

Knowledge and Attitude of Medan Selayang Citizens Toward Kidney Diseases in Children

*Viria Milenia¹, Rosmayanti Syafriani Siregar², Tasrif Hamdi³, Ririe
Fachrina Malisie²*

¹Faculty of Medicine, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia

²Department of Pediatrics, Faculty of Medicine, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia

³Department of Anesthesiology, Faculty of Medicine, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia

Abstract

Background. Renal disease define as groups of heterogenous disease that affect the function and structure of kidney. Children with end-stage renal disease (ESRD) have 30 times mortality rate than children without ESRD. Early signs and symptoms should be recognized and risk factors should be identified early so kidney disease could be prevented and slow the progress towards worse condition. Prevention can be done by parents and society by hindering or eliminating risk factor from children that could cause kidney disease. Therefore, society's knowledge and attitude towards children's kidney disease need to be carried out, especially parents, which are child's first point contact with medical staff.

Objective. To describe the level of knowledge about symptoms, risk factors, treatment and complications of kidney diseases and precautionary attitude of Medan Selayang citizens towards kidney diseases in children.

Methods. The research was a descriptive observational study with cross sectional approach. The sampling method used was non-probability sampling with convenient method. Total sample needed in this research is 100 people who were Medan Selayang citizens that brought children to Puskesmas PB II Selayang. This study used questionnaire as research tool.

Results : From 100 respondents, 67% knew that children can get kidney disease and 81% agree that some kidney diseases can be prevented.

Conclusion. The knowledge of Medan Selayang's citizens was still lack especially regarding symptoms, risk factors, and complications. The attitude of the citizens was good.

Keyword: Knowledge, Attitude, Kidney diseases, Children

Abstrak

Latar Belakang. Penyakit ginjal didefinisikan sebagai sekelompok kelainan heterogen yang memengaruhi fungsi dan struktur ginjal. Anak-anak dengan penyakit ginjal stadium akhir/ESRD memiliki tingkat kematian sekitar 30 kali lipat dibandingkan pada anak-anak tanpa ESRD. Tanda dan gejala awal sebaiknya dapat dikenali serta faktor risiko dapat diidentifikasi sejak dini, sehingga penyakit ginjal dapat dicegah dan progresivitasnya dapat

*Corresponding author at: Faculty of Medicine, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia

E-mail address: viriamilena@gmail.com

diperlambat. Pencegahan dapat dilakukan oleh orang tua maupun masyarakat seperti menghindari atau mengeliminasi paparan faktor resiko yang dapat menyebabkan penyakit ginjal. Oleh karena itu, tingkat pengetahuan masyarakat perlu diteliti karena masyarakat, terutama orang tua, adalah poin kontak pertama anak kepada staf medis.

Tujuan. Untuk mengetahui gambaran tingkat pengetahuan dan sikap masyarakat Medan Selayang terhadap penyakit ginjal pada anak.

Metode. Penelitian ini merupakan penelitian deskriptif observasional dengan pendekatan cross sectional. Pengambilan sampel menggunakan metode non-probability sampling jenis convenient sampling sampai jumlah sampel minimal terpenuhi. Jumlah sampel yang dibutuhkan dalam penelitian ini adalah sebanyak 100 orang. Sampel dalam penelitian ini adalah masyarakat Medan Selayang yang mengantar anak ke Puskesmas PB II Selayang. Penelitian ini menggunakan kuesioner sebagai alat penelitian.

Hasil : Dari 100 responden, 67% mengetahui anak-anak dapat mengalami penyakit ginjal dan 81% responden setuju bahwa beberapa penyakit ginjal dapat dicegah. Nilai rata-rata tingkat pengetahuan masyarakat Medan Selayang adalah 12,38 dari 29. Nilai median sikap masyarakat Medan Selayang adalah 19 dari 24.

Kesimpulan. Tingkat pengetahuan masyarakat Medan Selayang masih kurang terkhususnya simtom, faktor penyebab, dan komplikasi. Sikap masyarakat terkait pencegahan penyakit ginjal sudah baik.

Kata Kunci: Pengetahuan, Sikap, Penyakit ginjal, Anak.

