Health Behaviors and Quality of Life in School-Age Children

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ABSTRACT

Introduction: Health behaviour is commonly found such as smoking, consuming alcohol, unhealthy eating behaviour, physical activity, perception of school, violence and bullying currently are associated with better quality of life. School-age Children are at risk to adapt their environment in doing healthy risk behaviors.

Objective: To describe the health behaviors and examine the association between health behaviour and their quality of life.

Methods: Health behaviour (i.e., eating habit, physical activity, smoking, drinking alcohol, sexual behaviour, violence, school behaviour, and social life) were examined among 200 School-age Children in a Junior High School in Teluk Naga, Tangerang, Indonesia using Indonesian-Health Behaviour School-age Children questionnaire, and also using translated PedsQL Questionnaire that developed for Pediatric quality of Life, which measures 4 domains of quality of life (physical functions, mental status, social and school functions).

Results: School-age children showed high prevalence of eating habit (n = 130), less physical activity (n= 77), smoking (n = 47), drinking alcohol (n = 55), sexual behaviour (n=62), violence (n= 90), low economy status (n= 65), school perception (n= 43), and difficulties in social life (n= 63). In addition, this study revealed for the quality-of-life school-age children have prevalence in good physical functions (47%), mental status (42%), social (58%) and school functions (43.5%). In a multivariate model, health behaviours (physical activity, smoking, sexual behaviour, social activity and violence) (P<0.05) were dominantly correlated with quality of life.

Conclusion: The current study provides significant information on how health risk behaviour influenced the quality of life, and this study has the potential to develop better health education and promotion programs in school-age children.

Keywords: Quality of life; Health risk behaviour; Adolescent; School age children

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INTRODUCTION

Some countries have shown a commitment to support the development of sustainability development goals (SDG's) to achieve a better future in the world. There are four initial goals in the SDG's that are highly related to human quality, such as eliminating poverty, ending hunger, good health and well-being and also quality education (1). The quality of human beings, which in this era of globalization has become the center of attention again, after being connected to the economy and agriculture, now the quality of life is often associated with the health sector. Behaviour related to health service utilization is associated with socioeconomic status in the developing world and plays an important role in determining risk of diseases (2). Health risk behaviour in Shaikh and Hatchers's study is commonly found such as smoking, consuming alcohol, unhealthy eating behaviour, physical activity, perception of school, violence and bullying.

In the Thomas's article believes adolescent health behaviour with a focus on the major contributors to mortality in adolescence and young adulthood that obtained from school in the age of 13-15 years old which considered substance use, sexual risk behaviour, and violence as well as smoking and alcohol use. These various risk behaviours tend to occur together and have similar though not identical predictors. Theoretical approaches to vulnerability or protection for these outcomes include attitudinal models, social influence and social perception models, stress-coping models, and recent dual-process models (3). This phase also has a lot of biological and psychosocial changes and will influence the child's engagement with health risk behaviors.

Based on a survey conducted in Indonesia regarding risky health behaviors in school children shows that 5.8% of students are at risk for obesity, 78.8% of students engage in less physical activity, 4.9% have committed sexual behaviour at school age and 85.5% of students have experienced of smoking (4,5). This data is also supported by the results of direct observations in a junior high school in Teluk Naga as one of the public schools in Tangerang subdistrict that shows that 65% of male students have smoked.

School children who are involved with health risk behaviours are reported potentially have many health issues such as respiratory problem, low immune system, and obesity (6). These health problems predicted have relation to low quality of life. Quality of life is measured using physical, emotional, social and school abilities of these students. The quality of life of school children is suspected to be the cause of the weakness of the ability of human quality in the future. It is therefore important to profile risky health behaviours and quality of life in school children. This study still has huge potential to be developed especially in Teluk Naga 1 Junior High School.

Based on those problems, this study aims to look at the relationship between health risk behaviour with quality of life and look for the dominant factor thus it can used as basis intervention with the health education and promotion especially for health risk behaviour in school approach for future study.

