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ARAŞTIRMA / RESEARCH

Correlation of Nursing Students' Digital Literacy Levels and Counseling Skills

Hemşirelik Öğrencilerinin Dijital Okuryazarlık Düzeyleri ve Danışmanlık Becerilerinin İlişkisi

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Abstract

Objective: This research was conducted as a descriptive, and correlational study to analyze the association between nursing students' digital literacy levels and counseling skills.

Material and Method: The study sample comprised 383 nursing students. The Personal Information Form, the Digital Literacy Scale, and the Counseling in Nurses Scale were used in the data collection process. Descriptive statistics (number, percentage), the independent samples t-test, an F-test, Pearson's correlation test, and multiple regression analysis test were utilized in the analysis of research data.

Results: It was found that nursing students had high digital literacy levels (66.05±12.30 points) and counseling skill scores (45.17±4.11 points). In addition, a moderate positive correlation (r=.367) was obtained between the students' digital literacy and counseling skill scores. A significant difference was determined between nursing students' educational status, daily internet use time, internet use time according to students' self-evaluations and their digital literacy scores. In addition, it was found that there was a significant difference between age, education level, daily internet usage time, choosing a profession willingly and counseling skills ($p<0.05$).

Conclusion: The results of this study showed that the development of strategies to improve the digital literacy of nursing students may contribute to the development of students' counseling skills. Strategies and programs that increase digital literacy should be included in nursing education to improve students' counseling skills.

Keywords: Nursing student, digital literacy, counseling skill.

Öz

Amaç: Bu araştırma, hemşirelik öğrencilerinin dijital okuryazarlık düzeyleri ve danışmanlık becerileri arasındaki ilişkiyi incelemek amacıyla tanımlayıcı ve korelasyonel olarak yapıldı.

Gereç ve Yöntem: Çalışma örneklemini 383 hemşirelik öğrencisi oluşturdu. Verilerin toplanmasında Birey Bilgi Formu, Dijital Okuryazarlık Ölçeği ve Hemşirelerde Danışmanlık Becerileri Ölçeği kullanıldı. Araştırma verilerinin analizinde tanımlayıcı istatistikler (sayı, yüzde), bağımsız örneklem t-testi, F-testi, Pearson korelasyon testi ve çoklu regresyon analiz testi kullanıldı.

Bulgular: Hemşirelik öğrencilerinin dijital okuryazarlık düzeyleri (66.05±12.30) ve danışmanlık beceri puanlarının (45.17±4.11) yüksek olduğu bulundu. Bununla beraber öğrencilerin dijital okuryazarlık ve danışmanlık beceri puanları arasında pozitif yönde orta düzeyli bir ilişki (r=.367) elde edildi. Hemşirelik öğrencilerinin eğitim durumu, günlük internet kullanma süresi, öğrencilerin öz değerlendirmelerine göre internet kullanma süresi ile dijital okuryazarlık puanları arasında anlamlı fark belirlendi. Ayrıca yaş, eğitim, günlük internet kullanma süresi, mesleği isteyerek seçme ile danışmanlık becerisi arasında da anlamlı bir fark ($p<0.05$) olduğu bulundu.

Sonuç: Bu çalışmanın sonuçları, hemşirelik öğrencilerinin dijital okuryazarlığını geliştirmeye yönelik stratejilerin geliştirilmesinin, öğrencilerin danışmanlık becerilerinin gelişimine katkı sağlayabileceğini gösterdi. Hemşirelik eğitiminde öğrencilerinin danışmanlık becerilerinin geliştirilmesi için dijital okuryazarlığı artıran strateji ve programlara yer verilmelidir.

Anahtar Kelimeler: Hemşirelik öğrencisi, dijital okuryazarlık, danışmanlık becerisi.

1. Introduction

Digital literacy is a concept that covers cognitive, sophisticated sociological, and emotional skills that users need to be able to work in the virtual environment. It is defined as accessing information through the internet with technological devices, understanding information, evaluating it, and using it when needed (1). The increase in the use of technology in health services makes it compulsory for health staff to have digital literacy. The nurse's digital literacy even gains more importance nowadays when a fast digitalization process takes place and several concepts such as digital training, electronic health records, telehealth, telenursing, mobile applications, portable monitors, smart hospital beds, and wearable biosensors rapidly enter our lives, particularly after the COVID-19 pandemic (2–4).