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1 Introduction

Kidney disease is defined as a heterogeneous group of disorders that affect the function and structure of the kidneys [1]. Patients often come with various complaints indicating that the patient is at an advanced stage caused by delay in diagnosis [2]. This is because the clinical symptoms of chronic kidney disease are rarely realized because in the early phase they are usually asymptomatic [3]. In Europe, the incidence of chronic kidney disease in children ranges from 11-12 per 1 million age-related population (pmarp) and with a prevalence ranging from 55-60 per 1 million age-related population. The global incidence and prevalence of children <20 years with End-stage renal disease (ESRD) and requiring renal replacement therapy are ~9 pmarp and ~65 pmarp, respectively [4]. Based on a report from the United States Renal Data System (USRDS) 2020, the prevalence of ESRD in the 0-17 year age group increased by 4.7% in 2018 [5]. 70% of children with chronic kidney disease can develop ESRD at the age of 20 years. Children with ESRD have a 10-year survival rate of about 80% and a mortality rate of about 30 times that of children without ESRD [3]. Unfortunately, there is no data regarding children's kidney disease in Indonesia.

If early signs and symptoms can be recognized and risk factors can be identified early, kidney disease can be prevented so that its progression can be slowed and improve the patient's prognosis [6-7]. Green and Cavanaugh observed a significant relationship between education level and better outcomes in patients with kidney disease [8]. Patients with low levels of education have a greater risk of falling into the ERS condition. Therefore, the level of community's knowledge

and attitude needs to be investigated because the community, especially parents, is the child's first point of contact to the medical staff [7].

2 Method

This research is a descriptive observational study with a cross sectional approach (cross-sectional). The study was conducted in Medan Selayang Public Health Center. The location was chosen for convenience because it was where the author was based. This study aims to determine the level of knowledge and attitudes of the people of Medan Selayang to kidney disease in children. The data collected in the form of primary data obtained from questionnaires filled out by respondents from the Medan Selayang District community. Questionnaire used in this research was adapted from Ajarmeh, et al [7]. and had been given permission to be modified. Researcher perform pilot study consists of 28 respondents to scrutinize the validity and reliability of questionnaire. The result revealed a Cronbach's alpha of 0.921 for knowledge questionnaire and 0.680 for attitude questionnaire.

Questionnaire was administered in Bahasa Indonesia and had 3 sections: part 1 had 6 questions assessing respondents demography characteristics; part 2 had 5 questions that asked respondents about whether respondents know children can get kidney diseases, symptoms, risk factors, treatment, and complications of kidney diseases; part 3 consists of 8 questions that measured the attitudes of respondents regarding children's kidney diseases. Questions in part 2 were presented in Guttman scale with every correct answers will be given 1 point while incorrect answers or didn't know will be given 0 point. Questions in part 2 were presented in Likert 3 point with 3 point for respondents who agreed with the positive statement given, 2 point for neutral, 1 point for didn't agree and 0 point for didn't know.

Inclusion criteria in this study are person who takes the child to the PB II Medan Selayang Health Center, domiciled in Medan Selayang District, aged over 18 years old physically and mentally healthy, willing to participate in research and fill out questionnaires. Exclusion criteria is respondents who did not fill out all the questions. After collecting primary data, the data will be analyzed with SPSS 25 software with univariate analytic and presented in prevalence and central tendency (mean/median) which the distribution of data had been analyzed beforehand. Data that distributed normally will be tested using mean test while data that do not distributed normally will be tested using median test.

3 Results

From table 1, the majority of respondents were entrepreneur (n=32%), age between 35 – 45 (n=36%), female(n=70%), college and high school (n=44%), mother (n=51%), and has no source of knowledge about kidney diseases in children (n=52%). We can conclude that most of our

respondents were mother in their productive age and have a good education (well-educated) but do not have source of knowledge about kidney diseases in children.

Table 1 Characteristics of Respondents

Respondent's Characteristics		Frequency	Total
Occupancy	Unoccupied	21	100
	Entrepreneur	32	
	Official	9	
	Private employees	19	
	Others	19	
Age	<25	9	100
	25 – 35	23	
	35 – 45	36	
	>45	32	
Sex	Male	30	100
	Female	70	
Education	Low	12	100
	Middle	44	
	High	44	
Relationship	Father	20	100
	Mother	51	
	Other family members	29	
Source of knowledge	Family or close friends	9	100
	Mass media	18	
	Social media	9	
	Health workers	11	
	Others	1	
	Didn't have	52	

