



Exploring Media Influence On Contraceptive Use Among Indonesian Couples

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Abstract

This paper evaluates whether mass media exposures, specifically television, radio, newspaper/magazine and internet were effective tools for utilizing contraception among Indonesian couples or not. A sample of 8,925 Indonesian couples were selected based on the result of the 2017 Indonesia Demographic and Health Survey. Logistic regression models were used to predict recent media exposure (television, radio, newspaper/magazine and internet) to family planning messages and its association with contraceptive use among Indonesian couples. Internet exposure was found to be significant, and it had a strong effect on the likelihood that the Indonesian couples uses modern contraceptives. Region and number of living children were also found as significant effects on the modern contraceptive use. As such, internet as a promotion tool in campaigning family planning is more effective than television, radio, and newspaper/magazine) in improving contraceptive use among Indonesian couples.

Introduction

Over the past few decades, the general public relies on the mass media as important sources of health information. Mass media campaigns have been widely utilized as some important efforts to change family planning behaviour. Those campaigns have placed messages in multiple medias which can reach mass populations, most frequently electronic media such as television, radio and internet, but also print media, such as newspapers and magazines (Kabir and Islam, 2000). Information from mass media has the capacity to increase people's awareness, knowledge and lead to positive behavioural change towards family planning. Nevertheless, the mass media campaigns should be delivered regularly because the exposure to such messages is mostly passive (Wakefield et al., 2010). Some recipients need to actively select information related to family planning as needed, for example by reading an article in a newspaper or by clicking on a web link but they need future discussion on it (Islam et al., 2009).

Mass media has been acknowledged as reliable information's sources to make people aware of the benefits of the use of contraception. A study in Nigeria also found that access to family planning media messages may contributed to intention to use contraceptives, contraceptive use, and desire of number of children (Ajaero et al., 2016). Moreover, a study in Bangladesh found that of the respondents who had exposed to favorable information about family planning, 46.9% had used contraception (Kabir and Islam, 2000).

Even though the impact of mass media on one individual may be small, its snowballing effects to the entire population can be huge since it reaches so many people at the same time. Frequent broadcasting via mass media of the same issue over a period of time may influence behaviour, hence, through this procedure one issue may be established as a common truth (Ajaero et al., 2016). Mass media may become a significant instrument to create family planning as an individual decision, a household discourse, and a community value

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of life (Wakefield et al., 2010).

Television provides a dramatic message stimulation than radio, and radio can be more dramatic than printed materials (i.e. newspaper or magazine). Television offers audio and visual effects to stimulate curiosity in acquiring information on family planning. Viewing family planning messages via television increase the odds of using modern contraception for a woman by nearly 8% and 11% in Tajikistan and Kyrgyzstan respectively (Habibov and Zainiddinov, 2015). Hearing the radio program encourage listeners to address misconceptions on contraception and encourage those listeners to become family planning users (Meekers et al., 2007). The exposure of family planning messages through newspaper and magazine had been associated with the increasing awareness of contraception in Bangladesh (Islam et al., 2004). Moreover, couples who were exposed to family planning message through newspaper or magazine tend to have rational decision on their fertility preferences (Kabir and Islam, 2000). Internet has been found as one of crucial family planning information that either sparked further discussions or supplemented information received verbally (Yee and Simon, 2010).

The increasing number of modern contraceptive use in Indonesia is nearly 10 percent and is dominated by the use of shortterm hormonal contraceptives during 1991 to 2017. The contraceptive prevalence rate in Indonesia had increased from about 47.1% in 1991 (Central Bureau of Statistics et al., 1991) to 57% in 2017 (Central Bureau of Statistics et al., 2018). Despite this success, each year about 1.1 million new Indonesian couples marry (Central Bureau of Statistics et al., 2018), requiring family planning information to encourage those couples to communicate fertility desire with their own spouse (Irawaty et al., 2020). The involvement of mass media can spread out information regarding family planning program to reach newlyweds and to achieve the demographic targets (Kabir and Islam, 2000, Knobloch-Westerwick, 2016).

Most of family planning campaign in Indonesia was concentrated in Java-Bali Islands since about 57% of Indonesian population live in those islands (Central Bureau of Statistics

et al., 2018). In addition, those couples who already had 3 or more than 3 children had greater probabilities to be exposed to family planning messages through various media than those newlyweds (Ardiansyah, 2016).