METHODS

The respondents of this study involved 200 children in a Junior High School in Teluk Naga, Tangerang, who were distributed in grade VII (13 years old) and grade VIII (14 years old). Data were collected using two questionnaires to evaluate health risk behaviour and quality of life of school children. Quality of Life uses the child version of PedsQoL which has been designed for children aged 13-18 years. This questionnaire has been translated into Indonesian using backward dan forward translations involving the university language centre, subsequently the questionnaires have been validated and reliable. The translated questionnaires have distributed to other similar communities to gone through the face validity. If any items are found to be problematic by school age children in different schools, their feedback allows for modifications in the translations and for indications of changes that may later be made to the original source document. In this study there is no item that need to be deleted. The questionnaire consisted of 23 questions with a 1-4 Likert scale with indications always to never, with the best score indicating a better quality of life. There are 4 dimensions, physical (8 items) with questions in the form of physical health, including the frequencies of experiencing headache and

stomachache, Social (5 items) with questions in the form of relationships with peers, school functions (5 items) with questions in the form of difficulties in understanding school assignments and emotions (5 items) questions regarding negative emotions felt by school children

Health risk behaviour is measured using the HBSC (Health Behaviour School Children) questionnaire which is also translated into Indonesian using the same method with PedsQL and has been validated and reliable. The dimensions of this questionnaire consist of eating behaviour, physical activity, consuming alcohol, smoking, risky sexual behaviour, violence, school and social behaviour. The data obtained are presented in the form of categories and tested with chi square and regression multivariate model tests.

This study has passed the ethical review from the ethics committee of Esa Unggul University.

RESULTS

Analysis of the 200 participants' survey responses revealed that 43% of the sample (86 participants) measured in low quality of life while the remaining 57% did not, as shown in **Table 1**. 58 of the sample (28%) engaged in sexual risk behaviour, 71.5% in risk for their eating behaviour 38,5% have less physical activity, 22% have negative perception regarding their school and 18% and 45% admitted engage with smoking and violence respectively. School age children were also detected having a bad influence from their peers (35.5%) 27,5% drink alcohol and 33.5% from low economic status.

The associations were computed between health risk behaviour and quality of life of school age children. It was found that sexual risk behaviour (p=0.006), violence (p=0.051), friends (p=0.001), school perception (p=0.013), economic status (p=0.004), smoking (p=0.034), physical activity (p=0.014) and eating behaviour (p=0.048). Nevertheless, Drink alcohol (p=1) was not significant with quality of life (**Table 2**). The students who engage with sexual risk behaviour were 1.6 times more likely to have low quality of life than those who did not engage with sexual risk behaviour (OR= 1.603, 95% CI= 1.18-2.17). The

respondents who were involved in violence were 1.4 times more likely to have low quality of life than those who had not been involved (OR=1.40, 95% CI= 1.02-1.93). Moreover, the respondents who were influenced by friends about 2.07 times more than those who were not get influenced by friends. It was also found that students with negative school perception were 1.5 times more likely to have low quality of life than students with positivity perception, and students with low economic status were 1.6 times more than the other with sufficient income (OR=1.644, 95% CI=1.21-2.23). Smoking also becomes one of the risk factors, because children who smoking were 1.49 times more likely to have low quality of life than those who were not smoking (OR=1.49, 95% CI=1.08-2.04).

Table 1: Distribution of quality of life and health risk behaviour

Variables	Frequency (n)	Percentage (%)
Quality of life		
High	114	57.0
Low	86	43.0
Sexual risk behaviour		
Risk	58	28.0
Unrisk	144	72.0
Eating behaviour		
Risk	143	71.5
Unrisk	57	28.5
Physical activity		
Risk	77	38.5
Unrisk	123	61.5
School perception		
Risk	36	18.0
Unrisk	164	82.0
Smoking		
Risk	36	18.0
Unrisk	164	82.0
Friend/Influence		
Risk	71	35.5
Unrisk	129	64.5
Violence/Injured		
Risk	90	45.0
Unrisk	110	55.0
Drink alcohol		
Risk	55	27.5
Unrisk	145	72.5
Economic status		
Low	67	33.5
High	133	66.5

Children with less physical activity were found 1.52 times more likely to have low quality of life than children with physical activity (OR=1.52, 95% CI=1.11-2.08. The respondents who have risk eating behaviour were 1.47 were likely to

have lower quality of life than those who were unrisk (OR=1.47, 95% CI=1.01-2.15).

Table 2: Association between Health Risk Behaviour and Quality of Life

Variable	Quality of life		X²	df	p-value
	Low	High			
Sexual risk behaviour			7.45	1	0.006*
Risk	36	26			
Unrisk	50	88			
Violence			3.81	1	0.051*
Risk	46	44			
Unrisk	40	70			
Friends			19.63	1	0.001*
Risk	31	21			
Unrisk	55	93			
School perception			6.23	1	0.013*
Risk	31	22			
Unrisk	55	92			
Economic status			8.48	1	0.004*
Low	38	27			
High	48	87			
Drink alcohol			0.00	1	1
Risk	24	31			
Unrisk	62	83			
Smoking			4.49	1	0.034*
Risk	27	20			
Unrisk	59	94			
Physical activity			6.06	1	0.014*
Risk	42	35			
Unrisk	44	79			

*significant at p < 0.05, degree of freedom for Chi Square test = 1.

