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Description of the Level of Knowledge, Attitude, Preparedness and Willingness of the Faculty of Dentistry Faculty of Hasanuddin University in Caring for People with Hiv/Aids

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Abstract

A decrease in immunity makes it easier for infected people to get infectious diseases. In the practice of health services, stigma and discrimination against people with HIV/AIDS can be a breach of confidentiality, different treatment, and even refusal to care causing those patients to face barriers in accessing optimal health services. This research aims to know the comparison of knowledge, attitude, preparedness, and willingness of students of Hasanuddin University Faculty of Dentistry in caring for people with HIV/AIDS. This research is an observational cross-sectional study design, which was conducted at the Hasanuddin University Dental Hospital. The sample of this study was the students from the Dentistry Faculty, Hasanuddin University including 153 preclinical students (2015 and 2016 academic year) and 200 clinical clerk students. The 200 sample students were those willing to participate in this study and were chosen randomly. In terms of knowledge about HIV/AIDS, 77.5% of subjects had high knowledge, 100% agreed to care, 95% had good preparedness and 92% of subjects were willing to treat people with HIV/AIDS with little doubt.

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Introduction

Human Immunodeficiency Virus (HIV) is a virus that attacks white blood cells and causes a decrease in the human immune system. Acquired Immune Deficiency Syndrome (AIDS) is a set of symptoms caused by HIV because of decreased immunity and results in people becoming easily exposed to infectious diseases (opportunistic infections).[1]

According to the WHO, there were 2.1 million people suffering from HIV worldwide in 2015. Between 2000 and 2010, the number of people with HIV declined by 50% in 30 countries around the world.[2] According to data from the Ministry of Health Republic of Indonesia, until the end of 2013 there were about 591,718 people living with HIV and AIDS (PLWHA) in Indonesia. The cases of HIV/AIDS occurring in Indonesia is still increasing from year to year. Based on the level of HIV pandemic, particularly in eastern Indonesia, South Sulawesi province ranks second after Papua. Especially in the city of Makassar, the prevalence of HIV/AIDS sufferers is ranked third highest after Jayapura and Jakarta. Based on data from the Field of P2PL Development of Makassar City Health Office, the discovery of new cases of HIV (+) in 2015 was 665 cases and had decreased compared to 2014 where as many as 705 cases were reported.[3]

Stigma and discrimination have been identified as a major obstacle when effectively responding to HIV. In the practice of health services, stigma and discrimination against people with HIV/AIDS can be a breach of confidentiality, different treatment, and even refusal to care so that the patient can face barriers in accessing optimal health services. Stigma and discrimination have a major impact on disease management as they may result in delays in diagnosis that impact on treatment.[4,5]

Sears et al.[6] in his research on health service discrimination conducted in Los Angeles,

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showed the highest discrimination of service was found amoung obstetricians (55%) and the lowest discrimination was found amoung dentists (5%).[6] Generally the reasons for the refusal to treat HIV/AIDS sufferers are inadequate health services for the care of people living with HIV/AIDS (38%), the need for higher infection control measures (7%), and healthcare establishments have never cared for people living with HIV/AIDS previously (7%). However, more than half the available dentists refused to provide care to people living with HIV/AIDS (52%) and directed the person to seek out other clinics or hospitals. Although dental and oral health discrimination is much lower than other health services, care and maintenance in the field of oral health for people with HIV is very important in relation to the resulting oral manifestations.[6] Recent international studies show that oral lesions (such as oral candidiasis and Sarcoma Kaposi) occur in 50-70% of people with HIV/AIDS. This condition can cause discomfort, dysfunction, and disability. If this condition is not addressed, it can significantly affect the quality of life of the patient.[7]

Therefore, based on the above background, the authors are interested to conduct research to determine the level of knowledge, attitude, preparedness, and willingness of students from the Faculty of Dentistry at Hasanuddin University in caring for people with HIV/AIDS.

Materials and methods

This descriptive observational research type, with cross-sectional design, was carried out in October 2017 at the Faculty of Dentistry and Dental and Oral Hospital of Hasanuddin University. The total population was 400 clinical partners. The sample was 200 students who were willing to participate in this study and was taken randomly.

