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Factors Influencing the Decision-making Deferral of Patients to Choose the Appropriate Hospital

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ABSTRACT

Aims The patient decision-making process can become lengthy and overwhelming. Procrastination in visiting a hospital can have adverse effects on a patient's health. This study aimed to investigate how attitudinal ambivalence affects psychological discomfort and choice deferral in hospital selection. Additionally, the study explores the role of information novelty in reducing choice deferral and accelerating patient decision-making.

Instruments & Methods This research employed a quantitative approach using a causal study to examine the relationships among variables. The purposive sampling method was used to obtain data based on certain criteria. Data were collected through a questionnaire distributed to patients. The research sample consisted of 385 respondents from private hospitals in Indonesia. Hayes PROCESS Macro software was used to investigate the relationships between variables.

Findings The attitudinal ambivalence affected psychological discomfort (t=2.737; p=0.0001) and choice deferral (t=4.295; p=0.0001). The psychological discomfort influenced choice deferral (t=3.109; p=0.0001). The psychological discomfort had a mediation role in the effect of attitudinal ambivalence on choice deferral (t=10.678; p=0.0001). Information novelty reduced the effect of attitudinal ambivalence on psychological discomfort (t=2.653; p=0.003) and choice deferral (t=2.243; p=0.013). Finally, Information novelty weakened the effect of psychological discomfort on choice deferral (t=2.876; p=0.011).

Conclusion Limited information can lead to information asymmetry, which can encourage attitudinal ambivalence and psychological discomfort. Providing comprehensive information to patients through digital media can help reduce anxiety and enhance their treatment experience in the hospital.

Keywords Attitudinal Ambivalence; Psychological Discomfort; Choice Deferral; Information Novelty

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Introduction

Health is crucial for individuals to live fulfilling lives and prolong their lifespans. When a person experiences bodily malfunctions, symptoms, or illnesses, it becomes necessary to choose the appropriate hospital for treatment. However, selecting an appropriate hospital requires patients to consider several factors, such as cost, medical staff, medical facilities, hospital services, and the doctor's experience [1-4]. Patients expect satisfactory results based on these various considerations [5]. When choosing a hospital, patients weigh the aspects that can accelerate their recovery and are commensurate with the costs incurred. The combination of these factors leads patients to choose a hospital that suits their needs [6]. When suffering from an illness, patients often postpone seeking medical attention due to various considerations related to services and costs. Some factors associated with delaying decision-making to seek medical attention are lower age, less chronic disease, and lower income [7].

Previous studies have stated that decision-making in patients who visit the hospital still requires further investigation due to considerations in decision-making related to services [8]. Previous studies have stated that decision-making to seek medical attention at the hospital requires decision-making from various parties, not only the patient but also involving family [9]. A longer decision-making process causes delays in deciding to seek medical attention at the hospital. The decision-making process is closely related to patients' psychological aspects. Previous studies have not investigated the psychological aspects that cause patients to postpone seeking medical attention at the hospital, including those related to attitudinal ambivalence [10].

Attitudinal ambivalence is a condition where a patient has varying positive and negative perspectives toward an object [11]. Attitudinal ambivalence towards hospitals arises from considerations related to the assessment that a hospital has its positive and negative aspects. The information available in society provides varying assessments of service quality, costs, doctor competence, and facilities provided [12]. These varying assessments cause delays in the decision-making process to seek medical attention at the hospital. Attitudinal ambivalence causes psychological discomfort because patients feel afraid of making the wrong decision. Decision-making to seek medical attention at the hospital is carefully considered because it has serious implications for the patient's recovery. Choosing a hospital considers factors that encourage a patient's recovery, selecting an inappropriate hospital attribute will result in psychological discomfort [13]. This study utilizes cognitive dissonance theory to analyze attitude indecision in determining the hospital. Cognitive dissonance represents psychological discomfort due to options that contradict a patient's desire.

Psychological discomfort and attitudinal ambivalence cause patients to consider various aspects in order to avoid making the wrong decision. Previous research has indicated that choice deferral is caused by indecision regarding the factors that determine service selection decisions [14]. Previous literature suggests that seeking information can help reduce perceptions and provide new insights into the object of interest [15]. Previous research has focused on decision-making to seek medical attention at the hospital [16], but there is still a gap in understanding the delayed decision-making process.