Technological developments require nurses to have knowledge, skills, and resources to use technology as in the case of bedside care and several other services offered by nurses to society. Working in the field of health and social care, in particular, nowadays requires strong digital skills (2–4). These skills extend opportunities to improve, develop, and positively transform care and clinical treatment. Therefore, nurses should integrate digital literacy into the workforce (4,5). The first place where a member of the health staff is first included in the health system is the institutions that offer health education. The purpose of these institutions is to train qualified nurses who are well-suited to the needs of the current age, can follow up on, understand, use, and further improve the developments in digital applications, and have a certain level of digital literacy skills (1).

Digital literacy facilitates nurses' effective decision-making, problem-solving, research, and research participation skills. At the same time, it enables nurses to assume a continuous learning responsibility in personal or professional areas of interest and work with evidence-based practices. It is stated that the growing skill of digital literacy affects care and the provision of society with high-quality evidence-based health information (2). Also, it is emphasized that, with digital literacy, nurses can develop the ability of individuals who can access a large amount of health information through the internet to comment on what the right information is, by enabling these individuals to reach accurate and good quality information (2). As a matter of fact, besides the skill of using technologies in the right manner, digital literacy covers the skills of accessing accurate information, producing and sharing information, and benefiting from technology in learning and teaching processes (1,4,6–8).

When the use of nurses' technology skills in learning and teaching processes is taken into consideration, their counseling role comes forward. The role of counseling is one of the nurses' basic roles covering education and communication skills. With the role of counseling, nurses provide the individual, family, and society with information that is needed on topics such as the development of health and disease management. Counseling is defined as a process of interaction in which a person pays heed, attention, and respect to another person by allocating an amount of time with the intention of helping this person explore and clarify ways of living more successfully (9). The role of counseling is the most important responsibility assumed by nurses for human beings in terms of all age groups in health and disease processes. It is stated that the use of this role becomes even more important in the current period which is the digital age and in which information grows fast and counseling skills should be developed. It is emphasized that, with counseling skills, nurses can more easily identify the problems experienced by the individual, family, and society and can help the individual, family, and society solve these problems (9, 10). Particularly in the period following the COVID-19 pandemic in which the digitalization process took place in health and during which virtual nursing, telehealth, digital diagnosis, and guidance systems grew, the importance of digital literacy and the role of counseling increased. Upon review of the relevant literature, it is discerned that there is a limited number of studies on the digital literacy of nurses (7,8) and nursing students (1,2) and a very small number of studies on their counseling skills (9). On the other hand, there was no study that analyzed the association between digital literacy and the counseling skills of nurses or nursing students. Therefore, this study was performed as descriptive, correlational, and cross-sectional research to analyze nursing students' digital literacy levels and counseling skills and the association between these two factors.

The research questions are:

- What is the digital literacy level of nursing students?
- What is the counseling skill level of nursing students?
- Is there a relationship between digital literacy and the counseling skills of nursing students?

2. Material and Methods

2.1. Study Participants

This is descriptive, and correlational research. The population of this research, which was conducted from September 1, 2021 to February 30, 2022, was 850 students who were studying at the department of nursing at the health school of a university in the Central Anatolia Region of Turkey. Upon the evaluation of studies performed previously on digital literacy, it is discerned that nursing students' mean Digital Literacy Scale scores were 58.6 points in the study by Ng (2012) and 55.7 points in the study by Hamutoğlu et al. (2017) in Turkey (7,11). Assuming that the mean of nursing students' Digital Literacy Scale scores would be 59.8 on the basis of the data in these two studies, the sample size was calculated as 381 and the statistical power was found as .80 (α=0.05, β=0.20, 1-β=0.80). Simple random sampling was used as the sampling method in the research. Considering that there would be survey forms submitted with missing data, a total of 410 nursing students were included in the research. Afterward, 27 nursing students who filled in survey forms with missing data were excluded from the research, and thus, the research was finalized with a total of 383 nursing students in the sample.

Only the students who were studying at the department of nursing, who could communicate, and who agreed to participate in the study were included in the sample, whereas students who did not agree to participate in the study and failed to fill in all scale items or left some scale items blank were not included in the sample.

2.2. Data Collection Instruments

The research data were collected with the Personal Information Form, the Digital Literacy Scale, and the Counseling in Nurses Scale.