*data is not normally distributed and uses median test

The percentage of respondents that know children can get kidney disease is 67% (Table 2). When respondents were asked about symptoms of kidney diseases, most of respondents answered reduced activity/tiredness (n=53%) and blood in urine (52%) as the symptoms that indicate kidney diseases though only 30% of respondents knew that high blood pressure as symptoms of kidney disease in children. More than half of respondents (n=67%) answered drugs as risk factor of kidney diseases while only 23% of respondents knew that kidney diseases can be inherited and only 27% respondents knew that some of kidney diseases were congenital anomaly. Hypertension and diabetes were only known by 36% of respondents. When respondents were asked about kidney diseases treatment only operation that was answered by less than half of respondents (n=37%). Most of respondents had known that medicine and antibiotics (n=64%), dialysis (n=65%) and transplantation (n=52%) are the treatment for kidney disease. When respondents were asked about complications of kidney diseases, only edema was known by more than half of

respondents (n=56%) while only 26% of respondents knew that children with kidney disease will impact their performance at school.

The data regarding knowledge of children's kidney disease were distributed normally hence the mean score for Medan Selayang's citizens is 12.38 of 29. The highest central tendency of each group of respondents' characteristics came from private employees (15.05), age >45 (15.53), female (13.19), high education (13.84), mother (13.24), and source of knowledge came from health workers (19.45) (see Table 3).

Table 2 Prevalence of respondents who answered correctly

Question	Prevalency
Can children get kidney diseases?	67
Symptoms of kidney diseases	
Blood in urine	52
Foam in urine	37
High blood pressure	30
Edema	47
Weight loss	35
Low appetite	40
Reduced activity/tiredness	53
Decrease urine output	46
Risk factors of kidney diseases	
Infection	47
Hypertension	36
Diabetes	36
Inherited condition	23
Congenital anomaly	27
Urine reflux	30
Severe dehydration	42
Systemic disease	28
Drugs	67
Kidney diseases treatment	
Medicine and antibiotics	64
Dialysis	65
Transplantation	52
Operation	37
Kidney diseases complications	
Hypertension	40
Electrolyte imbalance	39
Edema	56
Slow growth	37
Bad performance in school	26
Death	49
Infection	40

Table 3 Central tendency of respondents' knowledge

Respondents' Characteristics		Mean/Median*
Occupancy	Unoccupied	13.38
	Entrepreneur	6.50*
	Official	13.56
	Private employees	15.05
	Others	13.42
Age	<25	7.78
	25 – 35	13.52
	35 – 45	10.00
	>45	15.53
Sex	Male	10.00
	Female	13.19
Education	Low	12.58
	Middle	10.86
	High	13.84
Relationship	Father	9.80
	Mother	13.24
	Other family members	12.66
Source of knowledge	Family or close friends	19.22
	Mass media	11.78
	Social media	8.67
	Health workers	19.45
	Others	18.00
	Didn't have	9.00*
Total		12.38

*data is not normally distributed and uses median test

When respondents were asked whether kidney diseases can be prevented, 81% respondents agreed that some kidney diseases can be prevented. More than 70% respondents also agreed that changes in diet are needed in patients with kidney disease (n=76%), dialysis is essential in treating kidney diseases (n=76%) and treating urinary tract infection can prevent kidney disorders (n=74%). Respondents also had positive attitudes regarding antenatal examination and stated that antenatal examination is important to diagnose congenital anomaly kidney diseases and dialysis is essential in treating kidney diseases. Only 44% respondents agreed to give herbal medicine to treat children's illnesses and only 14% feel happy if their kids weigh much more than the average weight in children (see table 4).

The data regarding respondents' attitude towards kidney diseases in children were not normally distributed hence the median is 19 of 24. The highest central tendency of each group of respondents' characteristic is from unoccupied and private employees (21.00), age >45

(20.00), female (20.00), high education (18.80), mother (21.00), and source education from others (24.00) and followed by health workers (21.82) (see table 5).

Table 4 Prevalence of respondents who agreed with the statements

Statements	Prevalency
Some kidney diseases can be prevented	81
Changes in diet are needed in patients with kidney disease	76
Antenatal examination is important to diagnose congenital anomaly kidney diseases	56
Treating urinary tract infection prevent kidney disorders	74
Recurrent urinary tract infection can cause complications towards kidney	68
I give herbal medicine to treat children's illnesses	44
Dialysis is essential in treating kidney diseases	76
I feel happy if my kid weigh much more than the average weight in children	14

