

## Conference Paper

# Factors in the Sexual-Related Behaviour of Students in Makassar

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## Abstract

Data collected in Indonesia in 2012 showed that around 10% of adolescents aged 15–24 years had engaged in premarital sex, which could affect maternal health. However, since 2000, a school-based reproductive health programme has been implemented in Makassar, a large city in eastern Indonesia. This study, therefore, was aimed at describing factors associated with sexual-related behaviour in students in Makassar. The logistic regression analysis drew on data from 1823 respondents in Makassar who completed self-administered questionnaires as part of the 2011/2012 National Narcotics Board and Center for Health Research Universitas Indonesia survey. One fifth of the respondents reported engaging in sexual-related behaviour starting at a mean age of 15 years. The behaviour included lip kissing (18%), masturbation (6%), oral sex (5%), petting (4%), vaginal sex (3%) and anal sex (2%). Around 20% of the students smoked, while 8% consumed alcohol, and 1% used drugs. Smoking and alcohol affected the students' sexual-related behaviour (OR 3, 95% CI 2–3; OR 2, 95% CI 1–3, respectively). Risk factors also included maternal characteristics, such as maternal orphan (OR 2, 95% CI 1–5) and working in the private sector (OR 2, 95% CI 1–2). School-based reproductive health programmes should pay significant attention to students' smoking and alcohol-drinking behaviours and take into account the characteristics of students' mothers.

**Keywords:** SEXUAL-RELATED BEHAVIOUR, HIGH-SCHOOL STUDENTS, MAKASSAR

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## 1. INTRODUCTION

In 2014, approximately 1.8 billion young people aged 10–24 years lived in this world, and Indonesia's approximately 67 million adolescents made up the largest segment of the population, according to the National Population and Family Planning Board of Indonesia [6, 7]. Millions of these teens are married at early ages and are at risk of unwanted pregnancies, unsafe abortions, violence, sexual abuse and sexually transmitted infections [15]. In Indonesia, the most common age for first-time dating is 15–18

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years old (BPS, 2012). At that age, teenagers do not have adequate life skills, so they risk engaging in premarital sexual behaviour that can lead to sexual and reproductive health problems. Approximately 10% of adolescents aged 15–24 years had engaged in premarital sex, while only one third knew that sex could lead to pregnancy [10].

Notably, school-based reproductive health programmes have been implemented in various countries, such as South Korea, Nepal, Spanish and Russia [1, 4, 11, 14]. In Indonesia, a programme to help teens avoid problems related to reproductive health has been implemented since 2000, including in Makassar, a large city in eastern Indonesia. However, the 2007 and 2012 Indonesia Demographic and Health Survey showed that the rate of premarital sex among adolescents was likely to increase [2, 3]. Against this background, this study was aimed at describing the factors associated with sexual-related behaviour by students in Makassar.

## 2. METHOD

This quantitative research drew on Makassar data from a school-based survey conducted in 2011/2012 by the National Narcotics Board (NNB) and Center for Health Research Universitas Indonesia (CHRUI). The study population was students in junior and senior high schools, including public, private and religious schools. Students were selected through stratified random sampling based on the school type (junior or senior high school), ownership (public or private school) and accreditation results (good, moderate or low). A total of 1823 respondents completed the self-administered questionnaire.

Sexual-related behaviour was measured by questions on whether the respondents had engaged in vaginal or anal sexual intercourse, petting, oral sex, or lip kissing. The data were analysed with logistic regression statistical tests, with the students' sexual-related behaviour as the dependent variables, employing the weight in calculations. Green's (1980) model posits that behaviour is shaped by predisposing, reinforcing and enabling factors and views behaviour as influenced by both individual and environmental forces. This model has been used in the planning and evaluation of health interventions; therefore, it was used in this study to describe factors associated with sexual-related behaviour by students in Makassar.

### 3. RESULTS

The descriptive analysis showed that one fifth of the students reported engaging in sexual-related behaviour starting at a mean age of 15 years. These behaviours included lip kissing (18%), masturbation (6%), oral sex (5%), petting (4%), vaginal sex (3%) and anal sex (2%) (Table 1). The percentage of gender, age and education level were not quite different within comparisons of approximately 30%. The bivariate analysis (Table 2) identified statistically significant predisposing factors: students' gender, age, education level, academic status, smoking behaviour and alcohol consumption. Failing grades and drug use did not have significant associations with the students' sexual-related behaviour.