2.2.1. Personal Information Form

The form that was designed by the researcher to collect information on characteristic features of nursing students who formed the research sample had 10 questions about participants' descriptive characteristics such as age, gender, marital status, education level, and the status of voluntarily selecting the nursing profession.

2.2.2. Digital Literacy Scale (DLS)

Ng developed the DLS in 2012 to identify the digital literacy level (11), and Hamutoğlu et al. (2017) performed the validity and reliability study for the DLS in Turkish (7). Designed as a five-point Likert-type scale, the DLS comprised 17 items and had four sub-dimensions, namely, Attitude (7 items), Technical (6 items), Social (2 items), and Cognitive (2 items). The total DLS score is calculated by adding points obtained from all DLS items. The DLS has no reverse-scored item. The total DLS score ranges from 17 to 85 points. A high DLS score obtained by a respondent shows that the respondent has high-level digital literacy. Cronbach's alpha coefficient was 0.93 for the DLS (7). In the current research, Cronbach's alpha coefficient was found as 0.95 for the DLS.

2.2.3. Counseling in Nurses Scale (CNS)

Developed by Avcı and Kumcağız in 2019 and comprising 10 items, the CNS is a five-point Likert-type scale (9). The total CNS score is calculated by adding the points obtained from all CNS items. The total CNS score ranges from 10 to 50 points. A high CNS score obtained by a respondent indicates that the respondent has high-level counseling skills. Cronbach's alpha coefficient was 0.88 for the CNS (9). In the current research, Cronbach's alpha coefficient was found as 0.91 for the CNS.

2.3. Research Procedure

The Personal Information Form, the DLS, and the CNS were administered to nursing students who satisfied the inclusion criteria specified for the research and agreed to participate in the study upon being informed about the research. The researcher delivered the scales to students and asked them to fill out these survey forms. Students were told that they were not allowed to write their names and surnames on survey forms and that the collected data would be used solely by the researcher. On average, it took 20 minutes to administer scales to each nursing student.

2.4. Evaluation of Research Data

Researchers evaluated the research data in a computer setting with the Statistical Package for Social Science (SPSS) 22.0. The Kolmogorov-Smirnov test was utilized to find whether the research data were normally distributed at a 95% confidence interval. Descriptive statistical methods (number, percentage, mean, and standard deviation) were used in the statistical analysis of socio-demographic data. Categorical variables (gender, age range, education level, duration of daily internet use, the status of voluntarily selecting the nursing profession, and so on) were analyzed with numbers and percentages while the continuous variable (age) was evaluated with means and standard deviations. Cronbach's alpha coefficient was calculated for each scale used in the research. Pearson's correlation test was employed to identify the association between nursing students' digital literacy and counseling skill scores. In the context of evaluating students' mean scale scores as per each descriptive characteristic, if the data were normally distributed, the independent samples t-test was used in comparisons that included two categories and an F-test was utilized in comparisons that included more than two categories. The multiple linear regression analysis was employed to find the variables that predicted nursing students' counseling skills. In the research, the statistical significance was identified if the p-value was below 0.05 ($p<0.05$).

2.5. Ethical Considerations

To conduct the research, the ethical endorsement was obtained from the Ethics Committee of the relevant university (Endorsement no: 2021-08/48), and also, permission was received from the institution where the study was performed. In light of the principles of the Declaration of Helsinki, participant nursing students were informed about the research and were asked to consent in written format and verbally to participate in the study. Written permission was obtained to use the scales in data collection.

3. Results

In Table 1 which displayed nursing students' descriptive characteristics, it was discerned that the mean age of nursing students was 21.63±6.82 years, and of all participant students, 50.65% were female, 68.1% were aged 17-21 years, 95.8% were high school graduates, 60.80% lived in the province center, 61.4% voluntarily selected the nursing profession, 72.6% used internet for longer than four hours per day, and 49.6% self-evaluated that they had a normal daily internet use duration (Table 1).