Table 3: Multiple logistic regression analysis of factors affecting Quality of Life

Variables	p-value*	OR	95% CI for EXP(B)	
			Lower	Upper
Physical activity	0.011	2.328	1.212	4.472
Smoking	0.041	2.188	1.033	4.637
Sexual behaviour	0.006	2.588	1.307	5.127
Friends	0.001	5.41	2.68	10.924
Violence	0.024	2.123	1.102	4.088

*Adjusted for sexual risk behaviour, violenece, friends, school perception. Economic status, drink alcohol, smoking, physical activity, eating behaviour

From **Table 3**, after adjusted multiple logistic regressions for variables in the model, the results showed that five variables were statistically associated with quality of life: physical activity (adjusted OR = 2.32, 95% CI = 1.21-4.47), smoking (adjusted OR = 2.18, 95% CI = 1.03-4.63), sexual behaviour (adjusted OR = 2.58, 95% CI = 1.30-5.12), Friends (adjusted OR = 5.41, 95% CI = 2.68-10.9), and Violence (adjusted OR = 2.12, 95% CI = 1.10-4.08).

After multivariate adjustment, it was found that physical activity, smoking, sexual behaviour, social/friends and violence were dominant factors for quality of life for school age children.

DISCUSSION

For policy makers, understanding the variables that determine quality of life of school age children is essential for developing the

curriculum with health education for quality of the future generations. In this study, it was found that some of the school age children in this this school were engaged with health risk behaviour, such as smoking, eating behaviour, negative perception from peers, sexual risk behaviour, physical activity, economic status, school perception and violence/bully. It was also found that 43% of them admitted in low quality of life category. As expected, the bivariate analyses from all the variables in health risk behaviour were significantly associate the quality of life of children except for drink alcohol, due to the strictly policy regarding the availability of the alcohol product and controversial with the east culture. For smoking especially, many studies have found that compared to persons who never smoked, current smokers are more likely to report fair/poor general health, frequent physical distress, frequent activity limitations, and frequent pain (7). Other health risk behaviour such as smoking, sexual risk behaviour and violence were also known as uncommon in this research area, however, the technologies and the globalization have irrefutable influence on the community even the school age children (8,9). School age children are an important phase of life to determine their engagements of health risk behaviour that simultaneously done when they grow up (10). This study could give some valuable suggestions that lessons in health risk behaviour are as important as lessons in math, science etc.

Several demographics, such as economic status was also found significant in this study for quality of life, it is similar as reported by others (11), highlighting the prior problem in creating the quality of life. Quality of life is the best predictor of some health issues, measured by self-reported by the children to detect some health problems (12). This suitable for the prevention method for decreasing the health individual cost. A recent study showed that children from low socio-economic families experience more asthma symptoms, poorer general health, more frequent respiratory infections, and are more often overweight or obese (13).

As multivariate analysis, this study found five indicators (smoking, sexual risk behaviour, violence, physical activity and friend

perception and that have the most significant relation with quality of life. These variables are often observed in some teenagers recently. Smoking has always been an issue in Indonesia, many of policies and restricted regulation areas have been launched in the last decades. Thus, the implementation was never an achievement. The parents' smoking behaviour has become the tremendous factor that contributes to the current situation. Many of the cases found that the children were reflected their parents and inherited their attitudes (14). Nevertheless, school has an important role in educating the children regarding health risk behaviour. Violence, sexual risk behaviour and physical activity have some fluctuation number in last five years. Gadgets are reported as one of the causes of this habit (15,16). Many of the movies and games are easily accessed from the gadget and have influenced the way children spend their time. Sedentary lifestyles were increasing, and impatient characteristics were created. Furthermore, sex education that always declared as unsuitable for ease culture have been disrupt the understanding of the children about sexual risk behaviour (17). Finally, behaviour disorders have been found in many cases of school age children.

Overall, the understanding of determination of quality of school age children can provide insight constructive concept of health education as a media to give some intervention for health risk behaviour. School is for long-life process of learning could be the greatest effort should not only involve in academic of the children (18), but also in developing the characteristics of the children in embracing healthy lifestyles. Collaboration of school personnel and health care services, as a team can develop the knowledge and skill necessary to help students make better health programs.

CONCLUSION

The current study provides significant information on how health risk behaviour influenced the quality of life, and this study has the potential to develop better health education and promotion programs in school-age children. Other important determinants were not captured such as sedentary lifestyles at school, parents' behaviour as role model, races and thus further study that involved those variables are needed to make the

comprehensive way of thinking to develop intervention to minimize the health risk behaviour.

