealth index and education**

APA CONFERENCE

# Key Takes & Moving Forward

- Mass media exposure **protects** against marrying early, other covariates: higher education, literacy, being educated, richer wealth quintile.
- The hazard of marrying **increases** with the use of contraceptives, living in rural areas, working in the last 12 months (in most models)
- Being exposed to the internet (2017), protects against the hazard of marrying early
- Best model: 2002-2017 that controls wealth quintile
- In some models, in the post-estimation test, some proportional assumptions are violated: may need to explore the parametric model and discreet-time analysis

# Limitations

- The 1976 WFS and 1987 NFPS of Indonesia datasets have similar structures to the DHS; however, some variables were modified to be consistent with the DHS

- Analysis was done, with the key assumption: the effect of mass media exposure is constant and women's behaviour and characteristics do not change.

- Need to account for gender roles/women empowerment, however, the way it was asked may be inconsistent in the WFS, NCPS, the DHS, and not available in all survey years

# THANK YOU

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