The data was collected using a questionnaire according to Cliff Lee et al.[8] The questionnaire consists of 5 categories, namely: a) Demographic data; b) Knowledge of oral manifestations and forms of HIV/AIDS transmission consisting of 16 questions; c) Attitudes toward people with HIV/AIDS consisting of 6 questions; d) Preparedness in caring for HIV/AIDS sufferers consists of 8 questions; and e) Willingness to care for people living with HIV/AIDS. The assessment criteria for knowledge-based questionnaire was 16 closed-questions consisting of "yes", "no", or "no idea" options. Each correct answer was given a score 1 and wrong answer or do not know was scored 0. The rating categories (attitudes, preparedness and willingness) were done by answering the choice of answers: strongly disagree = 1; disagree = 2; agree = 3; and strongly agree = 4. The attitude was categorized as positive if the average high score scored (3-4). Bad alert: 1-2 score ranges and good alert: score ranges: 3-4. Willingness: not willing: score range 1-2; willing: 3-4 score range. The results are presented in tabular and narrative form.

Results

In total 200 clinical partnership students (157 women and 43 men, 174 undergraduates ≤ 7 years from undergraduate and 26 under 7 years) participated in the study. Table 1 showed the most answer was blood choice (100%) and the least was on aerosol choice (33%) as a form of HIV/AIDS transmission. In terms of knowledge of oral manifestations, most responded correctly to Oral Candidiasis (93.5%) choice and at least on Lichen planus (21.5%) choice.

Knowledge Variable	Percent of Answers Right		
	Yes (%)	No (%)	Don't Know (%)
Transmission Forms			
Aerosol (Y)	**66 (33)**	92 (46)	42 (21)
Blood (Y)	**200 (100)**	0 (0)	0 (0)
ASI (Y)	**157 (78.5)**	22 (11)	21 (10.5)
Insect bites (N)	44 (22)	**122 (61)**	34 (17)
Saliva (N)	109 (54.5)	**85 (42.5)**	6 (3)
Tears (N)	17 (8.5)	**145 (72.5)**	38 (19)
Vaginal secretions (Y)	**194 (97)**	1 (0.5)	5 (2.5)
Oral Manifestations			
Kaposi's sarcoma (Y)	**100 (50)**	16 (8)	84 (42)
Oral candidiasis (Y)	**187 (93.5)**	11 (5.5)	2 (1)
ANUG (Y)	**167 (83.5)**	23 (11.5)	10 (5)
Fordyce granula (N)	39 (19.5)	**49 (24.5)**	112 (56)
Hairy leukoplakia (Y)	**135 (67.5)**	35 (17.5)	30 (15)
Lesi herpes simplex (Y)	**164 (82)**	16 (8)	20 (10)
Peripheral ossifying	42 (21)	**40 (20)**	118 (59)
fibroma (N)	92 (46)	**43 (21.5)**	65 (32.5)
Lichen planus (N)	**112 (56)**	43 (21.5)	45 (22.5)
Aphthous ulcers (Y)			

Table 1. Percentage of samples who answered questions correctly on knowledge about the form of transmission and oral manifestations associated with HIV/AIDS.

Statement of Attitude	Answer Options n (%)			
	Strongly Disagree	Disagree	Agree	Strongly Agree
The HIV/AIDS sufferer is responsible for the transmission of the illness	1 (0.5%)	30 (15%)	102 (51%)	67 (33.5%)
People with HIV/AIDS should be treated the same as people without HIV	48 (24%)	82 (41%)	48 (24%)	22 (11%)
You have negative feelings towards people with HIV/AIDS	6 (3%)	84 (42%)	108 (54%)	2 (1%)
Positive outcomes in HIV sufferers should be concealed and constitute the patient's personal data	13 (6.5%)	46 (23%)	82 (41%)	59 (29.5%)
You are worried about your safety when caring for people with HIV/AIDS	0 (0%)	11 (5.5%)	92 (46%)	97 (48.5%)
You think your patients will be noticed if they know you are caring for people with HIV/AIDS	5 (2.5%)	24 (12%)	109 (54.5%)	62 (31%)

Table 2. The sample answers to the attitude statement to people with HIV/AIDS.