Table 5 Central tendency of respondents' attitude

Respondents' Characteristics		Mean/Median*
Occupancy	Unoccupied	21.00*
	Entrepreneur	17.00*
	Official	18.00
	Private employees	21.00*
	Others	20.21
Age	<25	17.78
	25 – 35	18.00*
	35 – 45	19.00*
	>45	20.00*
Sex	Male	15.73
	Female	20.00*
Education	Low	16.67
	Middle	18.23
	High	18.80
Relationship	Father	15.70
	Mother	21.00*
	Other family members	17.85
Source of knowledge	Family or close friends	20.56
	Mass media	19.33
	Social media	18.00*
	Health workers	21.82
	Others	24.00
	Didn't have	17.50*
Total		19.00*

*data is not normally distributed and uses median test

4 Discussions

There are very little data published regarding knowledge and attitude of parents towards children's kidney diseases therefore the data comparison mainly came from adult samples. This study results suggest that the parents' knowledge towards kidneys diseases is still low which can be seen from the knowledge mean score that is 12.38. This results consistent with a report from Tanzania which shown that the knowledge of Tanzanians regarding kidney diseases was still low (3.28 of 10) [9]. In other hand, parents' attitude towards kidney disease in children was still good (median 19.00 of 24.00).

Furthermore, parents have some knowledge about kidney diseases in children but the knowledge about symptoms, risk factors, and complications of kidneys diseases are still limited. When compared with other studies conducted in Jordania and Iranian, researcher found different results about symptoms mostly known by parents. Ajarmeh, et al's research showed that people were more aware of blood in the urine and increased blood pressure as early symptoms, while Roomizadeh et al's research showed that low back pain and difficulty in urinating as early symptoms recognized by the majority of respondents [7,10]. In addition, it can also be concluded from the results of this study that the knowledge of the people of Medan Selayang about the signs of kidney disorders is still lacking because only 2 out of 8 signs of kidney disorders are recognized by more than 50% of respondents (see table 2).

The result regarding risk factors of kidney diseases is contrast to the research conducted in Jordania which showed that drugs were one of the risk factors that was least known to the public of Jordania [7]. Table 2 shows that only 36% of respondents know hypertension and diabetes as risk factors. This is consistent with research conducted by S. Ajarmeh, et al, Roomizadeh, et al, White, S, and Chow KM et al, which showed less than 50% of the public know that hypertension and diabetes are risk factors for kidney disease [7, 10-12]. It can also be concluded that public knowledge about risk factors for kidney disease is still lacking because only 1 out of 9 risk factors are known by more than 50% of respondents (see table 2). Parents' knowledge regarding treatment of kidney disease was good because more than 50% of respondents answers correctly for 3 out of 4 treatment modalities of kidney disease available however knowledge towards complications of kidney diseases were still low because only 1 out of 7 complications are known by more than 50% respondents.

The highest central tendency of knowledge in age group came from age >45 year old. The same result was also seen in the central tendency of attitude. Though youger people may have an easier access of information (ex. Internet), but older people tend to aware more about health. This result also in line with the theory described by Notoatmodjo that the older you are, the more mature your way of thinking, therefore older people are expected to have better knowledge [13]. This can also be related to the experience gained by older people may be

more than young people so that respondents in the highest age group have better knowledge than other lower age groups.

In addition, knowledge and attitude of women was higher than men (see table 4.3). This is in accordance with the theory presented by EK S. which states that women are more willing to actively seek health-related information than men [14]. In Indonesia, patriarchy is still common practices and normal among Indonesians. Men are still dominant in our society hence men are expected to be working outside while women are expected to manage household affair like looking after children. With this way of living, women indeed should have better knowledge and attitude towards their child's health. However, parents (mother and father) are urged to seek more information regarding childrens' kidney disease since there are increasing number of children patient with kidney disease.

According to Notoatmodjo and Green and Cavanaugh, education affects a person's level of knowledge and it is expected that the higher the education, the higher the level of one's knowledge [8,13]. This study shows consistent results in which respondents with high education (university) have a higher average score than respondents with low education (SD, SMP) and middle (SMA). However, the average score of respondents with middle education was lower than respondents with low education. This might happen due to not all educated person is necessary educated in every topic. People tends to assure more on the influence of the grandmother out of the belief that the latter have more experience in raising children and will act in the best, most appropriate way for the child [7].

5 Conclusion

Most respondents of this studies were housewives who were in their productive age and have a good education (well-educated), but do not yet have a source of knowledge about kidney disease in children. Majority of people in Medan Selayang knew that children can experience kidney disease, but knowledge of signs and symptoms, causative factors, and complications of kidney diseases in children were still lacking but they still had a positive attitude that some kidney diseases can be prevented and had a positive attitude towards various prevention of kidney disease in children.

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