Most students did not have divorced parents (92%), did live with nuclear families (90%) and had not migrated (79%). Table 3 shows that of nine enabling-factor variables, only four had statistically significant associations with the students' sexual-related behaviour: mothers' health, fathers' education, mothers' education and mothers' occupation. In three of these four variables, maternal characteristics (health, education and occupation) were associated with the students' sexual-related behaviour. Table 4 shows that some students had family members who smoked (49%), but this reinforcing factor was not statistically significantly associated with the students' sexual-related behaviour.

The final model in Table 5 presents the factors associated with sexual-related behaviour by students in Makassar: students' gender, education level, smoking behaviour and alcohol consumption; fathers' education; and mothers' health and occupation. Students who smoked were three times more likely to engage in sexual-related behaviour than those who did not (OR of 2.50, 95% CI 2–3). Students who consumed alcohol were two times more likely to engage in sexual-related behaviour than those who did not (OR of 2.13, 95% CI 1–3). The risk factors also include mothers' characteristics, such as maternal orphan (OR 2, 95% CI 1–5) and employment in the private sector (OR 2, 95% CI 1–2).

### 4. DISCUSSION

The 1823 students from Makassar who participated in this study were selected through stratified random sampling and were representative of area public, private and religious junior- and senior-high schools. This sampling method has higher precision than a simple random sample [9]. This study used secondary data, so there were limited

TABLE 1: Distribution of Frequency of Sexual-Related Behaviour

Sexual-Related Behaviour	Category	N
Sexual-related behaviour	No	1441 (79.05)
	Yes	382 (20.95)
	Missing	0 (0.00)
Lip kissing	No	1474 (80.86)
	Yes	327 (17.94)
	Missing	22 (1.21)
Masturbation	No	1681 (92.21)
	Yes	117 (6.42)
	Missing	25 (1.37)
Oral sex	No	1714 (94.02)
	Yes	83 (4.55)
	Missing	26 (1.43)
Petting	No	1732 (95.01)
	Yes	65 (3.57)
	Missing	26 (1.43)
Vaginal sex	No	1744 (95.67)
	Yes	53 (2.91)
	Missing	26 (1.43)
Anal sex	No	1754 (96.22)
	Yes	41 (2.25)
	Missing	28 (1.54)
Total		1823 (100.00)

data on, for instance, the reinforcing factors that could be observed in this study. In the secondary data, we only found one variable (smoking behaviour of family members) that described a possible reinforcing factor in the students' sexual behaviour. Although many variables might describe these factors, the questionnaire did not include them. Reinforcing factors encourage people to engage in certain behaviours and can include the models set by community and religious leaders and health workers, as well as existing regulations and policies [5].

A factor in the sexual behaviour of the students in Makassar was smoking and alcohol consumption, while the enabling factors included maternal health and occupation. The school-based reproductive health programme implemented by the National

TABLE 2: Predisposing Factors Associated with Sexual-Related Behaviour

Variable	Category	N	Sexual-related Behaviour (%)	P value
Gender	Girl	1008 (55.29)	160 (15.87)	0.001
	Boy	811 (44.49)	221 (27.25)	
Age	>15 years	903 (49.53)	294 (32.56)	0.001
	≤15 years	920 (50.47)	88 (9.57)	
Education level	Junior high school	907 (49.75)	300 (32.75)	0.001
	Senior high school	916 (50.25)	82 (9.04)	
Academic status	Above Average	423 (23.20)	65 (15.37)	0.001
	Average	1285 (70.49)	291 (22.65)	
	Under Average	44 (2.41)	15 (34.09)	
	Missing	71 (3.89)	11 (15.49)	
Failing grades	No	1722 (94.46)	356 (20.67)	0.214
	Yes	92 (5.05)	24 (26.09)	
	Missing	9 (0.49)	2 (22.22)	
Smoking Behaviour	Does no smoke	1461 (80.14)	233 (15.95)	0.001
	Smokes	353 (19.36)	148 (41.93)	
	Missing	9 (0.49)	1 (11.11)	
Alcohol consumption	No	1663 (91.22)	306 (18.40)	0.001
	Yes	152 (8.34)	74 (48.68)	
	Missing	8 (0.44)	2 (25.00)	
Drug use	No	1773 (97.26)	368 (20.76)	0.135
	Yes	10 (0.56)	4 (40.00)	
	Missing	40 (2.19)	10 (25.00)	
	Total	1823 (100.00)	382 (20.95)	

Population and Family Planning Board of Indonesia delivery information about the dangers of smoking and alcohol consumption through various methods, such as communication, educational materials, socialisation and peer educators [12]. However, the school-based reproductive health programme did not address the characteristics of students' mothers. Maternal orphans and mothers' working in the private sector had statistically significant associations with sexual-related behaviour likely covered in the school-based reproductive health programme. Students' sexual debut at age 15