A hospital has various factors that should be considered when making a decision, such as service capacity, quality of care, doctor expertise, distance, and other factors that can influence the overall decision. For instance, attitudinal ambivalence arises when a patient desires excellent service but also wants it at an affordable price [17]. Patients often experience psychological discomfort when making decisions, which is caused by attitudinal ambivalence in deciding which hospital to choose [18]. When a patient requires immediate medical attention, the focus should be on recovery without being burdened by psychological discomfort.

When a patient experiences a delay in treatment, it can endanger the patient. Attitudinal ambivalence is the main factor determining the delay in getting immediate hospital treatment [19]. When the patient is indecisive, several conflicting factors or factors trigger a patient to be reluctant to go to the hospital. Various information that emerges and is received by the patient further enriches the information received by the patient. A patient's behavior when delaying deciding to get treatment at the hospital immediately is caused by the desire to seek further information so that decision-making is carried out correctly. Many factors are considered in choosing a hospital. The most influential factor is negative information on certain hospitals, so that there is word-of-mouth that causes a patient to delay the decision. Patients who immediately get service at the hospital will immediately get a recovery [20].

A patient's behavior to make an immediate decision arises from the availability of well-selected information and leads to the selection of a particular hospital. Selecting a hospital involves considering various factors and information in the decision-making process [21]. Attitudinal ambivalence can create psychological discomfort, leading to a postponement of decision-making. When a patient experiences doubt in making a decision, it can result in psychological discomfort when selecting a particular hospital. If a patient is confused about the information received, resulting in contradictory choices which do not align with preferences on certain factors, it can lead to psychological discomfort [18]. Delaying decision-making is appropriate when the patient is unsure of the information received [22]. When a patient does not immediately go to the hospital, it indicates that the patient is still seeking information and wants to obtain new facts about the hospital under consideration.

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Patients who obtain new information that resolves their ambivalence will experience a reduction in psychological discomfort, as per the cognitive dissonance theory. When individuals experience discomfort due to conflicting attitudes, they seek ways to reduce the discomfort. Patients who are ill and experiencing attitudinal ambivalence may find it challenging to make decisions and feel burdened by their psychological state [23]. Searching for information and discovering new facts can provide psychological comfort to patients. For instance, when patients have doubts about hospital services and prices, searching for new information or novelty can help reduce discomfort by providing clear and definite information about the costs associated with hospital care [22]. Patients who experience attitudinal ambivalence and indecision may find it challenging to make decisions and feel uncomfortable with the psychological burden. Thus, seeking out new information and finding solutions to reduce discomfort can be essential for making informed decisions [15]. Novel information can prompt patients to make quicker decisions. However, as patients have varying desires, suitable hospitals become limited. In cases where patients are unable to find a hospital that matches their preferences, they may choose to delay their decision [24]. When patients find new and novel information, it reduces their decision-making time and helps them make informed decisions about which hospital to choose [25]. When a patient experiences psychological discomfort, they will tend to be cautious in making decisions [26]. Decision-making becomes faster when new information is considered because the patient can immediately address the hospital.

Choice deferral is a crucial aspect of hospital selection, yet limited studies have explored this phenomenon. Therefore, a study is needed to analyze the impact of attitudinal ambivalence on psychological discomfort and its influence on delayed decision-making to seek medical attention at the hospital. This study investigates patients' decision-making deferral when considering various factors related to hospitals. Moreover, the research examines information-seeking as a means to reduce choice deferral. Additionally, the study explores the role of information novelty in reducing the delay in decision-making and accelerating appropriate choice.

Therefore, This study aimed to investigate the factors influencing the decision-making deferral of patients to choose the appropriate hospital. Research framework is presented in Figure 1.

Instruments and Methods

The present study was conducted in Indonesia in 2022. The study utilized a quantitative approach to analyze the relationship between variables, with a causal design to identify direct, indirect, and moderation effects. Non-probability sampling was used, with criteria, including patients without insurance or those with reimbursement schemes that may not be granted or partially reimbursed, leading to careful hospital selection. Patients who applied for National Health Insurance in Indonesia were excluded. The sample size was determined using the Cochran formula for an unknown population [27], assuming a 5% margin of error and proportion of 0.5, resulting in a sample of 385 respondents selected from the middle class. Questionnaires were distributed in several private hospitals as public hospitals in Indonesia are linked with the Government's National Health Insurance, providing basic and limited services.