Statement of Preparedness	Answer Options n (%)			
	Rarely	Sometimes	Often	Always
How often do you use gloves when ting patients?	0 (0%)	3 (1.5%)	113 (56.)	84 (42%)
How often do you change gloves between patients?	0 (0%)	4 (2%)	119 (59.5%)	77 (38.5%)
How often do you use PPE (except gloves) when treating patients?	5 (2.5%)	23 (11.5%)	87 (43.5%)	85 (42.5%)
How often do you replace personal protective equipment (except gloves) when treating patients?	5 (2.5%)	13 (7.5%)	97 (48.5%)	89 (41.5%)
How often do you ask the patient's medical history?	1 (0.5%)	13 (6.5%)	97 (48.5%)	89 (44.5%)
How often do you change instruments between patients?	0 (0%)	9 (4.5%)	102 (51%)	89 (44.5%)
If you care for people with HIV/AIDS, how often will you use extra PPE?	4 (2%)	19 (9.5%)	113 (56.5%)	64 (32%)
If you treat people with HIV/AIDS, how often do you do extra sterilization in people with HIV/AIDS?	0 (0%)	6 (3%)	111 (55.5%)	83 (41.5%)

Table 3. The sample answers to the preparedness statement in caring for HIV/AIDS patients.

Table 2 shows the statement with the greatest response in the statement "You think your patient will be noticed if they know you care for people with HIV/AIDS" ie as many as 109 (54.5%) of the sample answered "agree". No students answered strongly disagreeing and few responded disagreeing to the statement "You are worried about your safety when caring for people with HIV/AIDS.

Table 3 shows Answers "often" are the most answers chosen by the sample to the alertness in caring for patients with HIV/AIDS ie in connection with Personal Protective Equipment (PPE) and sterilization tools.

Table 4 shoes a sample of preparedness when treating people with HIV/AIDS. The results show "agree" is the highest percentage for all willingness questions except question number 2 and number-6.

In table 5, indicated in terms of knowledge, most of the sample is in the category of high knowledge, attitudes, preparedness and willingness, the average score shows the attitude

agree, good alert and willing to care for people with HIV/AIDS.

Statement of Willingness	Answer Option (%)			
	Strongly Disagree	Disagree	Agree	Strongly Agree
1. You have an ethical responsibility to the healthcare provider in people with HIV	0 (0%)	2 (1%)	98 (49%)	100 (50%)
2. You have an ethical responsibility to the healthcare provider in people with HIV	25 (12.5%)	95 (47.5%)	53 (26.5%)	27 (13.5%)
3. If you have a choice, you would prefer to refer HIV patients to others	4 (2%)	55 (27.5%)	117 (58.5%)	24 (12%)
4. You will treat people with HIV in different locations/rooms	2 (1%)	30 (15%)	113 (56.5%)	55 (27.5%)
5. You will refer HIV/AIDS sufferers to a public health service or specialist clinic	0 (0%)	17 (8.5)	127 (63.5%)	56 (28%)
6. You will change treatment or shorten treatment procedures when caring for people with HIV	2 (1%)	109 (54.5%)	63 (31.5%)	26 (13%)
7. A level of comfort and willingness to care for people living with HIV/AIDS	2 (1%)	24 (12%)	150 (75%)	24 (12%)

Table 4. The sample answers to the statement of willingness in caring for people with HIV/AIDS.

For questions 4 to 6, the answer options are:

* strongly disagree (rarely);
* disagree; (sometimes);
* agree (often);
* strongly agree (always)

For question number 7, the answer options are:

* strongly disagree (choose not care);
* disagree (care with many doubts);
* agree (care with a little hesitation);
* strongly agree (care without hesitation).

Table 4 shoes a sample of preparedness when treating people with HIV/AIDS. The results show "agree" is the highest percentage for all willingness questions except question number 2 and number-6.