TABLE 3: Enabling Factors Associated with Sexual-Related Behaviour

Variable	Category	N	Sexual-related Behaviour (%)	P value
Migration	No migration	1436 (78.77)	311 (21.66)	0.351
	Migrated	331 (18.16)	64 (19.34)	
	Missing	56 (0.49)	7 (12.50)	
Residence	Extended nuclear family	1646 (90.29)	345 (20.96)	0.835
	Extended family	40 (2.19)	7 (17.50)	
	Lives alone	137 (7.520)	30 (21.90)	
Fathers' health	Healthy	1372 (75.26)	284 (20.70)	0.085
	Sick	234 (12.84)	58 (24.79)	
	Passed away	121 (6.64)	28 (23.14)	
	Not known	96 (5.27)	12 (12.50)	
Mothers' health	Healthy	1457 (79.92)	299 (20.52)	0.015
	Sick	222 (12.18)	52 (23.42)	
	Passed away	50 (2.74)	18 (36.00)	
	Not known	94 (5.16)	13 (13.83)	
Fathers' education	High	293 (16.07)	73 (24.91)	0.044
	Moderate	894 (49.04)	194 (21.70)	
	Low	636 (34.89)	115 (18.08)	
Mothers' education	High	216 (11.85)	46 (21.30)	0.005
	Moderate	888 (48.71)	212 (23.87)	
	Low	719 (39.44)	124 (17.25)	
Fathers' occupation	Not worked	63 (3.46)	10 (15.87)	0.154
	Labour	369 (20.24)	72 (19.51)	
	Private employees	778 (42.68)	173 (22.24)	
	Government employees	345 (18.92)	82 (23.77)	
	Others	268 (14.70)	45 (16.79)	
Mothers' occupation	Not working	1216 (66.70)	214 (19.82)	0.007
	Labour	57 (3.13)	20 (35.09)	
	Private employee	264 (14.48)	67 (25.38)	
	Government employee	157 (8.61)	35 (22.29)	
	Other	129 (7.08)	19 (14.73)	
Marriage status	Married	1675 (91.88)	348 (20.78)	0.371
	Divorced	82 (4.50)	17 (20.73)	
	Death or divorced	52 (2.85)	15 (28.85)	
	Missing	14 (0.77)	2 (14.29)	
Total		1823 (100.00)	382 (20.95)	

was generally caused by a low-quality relationship with their mothers, including poor

TABLE 4: Reinforcing Factors Associated with Sexual-Related Behaviour

Variable	Category	N	Sexual-Related Behaviour (%)	P value
Family member who smokes	No	438 (24.03)	79 (18.04)	0.148
	Yes	896 (49.15)	192 (21.43)	
	Missing	489 (26.82)	111 (22.70)	
Total		1823 (100.00)	382 (20.95)	

TABLE 5: Logistic Regression Final Model of Factors Related to Sexual Behaviour

Variable	Category	Adjusted OR	95% CI of OR
Gender	Female	Ref	Ref
	Male	1.45	1.09 – 1.93
Education	Senior high school	Ref	Ref
	Junior high school	0.22	0.17 – 0.29
Smoking behaviour	No	Ref	Ref
	Yes	2.5	1.83 – 3.43
Alcohol consumption	No	Ref	Ref
	Yes	2.13	1.43 – 3.20
Mothers' health	Healthy	Ref	Ref
	Sick	1.04	0.71 – 1.51
	Passed away	2.4	1.22 – 4.68
	Not known	0.69	0.36 – 1.34
Fathers' education	High	Ref	
	Moderate	0.77	0.54 – 1.10
	Low	0.53	0.36 – 0.77
Mothers' occupation	Not working	Ref	Ref
	Labour	1.65	0.90–3.05
	Private employee	1.5	1.06 – 2.13
	Government employee	0.98	0.61 – 1.55
	Other	0.85	0.48 – 1.48

communication, controlling behaviour and role modelling of the mothers' sexual life

to the children [8, 13]. Mothers' openness and preparation in their relationship with their children to handle the sexual life of adolescents today were very important in supporting the school-based reproductive health programme.

## 5. CONCLUSION

The sexual-related behaviour of the students in Makassar was influenced by their smoking behaviour and alcohol consumption and their mothers' health and occupation. The school-based reproductive health programme in Makassar, therefore, should pay significant attention to students' smoking and alcohol consumption and take into account the characteristics of the students' mothers, such as maternal orphans and private-sector employment.

## 6. ACKNOWLEDGMENT

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