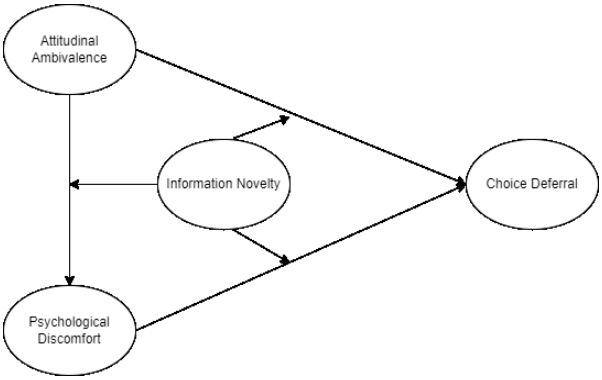


Figure 1) Research framework

Measurements

discomfort, information novelty, and choice deferral. Attitudinal ambivalence was adopted from indicators of Armitage and Conner [28] to measure a patient's doubt in selecting an appropriate hospital (e.g., a hospital with a pleasant environment but high cost). Psychological discomfort was adopted from indicators of Annu and Dhanda [13] to measure the patient's discomfort when the unclear information decelerates the decision to receive medical treatment (e.g., Sometimes I feel guilty because I do not have assertiveness). Information novelty was adopted from indicators of Tokunaga [29] to examine cutting-edge information for the patient that helps decision-making (e.g., hospitals provide detailed medical treatment vs hospitals do not provide detailed medical treatment). Choice Deferral was adopted from the indicators of Etkin and Ghosh [30] (e.g., I postpone the decision to select a hospital to evaluate an alternative option). These items were measured in the questionnaire using a Likert scale.

Data collection

The respondent was contacted to complete the questionnaire. If the patient was unable to fill in directly, the family involved in the hospital's decision answered the questions. The researcher provided a printed or online questionnaire to be filled out. The data collection process lasted two months, from June to July 2022. Data were collected, tabulated, and analyzed using the Hayes PROCESS Macro. Table 1 shows the exploratory factor analysis of these variables.

Table 1 exhibits indicators in each variable fulfill the rule of thumb, and Cronbach's alpha of these variables is ≥0.7.

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Findings

The majority of patients visited the pulmonologist, and the minority visited the endocrinologist. The frequency distribution of socio-demographic variables of respondents is shown in Table 2.

Table 1) Exploratory factor analysis

Indicator	Loading factor	Cronbach's alpha
Attitudinal ambivalence		
AA1	0.76	0.837
AA2	0.86	
AA3	0.82	
AA4	0.85	
AA5	0.79	
AA6	0.84	
Psychological discomfort		
PD1	0.82	0.843
PD2	0.88	
PD3	0.91	
PD4	0.77	
PD5	0.81	
Information novelty		
IN1	0.89	0.888
IN2	0.92	
IN3	0.87	
IN4	0.83	
Choice deferral		
CD1	0.78	0.874
CD2	0.86	
CD3	0.83	
CD4	0.87	
CD5	0.88	
CD6	0.84	

Table 2) Frequency distribution of socio-demographic variables of respondents (n=385)

Variable	No.	Percentage
Gender		
Male	187	48.6
Female	198	51.4
Age, years		
<18	8	2.1
19-30	49	12.7
31-40	87	22.6
41-50	111	28.8
51-60	104	27.0
>60	26	6.8
Patient medical specialist		
Internal medicine	34	8.8
Cardiology	28	7.3
Endocrinology	7	1.8
Gastroenterology	23	6.0
Pulmonology	36	9.4
Respiratory medicine	29	7.5
Oncology	16	4.2
Rheumatology	18	4.7
Neurology	21	5.5
Oto-rhino-laryngology	26	6.8
Haematology	18	4.7
Dermatology	24	6.2
Pathology	17	4.4
Surgery	19	4.9
Gynaecology and obstetrics	34	8.8
Paediatrics	35	9.1
Where does the patient look for information about the hospital?		
Internet	178	46.2
TV	58	15.1
News	59	15.3
Group reference	109	28.3
Family	113	29.4
Another source	24	6.2
Do patients have private insurance?		
Yes	221	57.4
No	164	42.6

Table 3 provides support for several hypotheses. First, hypothesis 1, which posits that attitudinal ambivalence affects psychological discomfort, is supported (t=2.737; p=0.0001). Second, hypothesis 2 is supported, as attitudinal ambivalence has a positive and significant effect on choice deferral (t=4.295; p=0.0001). Third, hypothesis 3, which states that psychological discomfort influences choice deferral, is supported (t=3.109; p=0.0001). Hypothesis 4, which tests the mediation of psychological discomfort in the effect of attitudinal ambivalence on choice deferral, is also supported (t=10.678; p=0.0001). In addition, the moderation tests on hypotheses 5-7 demonstrate that information novelty can play a role in decision-making. Specifically, hypothesis 5 is supported, showing that information novelty lessens attitudinal ambivalence towards psychological discomfort (t=2.653; p=0.003). Hypothesis 6 is also supported, indicating that information novelty weakens attitudinal ambivalence towards choice deferral (t=2.243; p=0.013). Finally, hypothesis 7 is supported and states that information novelty weakens psychological discomfort toward choice deferral (t=2.876; p=0.011).