Variable	n (%)	Mean±SB
Knowledge		
High	155 (77.5%)	10±1.60
Low	45 (22.5%)	6±1.08
Total	200 (100%)	9±2.31
Attitude		
Disagree	200 (100 %)	17±2.34
Agree	0 (0 %)	0±0.00
Total	200 (200 %)	17±2.31
Preparedness		
Good	190 (95%)	27±2.91
Bad	10 (5%)	27±3.06
Total	200 (100%)	27±2.91
Willingness		
Ready	184 (92%)	21±2.337
Not willing	16 (8%)	19±2.68
Total	200 (100%)	21±2.412

Table 5. Distribution of sample and average score of knowledge, attitude, preparedness and willingness to care for people with HIV/AIDS.

Discussion

HIV infection and its continued progress to AIDS is a major public health problem with high rates of morbidity and mortality. Provision of dental and oral health services is essential for people with HIV/AIDS because the oral manifestations of the disease can weaken and affect the quality of life of the patient. Early detection and management of oral manifestations may prevent disease expansion and improve patient quality of life. However, until now dental care is still an unmet need for people with HIV/AIDS because of barriers in accessing dental and oral health services. This contributes to damaging health efforts in controlling disease and preventing its spread.[9] Stigma and discrimination against HIV/AIDS sufferers are influenced by various factors such as knowledge, attitude, and preparedness which have implication on the willingness of health workers especially dental and oral health in caring for people with HIV/AIDS.

Knowledge is one factor that influences one's willingness in caring for people with HIV/AIDS. Knowledge of the mode of transmission of HIV in this study showed that all samples knew that blood was a form of HIV transmission which was demonstrated by the highest percentage of true answers to all questions. This is in line with research conducted by Lee et al.[8] which shows nearly 100 percent of dentists know that blood is a form of HIV transmission.[8] Also in line with research conducted by Gao et al.[10] some potential HIV transmission pathways include blood (blood transfusions or organ donation from infected individuals), HIV-infected breast milk, and sexual intercourse.[10] Transmission of HIV through the blood can also occur directly through equipment or work surface to the blood of other individuals both patients and clinicians if the individual possesses an open wound or ulceration.[11] The study also showed that only a small sample know that saliva is a form of HIV transmission in dentistry practice characterized by the lowest percentage of answers. This is in line with research conducted by Sadeghi et al.[12] that found only 24% of dentistry students in Iran agreed that saliva is a form of HIV transmission.[12] The fact that only 1 to 5% of saliva patients contain HIV virus. In addition, saliva has the ability to inactivate viruses that

infect leukocytes through salt reconstitution and other substances in saliva to prevent other transmission pathways.[13]

Knowledge of aerosols as a form of HIV transmission also appears low in research. This supports the research conducted by Lee et al.,[8] Sadeghi et al.[12] and Singh et al.[14] which showed that only a few dentistry students knew that aerosols can be a medium of transmission of HIV shown with the lowest percentage of answers.[8,12,14] This is due to the fact that HIV transmission through this path is very rare. The patient's oral and blood fluids can be aspirated by handpieces or ultrasonic scalers and dental unit ducts, hence a new practitioner or patient may be exposed to a patient's previous microbe. In addition, the skin of a practitioner is often completely unprotected, thus increasing the probability of aerosol contact.[12,14] However, according to Sadeghi et al.[12] more than half of dentistry students assume that aerosol transmission is unlikely to occur because the path of disease transmission is not entirely understood.[12]

Knowledge of oral manifestations of HIV this study showed that the sample group knew that oral candidiasis is one of the oral manifestations of HIV which is demonstrated through the highest percentage of true answers to all questions. This agrees with the study by Sadeghi et al.[12] and by Oberoi et al.[15] that shows almost 100 percent of dentistry students know oral candidiasis as an oral manifestation often seen from people with HIV/AIDS, although such oral lesions are not specifically seen in people with HIV/AIDS.[12,15] Oral candidiasis in people with HIV/AIDS is caused by several predisposing factors such as low CD4 cell count (<350 cells/mm^3) and alcohol consumption.[16] There are three types of oral candidiasis: erythematous candidiasis, pseudomembranous candidiasis, and angular cheilitis. According to Aškinytė et al[17] and Davoodi P et al.[18] erythematous candidiasis is the most common type of oral candidiasis in people with HIV/AIDS compared to other types.[17,18] However, Bodhade et al.[16] and Saravani et al.[19] showed fewer cases of erythematous candidiasis compared with pseudomembranous candidiasis. In general, oral candidiasis can be a particularly good marker for immune system decline compared to other oral lesions.[16]

