



Gender Differences In The Intention To Quit Smoking Among Emerging Adult: An Indonesian Context

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ABSTRACT

Indonesia ranks as the first country with the most smokers worldwide, with prevalence of smoking being higher in men than women and tends to increase in the emerging adult population (18-25 years old). Although various policies have been conducted to promote smoking cessation, little has been known about the differences in the intention to quit smoking between men and women in Indonesia. Therefore, this study aimed to determine the differences in smoking cessation intention between male and female emerging adults. Method: This study used a cross-sectional design, in which data were collected among 114 and 211 men and women emerging adults who were active smokers. Participants completed a self-administered questionnaire that consisted of demographic characteristics and intention to quit smoking scale adapted from Ardelia and Dewi (2018). Data were analyzed using Welsch t-test technique. Results: Moderate differences were found between men and women in terms of their intention to quit smoking ($t(197) = 2.22, p < 0.05$), with men showing higher intention to quit compared to women. Conclusion: Based on this result, smoking cessation strategies should focus on gender-specific intervention strategies in order to promote higher intention to quit smoking.

Keywords: emerging adult; gender difference; intention to quit smoking

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INTRODUCTION

Smoking behavior remains as one of the leading causes of preventable disease and death (Bottorff et al., 2018). Specifically, Indonesia ranks as the country with the most smokers in the world, with nearly 100 million people (Annur, 2023; Triyono, 2022). Meanwhile, the prevalence of male and female smokers varies from country to country (Chinwong et al., 2018), whereas in developing countries the prevalence of male smokers is higher than females (Vincke, 2016) and in developed countries is higher in women than men (Hagen et al., 2016). While globally, the rate of male smokers in particular is higher than that of females (Bottorff et al., 2018; Chinwong et al., 2018). In Indonesia, Indonesian men rank first in countries with a prevalence of smokers in the world at 63%, while only 5% of Indonesian women are smokers, making smoking the majority behavior of Indonesian men (World Health Organization, 2019). Moreover, the number of female smokers in Indonesia is also on the rise, and this is often not highlighted (Hardesty et al., 2019; Liu et al., 2021).

Risky behaviors such as smoking tend to increase in young adults (Johnston et al., 2015), in which according to Arnett (2000) emerging adult refers to individuals with age between 18 to 25 years and known as the stage where the prevalence of substance abuse is the highest. Emerging adulthood counts as a distinctive period from adolescence, where in this stage is self-exploration with individuals

trying new things in their life in order to know what they want in their life (Arnett, 2014). This stage of development is also considered a critical period as it involves changes to the individual's development, both contextually and in terms of social roles (Arnett, 2000; Schulenberg et al., 2004). Transitions experienced by emerging adults in order to achieve a successful adulthood stage can be challenging for individuals, which in return could cause pressure and stress that leads individuals to perform maladaptive and unhealthy behaviors (Ohannessian et al., 2017; White & Jackson, 2004).

The Indonesian government has taken various measures to reduce the number of smokers, such as putting smoking warnings on cigarette packages, banning some cigarette companies from advertising their products, and implementing smoke-free areas in some areas (Amalia et al., 2019). Despite various preventive measures, the number of smokers in Indonesia has not decreased over the past decade (Amalia et al., 2019; Holipah et al., 2020).

Therefore, it is important to know one's factors for quitting smoking in order to design effective interventions. One of the ways to determine the desire to quit smoking is through its intentions. Various studies have found varied results regarding smoking cessation intentions in the context of gender. For example, research conducted by Bottorff et al. (2018) shows that men are four times more likely to try to quit smoking than women. On the other hand, studies have found that women tend to have higher quit intentions than men (Liu et al., 2021). These contradictory results highlighted the importance to study the phenomenon of smoking cessation intention between genders deeper. In relation to success in quitting smoking, research conducted by Dieleman et al. (2021) have found that women tend to fail more easily in their attempts to quit smoking. This result indicates that comparisons of smoking cessation intentions between genders may be useful for creating policies related to tobacco use in gender perspectives.

Taken together, it is important to examine more regarding the differences in smoking cessation intentions from gender perspectives. Although studies on smoking cessation intentions have been widely conducted in developed countries, to the author's best knowledge, limited studies are currently examining the differences in smoking cessation intentions between men and women, especially in Indonesia. This study aims to determine the differences in smoking cessation intentions in emerging adult men and women. This study has a hypothesis that there are differences in smoking cessation intentions between men and women.

METHOD

Study Design

This study used a quantitative research design with data collection using a cross-sectional survey method. Data were collected online using the Google Forms online questionnaire. Before filling in the data, participants were asked to read the description and instructions of the questionnaire and provide consent to participate in the study.

Participants

This study used a purposive sampling technique to obtain research participants based on the inclusion criteria, namely men or women who were categorized as emerging adults (aged 18-25 years) and were active smokers. Before data collection was carried out, the researcher calculated the sample size needed in this study using G*Power. Based on the G*Power calculation formula, to get a power of 0.8 and a moderate effect size, at least 51 participants are needed in each group, resulting in a total of 102 participants. Participants have been given informed consent before participating to become respondents in this study.



Measurements

Instruments used in this study were adapted from the research conducted by Ardelia and Dewi (2018). There are two instruments used in this study, namely the socio-demographic scale and the smoking cessation intention scale. First, the socio-demographic scale includes participants' biodata consisting of name (can be initials), age, occupation, domicile, length of time as an active smoker (in years and/or months), and the number of cigarettes consumed per day.