Figures 2, 3, and 4 provide evidence that the novelty of information can moderate the relationship between attitudinal ambivalence, psychological discomfort, and choice deferral. Specifically, Figure 2 shows that when patients receive information about a hospital that meets their needs, psychological discomfort is reduced. Figure 3 demonstrates that patients who receive novel information are more likely to make decisions faster than those without access to such information. The novelty of information provides crucial details regarding costs, services, facilities, and the doctor's ability to treat patients. Figure 4 indicates that the novelty of information weakens the impact of psychological discomfort on choice deferral, enabling patients to make more prompt decisions.

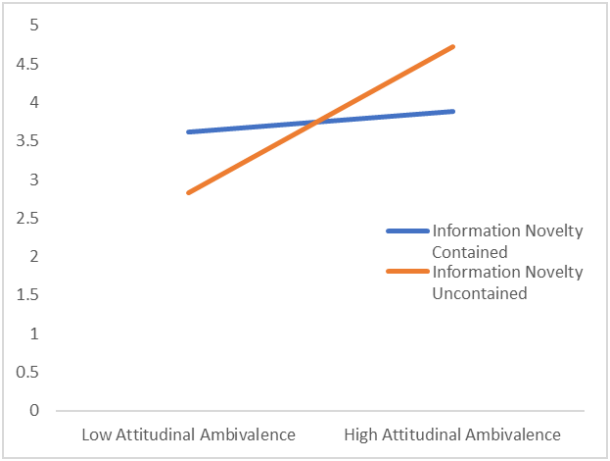


Figure 2) Moderation of information novelty between attitudinal ambivalence and psychological discomfort

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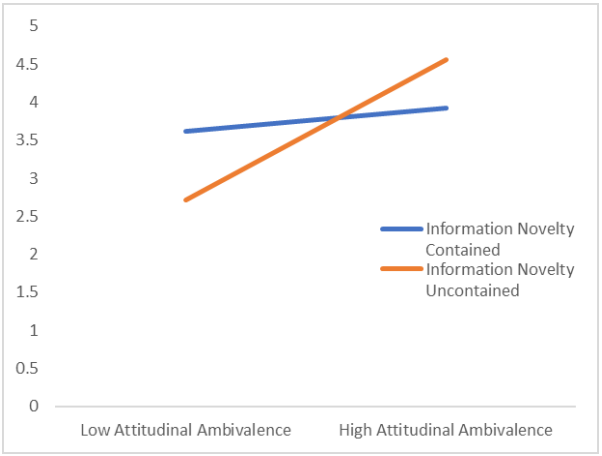


Figure 3) Moderation of information novelty between attitudinal ambivalence and choice deferral

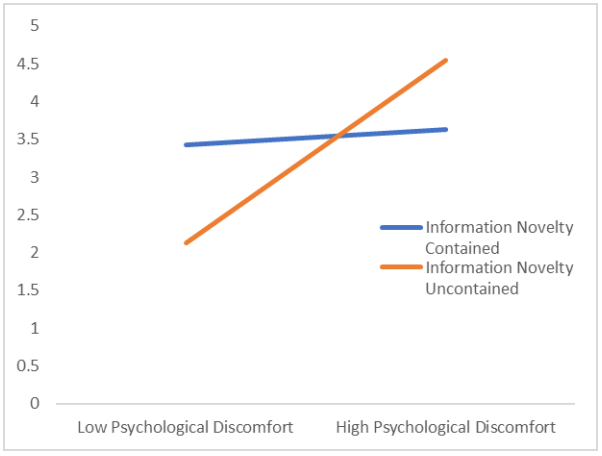


Figure 4) Moderation of information novelty between choice deferral and psychological discomfort