Despite growing literature of the effects of media on contraceptive use, there is still a dearth of empirical research into how married couples perceive information regarding contraception from media, especially as knowledge resource, or how media draw upon those married couples and media discourses to express a viewpoint on contraception. Indonesia has been selected as the area of this study since most couples in Indonesia receive various entertainment from the media daily. However, whether those media exposure is directly useful for the decision of married couples to use contraception in Indonesia is unclear. The time of the study was in 2017 since the latest demographic and health survey data available for Indonesia was in 2017. Furthermore, the association between media exposure of family planning message and contraceptive use among Indonesian couples in 2017 is still unclear. Thus, this article contributes to this scarce literature particularly to assess the exposure of Indonesian couples via different mass media (radio, television, newspaper/magazine and internet) to contraceptive adoption in Indonesia.

Methods

The data from the 2017 Indonesia Demographic and Health Survey (IDHS) was used into this study. This study was a cross-sectional survey, representing a national outlook. Data of this study derived from the 2017 IDHS datasets particularly individual women and men datasets. Afterwards those datasets were merged to the data of men and women who were married or to be in a union. A couple, as the DHS definition, has been defined as a man and a woman who are legally married or living together in a consensual union (Koffi et al., 2012). Those datasets were sourced from the official website of DHS (dhsprograms.com). The selected sample used in this analysis consists of 8,925 couples in which the wives were aged 15-49 years.

The dependent variable was modern contraceptive use as reported by husbands

and wives. Husbands were asked the following question “What method are you or your partner use?” Wives were also asked using the questions “Are you or your husbands or partners currently using any method to delay or avoid getting pregnant?” If the woman answered “yes”, the interviewer will further ask, “Which method are you using?” Only one method was chosen. Responses to these questions by women and their partners were matched to create couple’s current contraceptive. These variables were measured as a dichotomous variable coded as (0) both wives and husbands did not use any contraceptive method and (1) both wives and husbands or either one use of contraceptive methods. Contraceptive use in this study includes intra uterine device (IUD), pill, injectable, implant, female sterilization, male sterilization, male condom, intravag/diaphragms, lactational amenorrhea (LAM), rhythm, withdrawal, and emergency contraceptive. In term of the independent variables, family planning exposures were collected from the wives and husbands responds on whether both of them or either one had exposed on family planning messages through television, radio, newspaper/magazine and internet. These family planning exposures were also measured as dichotomous variables coded as (0) both wives and husbands did not expose family planning messages from questioned media or (1) both wives and husbands or either one had exposed to family planning messages from questioned media.

Region had been selected as one independent variables of this study which coded as (0) outside Java Bali Provinces and (1) Java Bali Provinces. Java Bali Provinces includes Banten, Jakarta, West Java, Central Java, Yogyakarta, East Java and Bali. Outside Java Bali Provinces consist of Aceh, North Sumatera, West Sumatera, Riau, Riau Islands, Jambi, Bengkulu, South Sumatera, Bangka Belitung Islands, Lampung, Bali, West Nusa Tenggara, East Nusa Tenggara, West Kalimantan, South Kalimantan, Central Kalimantan, East Kalimantan, North Kalimantan, Gorontalo, West Sulawesi, South Sulawesi, Central Sulawesi, Southeast Sulawesi, North Sulawesi, Maluku, North Maluku, West Papua and Papua. Moreover, number of living children’s variable was derived from wives’

respondents due to inconsistent responds between wives and husbands, hence, this study consider wives’ answer since they had natural capabilities to be pregnant. The number of living children was divided into two categories (0) 0-2 children and (1) more than 3 children.

Before analyzing of the data, the dataset was weighted to consider for differences due to over sampling and under-sampling as per the survey design. The analyses of this study were based on men’s weighted analysis. The univariate analysis was conducted to identify the characteristic of the study population and to recode the grouping when needed. Afterwards, bivariate analysis between selected independent variables and the dependent variable were conducted. Pearson chi-square test correlation was utilized to examine the relationship between each of the mass media exposures on family planning messages and contraceptive use. The regression coefficients of the independent variables was expressed as Odds Ratio (OR). Statistical significance was set at a p-value of less than 0.05. The final model represented the adjusted models of current use of contraceptive methods and all independent variables of region, number of living children, mass media exposures on family planning messages towards contraceptive use in Indonesia. The authors assert that this study has no conflict of interest. The authors declared that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. Data and materials of this study can be accessed on <https://dhsprogram.com/data/available-datasets.cfm>.