Table 1. Nursing students' descriptive characteristics (n=383)

Characteristics	n	%
Mean age (X±SD)	21.63 ± 6.82 years	
Gender		
Women	194	50.65
Men	189	49.35
Age		
17-21 years	261	68.1
22-25 years	122	31.9
Education level		
High school	367	95.8
Associate degree program	16	4.2
Place of residence		
Province center	233	60.8
District	150	39.2
Status of voluntarily selecting the nursing profession		
Yes	235	61.4
No	148	38.6
Duration of daily internet use		
< 2 hours	22	5.7
2-4 hours	83	21.7
4 hours <	278	72.6
Self-evaluation of the duration of internet use		
Very little	15	3.9
Normal	190	49.6
Too much	178	46.5

In the context of the examination of Table 2 that exhibited the means of scores obtained by nursing students from the DLS, DLS sub-dimensions, and the CNS, it was found that nursing students obtained high mean scores from the DLS (66.05±12.30 points) and the CNS (45.17±4.11 points). Likewise, it was identified that nursing students obtained high mean scores from DLS sub-dimensions of Attitude (27.42±5.66 points), Technical (23.48±4.50 points), Cognitive (7.81±1.76 points), and Social (7.32±1.87 points) (Table 2). Moreover, a statistically significant positive association was identified between nursing students' DLS and CNS scores (r=.367) (Table 2).

Table 2. Means of scores obtained by nursing students from the DLS, DLS sub-dimensions, and the CNS and the association between nursing students' DLS and CNS scores

Scales	Mean	SD	Min-Max	1	2	3	4	5	6
DLS	66.05	12.30	18-85	1					
Attitude	27.42	5.66	7-35	.923**	1				
Technical	23.48	4.50	7-30	.901**	.703**	1			
Cognitive	7.81	1.76	2-10	.845**	.757**	.682**	1		
Social	7.32	1.87	2-10	.811**	.631**	.740**	.673**	1	
CNS	45.17	4.11	28-50	.367**	.332**	.390**	.228*	.252**	1

Abbreviations: DLS: Digital Literacy Scale, CNS: Counseling in Nurses Scale

Upon the comparison of nursing students' mean DLS and CNS scores as per their certain descriptive characteristics, it was discerned that there were statistically significant differences in nursing students' mean DLS scores as per education level, the duration of daily internet use, and the self-evaluation of the duration of internet use while there were statistically significant differences in nursing students' mean CNS scores as per age, education level, the duration of daily internet use, and the status of voluntarily selecting the nursing profession ($p<0.05$). On the other hand, there was no statistically significant difference in nursing students' mean DLS or CNS scores as per the variables of gender and the place of residence ($p>0.05$) (Table 3).

Table 4 shows the results of the multiple regression analysis conducted to identify the variables predicting nursing students' counseling skills. According to the multiple regression analysis, the variables of age, education level, duration of daily internet use, the voluntary selection of the nursing profession, and digital literacy were found as factors that had a statistically significant effect on nursing students'counseling skills (R=0.47, R2=0.214, F=21.529, p=0.000). It was discerned that age, education level, duration of daily internet use, the voluntary selection of the nursing profession, and digital literacy accounted for approximately 21% of the total variance in nursing students' counseling skills (Table 4).

Table 3. The comparison of nursing students' mean DLS and CNS scores as per their certain descriptive characteristics (n=383)

Characteristics	DLS Mean±Sd	t/F, p	CNS Mean±Sd	t/F, p
Age				
17-21 years	66.12±10.00	t=0.172	45.68±3.63	t=3.56
22-26 years	65.89±16.19	p=0.86	44.09±4.83	**p=0.000**
Education level				
High school	66.36±12.35	t=2.420	45.26±3.83	t=1.983
Associate degree program	58.81±8.32	p=0.01	43.18±7.65	p=0.040
Duration of daily internet use				
< 2 hours	62.31±16.39	F=12.939	43.54±3.01	F=6.103
2-4 hours	62.19±10.89	**p=0.00**	45.65±3.67	**p=0.040**
4 hours <	67.50±12.06		45.16±4.29	
Status of voluntarily selecting the nursing profession				
Yes	66.15±12.65	t=0.211	45.97±4.19	t=4.944
No	65.88±11.75	p=0.83	43.90±3.66	**p=0.000**
Self-evaluation of the duration of internet use				
Very little	58.26±20.45		45.73±5.03	
Normal	65.42±10.97	**F=7.659**	45.07±4.55	F=1.475
Too much	67.37±12.71	**p=0.02**	45.24±3.52	p=0.471