Table 3) Hypothesis test results

No.	Hypothesis	SE	t	P
H1	Attitudinal ambivalence → Psychological discomfort	0.156	2.737	0.0001
H2	Attitudinal ambivalence → Choice deferral	0.233	4.295	0.0001
H3	Psychological discomfort → Choice deferral	0.231	3.109	0.0001
H4	Attitudinal ambivalence → Psychological discomfort → Choice deferral	0.796	10.678	0.0001
H5	Attitudinal ambivalence → Information novelty → Psychological discomfort	0.332	2.653	0.003
H6	Attitudinal ambivalence → Information novelty → Choice deferral	0.318	2.243	0.013
H7	Psychological discomfort → Information novelty → Choice deferral	0.287	2.876	0.011

Discussion

The results of the study demonstrated that attitudinal ambivalence has a positive impact on psychological discomfort. This suggests that when a patient finds it challenging to identify crucial factors in decision-making, a sense of unease in selecting an appropriate hospital is created. The findings of this study support previous research that highlights the importance of prioritizing factors that align with the patient's condition when choosing a hospital. When a patient selects a hospital by considering their preferences and other factors that can aid their recovery, it creates a sense of comfort. Conversely, when a patient experiences conflicting perceptions and information, it can cause psychological discomfort [13]. The solution to alleviate psychological discomfort is to modify beliefs or behaviors to become more comfortable. One approach to increase psychological comfort is to change the patient's beliefs about certain objects or factors. By altering these beliefs, the patient's behavior may also change, leading to increased comfort with those particular factors.

The study's findings show that attitudinal ambivalence has a significant positive effect on choice deferral. When a patient experiences attitudinal ambivalence, they tend to make decisions more cautiously, and delaying the decision becomes a logical step to ensure the accuracy of the decision-making process. However, delaying the decision to seek medical treatment could potentially worsen the patient's condition, especially if the patient requires urgent medical attention. Therefore, it is crucial to consider both accuracy and timeliness when making decisions about seeking medical treatment. This study confirms that when patients experience conflicting factors that cause attitudinal ambivalence, they tend to delay their decision to seek treatment at the hospital. The results support the idea that cognitive dissonance theory can effectively explain the decision deferral in seeking healthcare.

The results indicate that psychological discomfort partially mediated the relationship between attitudinal ambivalence and choice deferral. Specifically, when patients experienced indecisiveness, it resulted in psychological discomfort, which in turn influenced their decision to defer. When patients have access to adequate information, decision-making can be more efficient and well-planned. Information plays a crucial role in the decision-making process, as patients evaluate available hospital alternatives that best suit their needs. Certain patient characteristics also impact hospital selection, such as their preference for hospitals with similar values to their own. Moreover, ensuring patient comfort is essential to reducing psychological discomfort. Information plays a critical role in mitigating psychological discomfort. According to dissonance theory, when patients obtain comprehensive information, it serves to alleviate their discomfort. In instances where a patient experiences discomfort, seeking alternative options that address their concerns can be an effective solution [14].

The ability to analyze decision deferral is a novelty of research excellence. Prior studies have primarily focused on hospital selection decision-making, which includes various factors such as the patient's preferences, hospital processes, emergencies, discussions with insurance providers, and conversations with family members [9, 31]. Few studies have specifically examined decision procrastination, despite its negative implications for patient outcomes. Delayed decision-making can increase the risk of

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adverse health consequences, including more severe disease symptoms and potential mortality [32, 33]. The limitation of decision delay is associated with previous research, which has not linked it to hospital attributes [34]. The study's results prove that when information asymmetry is low, it has implications for low cognitive dissonance. This research complements the previous research, which only focuses on critical patients [12]. Patients have limited time to consider the quality and attributes of the hospital.

Limitation and suggestion

The study has several limitations, including its focus on decision-making among the upper middle class and the choice deferral. Future research should aim to explore patient behavior in different social classes. Another research agenda should involve an investigation into the patients shared decision-making process, which is necessary to enhance understanding.

Overall, the study highlights the critical role of information novelty in patient decision-making, emphasizing its significance as a key consideration when deciding whether to seek medical attention at a hospital. The results of the analysis indicate that the information provided by the hospital is still limited, but patients require a substantial amount of information to make informed decisions. Based on the research findings, hospital managers should communicate through digital media channels that can reach a broader range of patients. The use of digital media can provide patients with previously unknown information, thereby increasing the novelty of the information available.

Conclusion

The attitudinal ambivalence has an impact on psychological discomfort, which in turn influences the decision-making deferral. Moreover, information novelty moderates the relationship between attitudinal ambivalence, psychological discomfort, and choice deferral. Psychological discomfort partially mediates the effect of attitudinal ambivalence on choice deferral.

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