Results and Discussion

The objective of this study is to analyze the various impact of family planning media exposures to contraceptive use among Indonesian couples. Family planning media exposures could have a huge impact on the public’s knowledge, beliefs, perceptions, attitudes and behaviours, not only as individuals but also as families, communities and wider society (Maryon-Davis, 2012). As shown in Figure 1, overall, husbands were more likely

to be exposed to a larger number of media sources. More than 90% of wives and husbands saw television regularly. Husbands were reported access radio, newspaper/magazine and internet more frequently than the wives. In 2017, more than 52% of sample husbands were access radio while only more than 37% of

the sample wives accessed the same media (see Figure. 1). Newspaper/magazine was accessed by 48.9% of the husbands and 36.3% of the wives. Both husbands and wives had similar pattern in accessing internet 38.8% and 35.1% respectively.

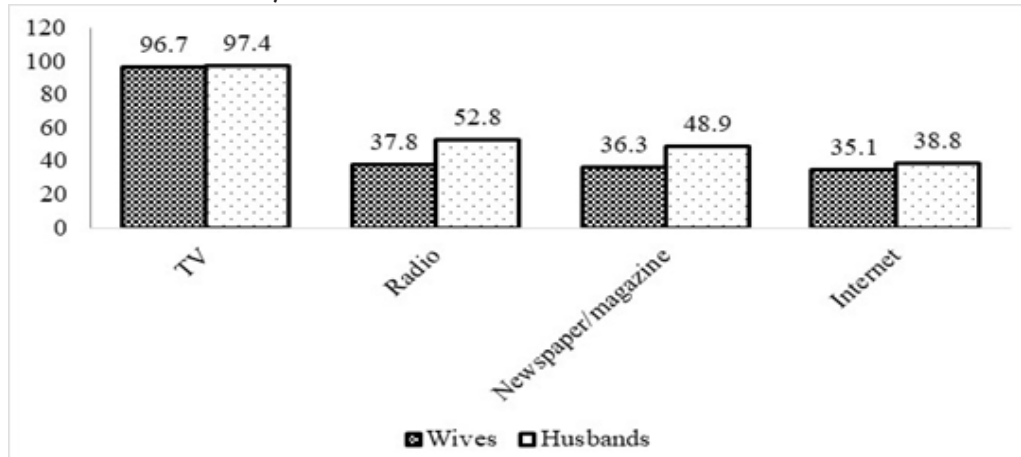


Figure. 1. Access Selected Medias of the Sample Population, Indonesia, 2017

Even though the Indonesian couples accessed mass media (i.e. television, radio, newspaper/magazines and internet) regularly but overall exposure of family planning messages through those media were still rarely. In term of family planning messages' exposures through television, the wives had exposure family planning message more often than the husbands, 57.4% and 52.5% respectively (see Fig. 2). The second media which spread the family planning message intensively was

the internet in which 17.9% of the wives and 15.9% of the husbands exposed family planning messages through internet. Family planning messages through newspaper/magazine had been exposed by the husbands (14.5%) more often than the wives (12%). Radio was less popular in accessing family planning messages among the Indonesian couples in which 11.3% of the husbands and 9.2% of the wives had exposed it.

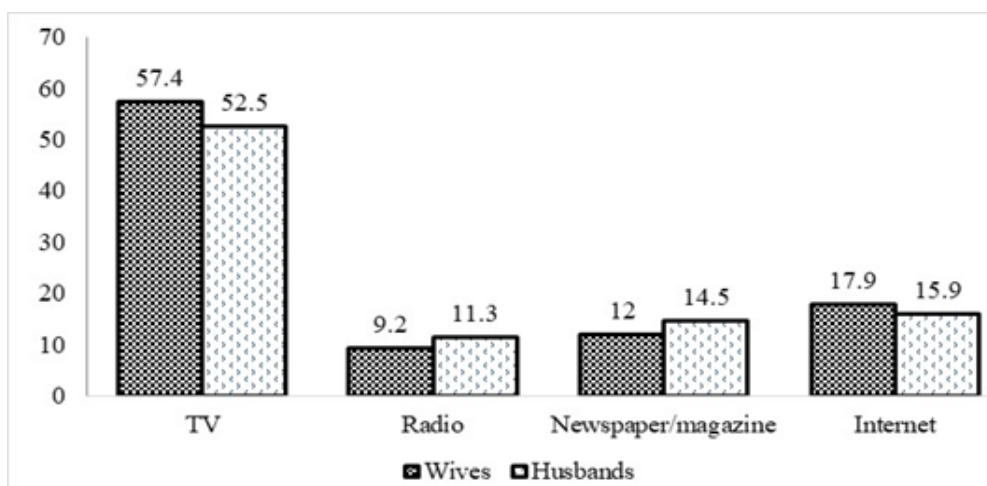


Figure 2. Exposed Family Planning Messages Through Selected Medias, Indonesia, 2017.