Abbreviations: DLS: Digital Literacy Scale, CNS: Counseling in Nurses Scale

Table 4. Factors predicting nursing students' counseling skills

Variables	B	SE	β	t	p
Constant	45.927	2.047		22.441	0.000
Age	-1.532	0.401	-0.174	-3.816	0.000
Education level*	-1.938	0.957	-0.094	-2.024	0.044
Duration of daily internet use	-0.450	0.330	-0.064	-1.365	0.173
Voluntary selection of the nursing profession	-1.240	0.247	-0.232	-5.022	0.000
Digital literacy	0.120	0.016	0.360	7.749	0.000
R= 0.47 Adj.R^2=0.21 $F_{(5, 377)}$= 21.529, p<0.001					

Abbreviations: Adj.R^2: Adjusted R-squared; B: Partial regression coefficient; β:Standard partial regression coefficient

4. Discussion

In the relevant literature, this study will be the first to analyze nursing students' digital literacy, counseling skills, and the association between these two factors. As this is the first research analyzing the association between digital literacy and counseling skills, its results are crucial. In the study, it was found that nursing students obtained high digital literacy and counseling skill scores, and the association between these two factors was positive and statistically significant.

Nurses need digital literacy to use technology effectively, provide good quality care, and continue their professional development and education. It is put forward that the evidence showed nurses with digital literacy skills were more likely to use technology in bedside nursing, and thus, nursing students' digital literacy levels should be identified and their digital literacy should be supported and developed with education programs (12–14). In the current study, it was discerned that nursing students had

high digital literacy scores. This result is evaluated as a positive outcome as it indicates that nursing students have one of the most important skills that are necessary to meet the needs of the current age. Also, the result is in a similar vein to the results of studies that were performed with nursing students (12,15,16) and university students (16–19). On the other hand, in the relevant literature, there are also studies finding that students had medium-level digital literacy scores (21) or low-level digital literacy scores (22).

Nurses have the responsibility to provide their patients with care and boost their patients' strengths to cope with the disease. The role where nurses fulfill this responsibility best is their role of counseling (23,24). In the role of counseling, nurses perform their independent functions by using their communicator and educator roles. In the current study, it was identified that nursing students had high counseling skill scores. This result is important as it demonstrates that nurses have high-level counseling skills that are a key factor for protecting and improving the health of individuals and society, coping with diseases, and enhancing the quality of life. In the relevant literature, there is a study that is consistent with the result of the current study and was performed with nursing students (10).

As digital literacy skills increase, communication skills also increase (25,26). In a study, it was found that communication skills increased as digital literacy increased (25). In the current study, it was identified that counseling skill scores increased as digital literacy scores increased. As there was no study on the topic in the relevant literature, the result of the current study was compared to the results of studies on different topics. In certain studies, it was discerned that university students' attitudes toward digital literacy contributed significantly to the enhancement of self-efficacy and this, in turn, enabled students to be more self-confident (27,28). In previous studies, it was found that those with higher levels of e-health skills could more easily access the internet and health information, (27,29) and also that digital literacy and the behavior of searching for online information were associated (30). In another study, it was identified that digital literacy was one of the factors affecting nursing students' e-health literacy (29). Besides, it is asserted that nurses with digital literacy skills were more likely to use and embrace technology, and also, the proper use of technology promoted communication between nurses, health professionals, and patients (4). In light of these findings in the literature, it can be stated that the increase in nursing students' digital literacy enhanced their counseling skills by contributing to the development of their skills in accessing information, self-confidence, and communication skills in the current study.

In the current study, upon the review of associations between nursing students' digital literacy and counseling skills with their certain descriptive characteristics, it was found that there was no statistically significant difference in nursing students' mean digital literacy scores or counseling skill scores as per the variable of gender. This result is consistent with the results of studies in the relevant literature on digital literacy (18,19,31–33) and counseling skills (34,35). In the relevant literature, certain studies found that there was an association between digital literacy level and gender (36,37). However, in the relevant literature, no study identified a statistically significant difference in counseling skills as per the variable of gender. On the other hand, there is a study that found a statistically significant difference in communication skills as per the variable of gender (38). The difference between the above research results may have stemmed from differences in cultural traits of societies or the use of different scales in these studies.