Few samples knew that lichen planus are oral manifestations of HIV/AIDS. This is in line with a study conducted by Peeran et al.[20] showing only 8.6% of dentistry students and 3.4% of internists as research subjects knew that lichen planus was an oral manifestation of HIV/AIDS.[20] In addition, Davoodi et al.[18] showed lichen planus on the tongue only occurred 4 cases of 100 HIV-positive patients examined.[18] Oral lichen planus is commonly associated with decreased immune systems due to reactions to exoneus antigens or autoantigens expressed through epithelial cells. In people with HIV/AIDS, oral lichen planus occurs related to decreased CD4 T lymphocyte count.[20]

This study shows the sample has positive attitude towards the HIV/AIDS patient. A person's attitude towards HIV/AIDS sufferers can be influenced by various factors such as psychological factors, one's direct experience, parent's involvement, attitude group, mass media and learning process in forming attitude.[21]

Preparedness is also a factor that contributes to one's willingness to care for people living with HIV/AIDS. The level of preparedness in the sample is at a good alert level.

According to Nimma et al.[7] although the risk of HIV transmission in dental practice is low, this does not mean that there is no risk for dentists to be accidentally exposed to viruses and other pathogens through the blood while treating patients. Therefore, alertness to infection control should be applied to each patient, one of which is to ask a medical history to the patient and to update it periodically at the next visit.[7,21] In addition, Oberoi et al.[15] finds that the use of protective devices such as masks, gloves, and glasses, is a major defense in reducing infectious materials, such as aerosols, in the practice of dentistry.[15] This is because most people with HIV/AIDS are reluctant to disclose their seropositive status to healthcare providers because of fear of stigmatization or people who are unaware of their HIV status, so standard precautions are needed to protect both patients and healthcare providers.[9] In addition, the workforce in the field of oral and dental health is at risk of contracting infectious diseases by being routinely exposed by body fluids and performing invasive treatment procedures by using sharp instruments.[24]

The availability of dental and oral health workers to care for people living with HIV/AIDS is

the most significant predictor of the oral manifestations caused by HIV disease. This study shows a sample willing to care for people with HIV/AIDS. Although willing to treat with little doubt. This is relevant with the research conducted by Priadarsini T and Kathrivan demonstrating the positive attitude and willingness of dental workforce, dental staff and students at Saveetha Dental College in caring for HIV infected patients with 75% indicating agreeing to care for people living with HIV/AIDS.[23] This finding also support the research conducted by Wu et al.[24] which shows that 86% of dentistry students feel morally responsible for treating patients with infectious diseases, but 26% indicate a refusal to treat patients with infectious diseases because of fear of transmission.[28] Several factors that may affect a person's unwillingness to care for people with HIV/AIDS include the lack of ethical responsibility, the fear of cross-infection overload, the fear of losing other patients if dental services are available to HIV/AIDS patients, and the cost of high infection control procedures.[14,23] Additionally, lack of confidence in the ability to handle HIV/AIDS patients can also reinforce the risk perception of health practitioners being infected.[12,23]

The willingness to care for people with HIV/AIDS is influenced by a variety of factors but has a close relationship with one's knowledge, attitude, and preparedness. This willingness is difficult to change if a dental service provider does not believe in ethical responsibility to care for people living with HIV/AIDS. Increased factors that affect willingness to care for people with HIV/AIDS can be implemented through dentistry training. Education and emphasis on universal precautions, as well as low HIV transmission with appropriate infection control protocols reduces fear of transmission of HIV infection. In addition, the experience to interact between students and HIV/AIDS sufferers will make oral health providers become more familiar to HIV/AIDS sufferers and reduce negative attitudes that increase access to care for people living with HIV/AIDS.[8,25]

Conclusions

In terms of handling HIV/AIDS patients, with high knowledge, and showing a good attitude of agree and happiness, students are willing to care for people living with HIV/AIDS even with little doubt.

Acknowledgements

Declaration of Interest

The authors report no conflict of interest.

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