The results of univariate analysis revealed that the wives lead in family planning exposure for only two medias, television and

internet while the husbands lead for radio and newspaper. Exposures to media among wives and husbands may be vary due to some of the

gender differences in exposure. Married men may travel more often while married women tend to stay at home, therefore, married women have greater probability of being exposed in the media (Hindin et al., 1994).

The contraceptive methods were used by only 72.9% of the selected couples of this study and non-user couples were 27.1%. Table 1 presents selected social-economic-demographic characteristics of the couples together with the couples' exposure of family planning messages on various media (radio, television, newspaper/magazine, and internet). The table revealed that about 60.4% couples had lived in Java Bali Islands while 39.6% couples had lived in outside Java Bali Islands. Couples having three or more children accounted for 30,2% while couples with 0-2 children accounted for 69,8%. Majority couples (76,7%) had been exposed for family planning message through television while the rest of the couples had exposed to family planning message through internet (26,6%); newspaper/magazine (23,3%) and radio (18,5%).

Table 2. revealed the differences impact of family planning messages exposures through various media (radio, television, newspaper/magazine and internet) and contraceptive use. Adjustment revealed that demographic factors that varied among Indonesian couples in 2017 did not have huge differences impact on contraceptive use. As seen in Table 1, couples living in Java-Bali Islands were 1.3 times more likely to use contraception than couples living in outside Java-Bali Islands. Furthermore, the odds for couples who had more than 3 children was 0.49. There were no significant association between the exposure of family planning

message through radio and contraceptive use among Indonesian couples. Exposure to the television revealed that couples had a significant level exposure (OR: 0.75, $p < 0.05$) for contraceptive use. Couples reported a significant level exposure of family planning message via newspaper/magazine access (OR: 1.16, $p < 0.05$). The probability to use contraception on couples who exposed family planning message was 1.2 times than couples who did not exposed.

Table 1. Characteristics of Selected Couples: Indonesia, 2017

Characteristics	N	%
Current contraceptive use		
Both not using any method	2,417	27.1
Both or either one using contraception	6,507	72.9
Social-economic-demographic characteristics		
Region		
Outside Java Bali provinces	3,530	39.6
Java Bali provinces	5,395	60.4
Number of living children		
More than 3 children	2,695	30.2
0-2 children	6,230	69.8
Exposed FP messages: television		
Never exposed	2,075	23.3
Both exposed or either one	6,849	76.7
Exposed FP messages: radio		
Never exposed	7,278	81.5
Both exposed or either one	1,647	18.5
Exposed FP messages: newspaper/magazine		
Never exposed	6,849	76.7
Both exposed or either one	2,075	23.3
Exposed FP messages: internet		
Never exposed	6,552	73.4
Both exposed or either one	2,373	26.6
N	8,925	100

FP stands for family planning.

Table 2. Logistic Regression Analyses of Access to Mass Media Messages and the Modern Contraceptive Use, Indonesia, 2017.

Characteristics	OR	Sig.	95% CI
Region			
Outside Java Bali provinces (ref)	1.00		
Java Bali provinces	1.27	0.000	[1.16-1.41]
Living children			
More than 3 children (ref)	1.00		
0-2 children	0.49	0.000	[0.45-0.56]
Exposed FP: Radio			
Never exposed (ref)	1.00		
Both exposed or either one	0.98	0.798	[0.86-1.12]
Exposed FP: Television			
Never exposed (ref)	1.00		
Both exposed or either one	0.75	0.000	[0.66-0.84]
Exposed FP: Newspaper/ magazine			
Never exposed (ref)	1.00		
Both exposed or either one	1.16	0.018	[1.03-1.31]
Exposed FP: Internet			
Never exposed (ref)	1.00		
Both exposed or either one	1.19	0.004	[1.06-1.33]

Notes: Ref = reference category.

The mass media conveys a novel element to family planning delivery care as it offers a medium to be utilized by the married couples in Indonesia to communicate about family planning issues with the possibility of potentially improving modern contraceptive use in Indonesia. The power and reach of the mass media can influence all aspects of people's lives, including health and well-being, and can be harnessed to promote health by informing, motivating and empowering people to change behaviour and by providing a platform for civic action (Maryon-Davis, 2012; Jacobs et al., 2017). Three approaches to using the media to promote family planning are as (1) public information (Kagurusi, 2017; Kim et al., 2019), (2) social marketing (Ahmed and Seid, 2020) and (3) media advocacy (Maryon-Davis, 2012). Media as public information is to provide health information to the public (also referred to as public education) (Maryon-Davis, 2012). Media as social marketing to engage and motivate the public to adopt health behaviors (Maryon-Davis, 2012). Media as media advocacy is to raise broad awareness of an issue to advocate for changes in policy or practice to facilitate or enhance health and well-being (Maryon-Davis, 2012; Hutchinson and Meekers, 2012). These

approaches are not mutually exclusive and are often used in combination (Maryon-Davis, 2012). Communicating a broad range of health messages to a wide variety of audiences is challenging and in this context the role of mass media (such as television, radio, newspapers) is fundamental (Foran, 2020; Pires et al., 2019).