Moreover, in the current study, it was discerned that digital literacy had no statistically significant association with age, which is another descriptive characteristic of participant nursing students. This result is in a similar vein to the results of studies conducted on digital literacy in the relevant literature (33,39). Besides, in the relevant literature, there are studies showing that there was an association between age and digital literacy (1,40). It is stated that age is one of the factors affecting counseling skills (41). Also, in the current study, it was discerned that there was a statistically significant association between counseling skills and age (nursing students at a younger age obtained higher counseling skill scores). Higher counseling skill levels among nursing students at a younger age may have arisen from the fact that nursing students at a younger age were more acquainted with computers and the digital world and felt more self-confident than nursing students at an older age.

Furthermore, in the current study, education level was another descriptive characteristic of university students that had a statistically significant association with digital literacy and counseling skills. It was found that nursing students who were high school graduates obtained higher mean digital literacy and counseling skill scores than nursing students who held an associate degree. This is a result that is contrary to expectations. Upon the review of the relevant literature, it was discerned that a study identified no association between students' education and digital literacy skills (21) whereas another study found an association between education and digital literacy skills (40). In a study conducted in Sri Lanka, a positive association was identified between students' academic levels and e-health literacy (39). Differences in these results may have stemmed from the fact that nursing students in research samples had different individual and cultural characteristics, and also, the number of nursing students who held an associate degree was relatively small in the sample of the current study. On the other hand, along with this result, it is considered that the topic should be further researched with participants at different education levels.

Another finding of the current study is that there were statistically significant differences in nursing students' mean digital literacy and counseling skill scores as per the duration of daily internet use. In the relevant literature, studies on digital literacy found either similar results (21) or different results (15). It is put forward that the duration of internet use increases communication skills (26). This finding is supported by the result of the current study.

Lastly, in the current study, there was no statistically significant difference in nursing students' mean digital literacy scores as per the status of voluntarily selecting the nursing profession whereas students who voluntarily selected the nursing profession obtained a higher mean counseling skill score than students who did not voluntarily

select the nursing profession, and this difference was statistically significant. The voluntary selection of the nursing profession can affect the fulfillment of the role of counseling. As a matter of fact, certain studies showed that individuals who voluntarily selected their professions performed their professions better, and accordingly, had more satisfaction (42–44).

5. Limitations

This study has certain limitations. This study, performed with nursing students who were studying at a university in the Central Anatolia Region of Turkey, this study is the first to analyze the association between digital literacy and counseling skills. As the research was conducted in a single institution over a specific period, its results cannot be generalized to all institutions and regions. Another limitation of this study is that the data collected in the research were based solely on items on the scales used in the study and participants' self-reports.

6. Conclusion and Recommendations

In this study, it was found that nursing students had high digital literacy and counseling skill scores. Besides, it was identified that there was a statistically significant association between nursing students' digital literacy and counseling skill scores. Upon the evaluation of the results of our study and findings in the relevant literature, first, to ensure that nursing students become more effective and successful counselor nurses in the technologically developing world, planning strategies and developing methods to increase nursing students' digital literacy levels are recommended. Secondly, to develop counseling skills that play an effective role in promoting good quality patient care, it is recommended that strategies to enhance digital literacy be included in the nursing curriculum. Finally, performing studies analyzing the effect of different strategies such as education is recommended, and lastly, it is recommended that follow-up research on the topic be conducted across different cultures with larger samples.

7. Contribution to the field

This study reveals the existence of a relationship between nursing students' digital literacy and counseling skills. It is the first study in the literature to examine the relationship between digital literacy and counseling skills. For this reason, it is thought that the study will contribute to the planning of nursing education and future studies on the subject.

Ethical Aspects of the Research

To conduct the research, the ethical endorsement was obtained from the Ethics Committee of the relevant university (Endorsement no: 2021-08/48), and also, permission was received from the institution where the study was performed. In light of the principles of the Declaration of Helsinki, participant nursing students were informed about the research and were asked to consent in written format and verbally to participate in the study. Written permission was obtained to use the scales in data collection.

Conflict of Interest

This article did not receive any financial fund. There is no conflict of interest regarding any person and/or institution.

Authorship Contribution

Concept: TKF, HK; **Design:** TKF, HK; **Supervision:** TKF, HK; **Funding:** TKF, HK; **Materials:** TKF, HK; **Data Collection/ Processing:** TKF, HK; **Analysis/Interpretation:** TKF, HK; **Literature Review:** TKF, HK; **Manuscript Writing:** TKF, HK; **Critical Review:** TKF, HK.

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