Second, the smoking cessation intention scale in this study was developed based on the behavioral intention theory of Warshaw and Davis (1985). This scale consists of 10 items that are rated using a Likert-type scale with five alternative answers, namely scale 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree. Example items are "I want to learn how to quit smoking" and "I don't have a plan to quit smoking yet". Higher scores indicate a greater likelihood of smoking cessation intentions. Previous research reported a Cronbach's alpha of 0.878 (Ardelia & Dewi, 2018). In the current study, the scale measurements showed good reliability ($\alpha = 0.891$).

Data Analysis

Data were analyzed using the Welsch t-test technique with the help of the Jamovi program for macOS version 2.3 (Navarro & Foxcroft, 2018).

RESULT

Demographic Characteristics

Sample characteristics obtained were provided in Table 1. There were 325 participants who met the inclusion criteria for the current study (N = 325) which 35.08% of the participants are men (N = 114) and the rest were women (N = 211) with the average age of 18-25 years old (M = 21.6; SD = 1.65). In terms of occupational status, the majority of participants were students as many as 73.8% (N = 240) and the rest were workers (N = 85). Regarding types of smokers, it was found that most were classified as light smokers, which amounted to 43.1% (N = 140), followed by moderate smokers for 40.6% (N = 169) and heavy smokers (N = 16).

Furthermore, more women were light (N = 106) and moderate smokers (N = 99) compared to men (light N = 34; moderate N = 70), while more men (N = 10) were categorized as heavy smokers than women (N = 6).

Table 1. Participants Demographic

| Characteristics | Men (N = 114) | Women (N = 211) |
|-----------------|---------------|-----------------|
| Age | | |
| 18 years old | 6 (1.8%) | 4 (1.2%) |
| 19 years old | 10 (3.1%) | 17 (5.2%) |
| 20 years old | 13 (4%) | 29 (8.9%) |
| 21 years old | 14 (4.3%) | 58 (17.8%) |
| 22 years old | 40 (12.3%) | 52 (16%) |
| 23 years old | 17 (5.2%) | 25 (7.7%) |

| | | | |
|-----------------|-----------------|------------|-------------|
| | 24 years old | 7 (2.2%) | 14 (4.3%) |
| | 25 years old | 7 (2.2%) | 12 (3.7%) |
| Occupation | Students | 82 (25.2%) | 158 (48.6) |
| | Workers | 32 (9.8%) | 53 (16.3%) |
| Types of smoker | Light Smoker | 34 (10.5%) | 106 (32.6%) |
| | Moderate Smoker | 70 (21.6%) | 99 (30.4%) |
| | Heavy Smoker | 10 (3.1%) | 6 (1.8%) |

Testing of Assumptions

Prior to the Welsch t-test analysis, a normality test was conducted to determine the relationship between variables. From the results of Levene's test, it was found that the assumption of homogeneity was not met ($F(1, 323) = 5.12, p < 0.05$). Therefore, the Welsch t-test is feasible to use as an alternative t-test because it does not require the assumption of homogeneity of variance and uses Cohen's d as the effect size (Navarro & Foxcroft, 2018).

Welsch t-test Analysis

Welsch's t-test analysis results indicated that women had significantly lower mean intentions (mean = 28.8, SD = 6.84) than men (mean = 30.8, SD = 8.28) to quit smoking ($t(197) = 2.22, p < 0.05$). The effect size indicated a moderate difference between these two means (Cohen's d = 0.27).

Discussion

This study aims to predict differences in smoking cessation intentions between emerging adult men and women. The results of this study supported the research hypothesis that there were differences in smoking cessation intentions between men and women. Interestingly, the results showed that emerging adult males have a higher intention to quit smoking compared to females. This is in line with research by Smith et al. (2016) which found that women have significantly lower desire to quit smoking than men. This could be caused by women experiencing more difficulty refraining from smoking for long periods of time compared to men. Furthermore, this study also has similar results to a study by Abdullah and Yam (2005) which discovered that in a population sample in Hong Kong, men tend to have higher smoking cessation intentions than women.

Similar results were also found by Bohadana et al. (2003) where men tend to have higher intentions to quit smoking and were predicted to be able to successfully quit smoking in the future than women. One possibility that women are lower in smoking cessation intention is because smoking becomes an escape for women when facing stressful or anxious situations (Puente et al., 2011). Additionally, women also often engage in smoking behavior to maintain their body shape, while any attempt to quit smoking will result in weight gain (Marques-Vidal et al., 2011; Weekley et al., 1992).

On the other hand, there were other studies that contradict the results of this study. A study conducted by Chinwong et al. (2018) found that women have a higher intention to quit smoking than men. The study was conducted on undergraduate students with at least 18 years of age. In the study, women were found to have a greater desire to quit smoking because they were concerned about their health conditions, then the influence of friends and family, and worried about the negative effects of smoking to health. In line with this, Steptoe et al. (2002) also found that women held more belief in the importance of not smoking for health's sake compared to men. The study was conducted on university students from 23 countries. Furthermore, women may have higher smoking cessation intentions partly due to the awareness of the harmful effects of smoking that were more susceptible to appearing in



women (Buckner & Vinci, 2013; Lundborg & Andersson, 2008). The influence of the surrounding environment, namely family and peers, is also the reason women try to quit smoking.

This study provided strength by a fair amount of sample sizes. Albeit, there are some limitations to be considered. First, our results did not fulfill homogeneity, which indicated that current results can only be applicable to samples in this study. Second, data were collected using online questionnaire Google Form therefore solely based on self-reported data. Future studies may investigate broader sample criteria and use qualitative techniques for data collection.

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