CONFLICT OF INTEREST

The authors declare that no conflicts of interest exist.

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AUTHOR CONTRIBUTIONS

GV: involved in drafting the manuscript, data collection, analysed the data, support with literature content.
DAK: involved in finalizing and editing the manuscript, support with literature content.

REFERENCES

1. Griggs DJ, Nilsson M, Stevance A, McCollum D. A guide to SDG interactions: from science to implementation. International Council for Science, Paris; 2017.

2. Shaikh, B. T., & Hatcher, J. (2005). Health seeking behaviour and health service utilization in Pakistan: challenging the policy makers. Journal of public health, 27(1), 49-54.

3. Thomas A. Wills, Rebecca Knight, Adolescent Health and Health Behaviours, Editor(s): James D. Wright, International Encyclopedia of the Social & Behavioural Sciences (Second Edition), Elsevier, 2015, Pages 121-127

4. Roeser RW, Eccles JS, Sameroff AJ. School as a context of early adolescents' academic and social-emotional development: A summary of research findings. The elementary school journal. 2000 May 1;100(5):443-71.

5. Kusumawardani N, Suhardi S. Behaviour health risk among adolescents: a school-based health survey with the focus on smoking in male adolescents aged 12-15 In depok, West Java, Indonesia. Buletin Penelitian Sistem Kesehatan. 2011;14(4 Okt).

6. Ebbeling, C. B., Pawlak, D. B., & Ludwig, D. S. (2002). Childhood obesity: public-health crisis, common sense cure. The lancet, 360(9331), 473-482

7. Strine, T. W., Okoro, C. A., Chapman, D. P., Balluz, L. S., Ford, E. S., Ajani, U. A., & Mokdad, A. H. (2005). Health-related quality of life and health risk behaviours among smokers. American journal of preventive medicine, 28(2), 182-187

8. World Health Organization. (2017). BMI-for-age (5-19 years) girls. Retrieved from https://www.who.int/growthref/bmifa_girls_z_5_19_labels.pdf?ua=1Sawyer SM, Afifi RA, Bearinger LH, Blakemore SJ, Dick B, Ezeh AC, Patton GC. Adolescence: a foundation for future health. The Lancet. 2012 Apr 28;379(9826):1630-40. Macleod DV. Tourism, globalisation, and cultural change: An island community perspective. Channel View Publications; 2004.

9. Tremblay MS, LeBlanc AG, Kho ME, Saunders TJ, Larouche R, Colley RC, Goldfield G, Gorber SC. Systematic review of sedentary behaviour and health indicators in school-aged children and youth. International journal of behavioural nutrition and physical activity. 2011 Dec 1;8(1):98.

10. Spurrier NJ, Sawyer MG, Clark JJ, Baghurst P. Socio-economic differentials in the health-related quality of life of Australian children: results of a national study. Australian and New Zealand Journal of Public Health. 2003 Feb;27(1):27-33.

11. Zeller MH, Modi AC. Predictors of health-related quality of life in obese youth. Obesity. 2006 Jan;14(1):122-30.

12. Ruijsbroek A, Wijga AH, Kerkhof M,

Koppelman GH, Smit HA, Droomers M. The development of socio-economic health differences in childhood: results of the Dutch longitudinal PIAMA birth cohort. BMC Public Health. 2011 Dec 1;11(1):225.

13. Simons-Morton BG, Farhat T. Recent findings on peer group influences on adolescent smoking. The journal of primary prevention. 2010 Aug 1;31(4):191-208.

14. Olugbenga-Bello AI, Adebimpe WO, Abodunrin OL. Sexual risk behaviour among in-school adolescents in Public Secondary schools in a Southwestern City in Nigeria. International Journal of Health Research. 2009;2(3):243-51.

15. Ranney ML, Choo EK, Spirito A, Mello MJ. Adolescents' preference for technology-based emergency department behavioural interventions: does it depend on risky behaviours?. Pediatric emergency care. 2013 Mar 1;29(4):475-81.

16. Kerpelman JL, McElwain AD, Pittman JF, Adler-Baeder FM. Engagement in risky sexual behaviour: Adolescents' perceptions of self and the parent–child relationship matter. Youth & Society. 2016 Jan;48(1):101-25

17. Handbook of adolescent health risk behaviour. Springer Science & Business Media; 2013 Nov 21.

18. Eisenberg, N., Fabes, R. A., & Spinrad, T. L. Handbook of child psychology (Vol. 3, pp. 646-718). Hoboken, NJ, USA: John Wiley & Sons.2006.