Thus, mass media is a powerful instrument, which offers a social interaction mechanism for a range of married couples and family planning health services. Though there are several advantages to the usage of mass media for family planning communication, the information exchanged through media needs to be checked for validity and reliability (Babalola et al., 2017; Beaudoin et al., 2016). In addition, media has indirectly influenced the decision of married couples to their fertility intention and contraceptive use (Lette, 2019). Thus, keep the married couples' contraceptive intention need to be retained by the continuing spread of family planning information through media.

After controlling the socio-demographic factors, this study found that access to through television messages increased the likelihood of respondents making use of modern contraceptive method for both wives and husbands. The result was in line with

the previous study conducted in Indonesia in 2007 and 2012, that television had a statistically significant positive association with contraceptive use (Ardiansyah, 2016). Television was the most used media tool in health promotion and prevention program whereas the computer was the most effective, particularly among adolescents (Quatrin et al. 2015). Television contain a message combining different techniques (text, audio, still images, animation, video, or interactivity content forms) seems to be associated with greater success in family planning promotion programs (Quatrin et al. 2015).

Nevertheless, the odds of television exposure to use contraception for both wives and husbands were relatively small. Ardiansyah (2016) had explained that those media exposures still need active information-seeking activities from both wives and husbands. The majority of Indonesian couples would likely to search information related to life-threatening issues such as heart problem or cancer and not for a non-life threatening issues such as family planning (Ardiansyah, 2016). This study found no significant association between family planning message exposure through radio and modern contraceptive method.

This study also revealed that access to information on family planning through newspaper/ magazine and internet were effective in positively influencing people's attitude towards use of family planning particularly for Indonesian women. This results supports earlier findings by other researches who posited that mass media messages through newspaper/magazine and internet on family planning were effective in increasing the use of family planning (Kabir and Islam, 2000; Purdy, 2011; Zakaria and Bhuiyan, 2016). Newspaper or magazine can be kept for future references and they provide illustrations that may guide decision-makers and other couple to use contraception (Kabir and Islam, 2000). Furthermore, one advantage of the internet compared to other media such as television, radio or newspaper/magazine is the ability of the internet to provide detailed information from various websites and also to conduct two-way interaction (Nulhakim and Samosir 2017).

The results of both the logistic regression

analyses also showed that increase in socio-economic status leads to a corresponding increase in the use of modern contraceptive method. The region also has significant effect on modern contraceptive use in Indonesia. Couples living in Java-Bali areas are more likely to use modern contraceptive method than their counterparts living in rural areas. This may be due to the availability of health facilities in Java Bali Provinces are more complete than in outside Java Bali areas (Idris 2020; Nulhakim and Samosir 2017).

Number of living children is also having significant association with modern contraceptive use. A previous study conducted in East Nusa Tenggara, Indonesia also showed similar result that number of living children significantly contributed to contraceptive use because those couples have fulfilled their fertility desire (Ruth et al., 2019; Sianturi et al., 2019). There are two limitations of the study. Firstly, because of the cross-sectional nature of the data, this study was unable to determine any causal relationships between the variables examined. Secondly, the Indonesia Demographic and Health Survey data did not provide any information regarding specific information related family planning matters gained by married couples through various medias.

Conclusions

This study showed that mass media messages significantly increased use of family planning for couples. The regression results showed that access to television messages influences use of family planning use for both individuals more than messages from other mass media. Married women who had exposed with family planning media were more likely to take all contraceptive actions than those who were less exposed or not exposed at all. Married men who had higher levels of exposure of family planning media were more likely to adopt contraception.

Based on the findings, wider coverage area and improved quality of mass media messages on family planning particularly television, newspaper/magazine and internet should be implemented in Indonesia especially in outside Java Bali Islands. After those married couples

exposed with family planning information through multiple media, further face-to-face consultation is also needed as means of making family planning more acceptable to the population. Given the differences between married women and men, it is crucial for policy-makers to address these gender differences and plan to target both women and men in future family planning campaigns in Indonesia.

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