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Descriptive Study on Motivation and Barriers to Participation in Clinical Trials in Malaysia

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ABSTRACT

Clinical trials are the preeminent method for assessing the safety and efficacy of novel medical interventions, thereby facilitating the advancement of evidence-based healthcare. However, recruiting subjects is not an easy task. Hence, this study aimed to identify the motivations and barriers to participation in clinical trials. A survey was used for data collection and analysis and a questionnaire was developed to derive effective outcomes based on a literature review. A survey was conducted on 351 participants whereby 204 (58.1%) revealed a willingness to engage in clinical trials, while 147 (41.9%) refused to participate. 199 participants (56.7%) claimed awareness of clinical trials. 37.0% participants admitted that internet provided them the information on clinical trials. This finding is not surprising since majority of the participants are composed of younger population aged between 18 to 24 years (47.6%) and 25 to 34 years (25.3%). Nevertheless, awareness did not translate into willingness to participate where only 93 out of 167 participants aged 18-24 years were willing to participate. This study showed that participants are primarily motivated by personal benefit when volunteering by considering to further information about the condition as the most important motivation to participate. Meanwhile the most significant barrier to participation was fear of risks or complications involved in clinical trials, with 205 participants (58.4%). This study also revealed that the health state of the participants would affect their willingness to participate with 257 participants (73.0%). These findings could help to provide strategies for the successful enrollment of subjects in clinical trials.

Keywords: *clinical trials, participation, motivations, barriers, awareness, willingness*

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1. INTRODUCTION

Clinical trials are the preeminent method for assessing the safety and efficacy of novel medical interventions, thereby facilitating the advancement of evidence-based healthcare. Therefore, the demand for subject participation in clinical trials is high and keeps increasing. However, recruiting subjects is not an easy task, which continues to be problematic and the major reason for clinical trial premature terminations (Rodriguez-Torres et al., 2021). It is an ongoing problem faced by sponsors especially pharmaceutical companies looking to test new drugs. Global data analysis of all terminated trials within the Clinical Trials Database reported 55% of trials were terminated due to the single highest reason of low accrual rate. Globally, more than 80% of trials fail to enroll on time, resulting in an extension of the study and or addition of new study sites (Desai, 2020). Despite Malaysia's theoretically substantial patient population (Clinical Research Malaysia, 2014) practical recruitment challenges continue to exist, as demonstrated by the 28.30% of 1059 investigators who identify inadequate patient pool as a deterrent to participation (Tan, Ooi & Mat Radi, 2020).

Motivation, which differs for each person, plays an important role in encouraging individuals to participate in clinical trials. Previous studies showed that personal health benefits, access to new treatments, financial compensation, doctor recommendations, helping others, and the desire to contribute to science are among the motivations for participation in clinical trials (Anastasi et al., 2023; Soule et al., 2016; Yang et al., 2023; Napo et al.; 2013). Mistrust of health system, lack

of access to healthcare, and insurance hurdles are among the most often mentioned impediments (Unger et al., 2016; Niranjan et al., 2021). As understanding the reasons for participation and non-participation in clinical trials is important for developing strategies for effective subject enrolment, a descriptive study was conducted to determine motivations and barriers to participation.

2. METHODOLOGY

This study adopted simple random sampling to choose participants from Universiti Kebangsaan Malaysia in Malaysia. Of the 400 surveys disseminated, the final sample consisted of 351 respondents who completed the survey, resulting in an 87.8% response rate.

This study examined five key areas which are hypothesized to impact clinical trials' participation: knowledge, motivations, barriers, trust, and compliance perceptions. Knowledge was assessed using four questions by asking, "Clinical trial benefits society", "Clinical trial harms society", "Clinical trial is an essential step in developing new treatments", and "Hospitals that participate in clinical trials provide better healthcare". Participants were given categorical scales (true, I don't know, and false).

Motivations were evaluated using seven-point Likert scales of agreement across three dimensions: altruism, self-interest, and other reasons (strongly disagree, disagree, slightly disagree, neutral, slightly agree, agree and strongly agree). The altruism motive was assessed using two questions by asking: "I believe that participating in a clinical trial can improve the health of future patients" and "I trust that participating in a clinical trial can support health research". Self-interested motive was assessed using five questions by asking: "I can improve personal health by participating in clinical trial", "I able to benefit from additional care by participating in clinical trial", "I can access new treatments by participating in clinical trial", "I can access further information about condition by participating in clinical trial", and "I can get financial gain through attractive reimbursement and compensation by participating in clinical trial". Meanwhile other motives were assessed using four questions by asking: "I can be influenced by doctor's recommendation to participate in clinical trial", "I will participate if the location of the clinical trial is nearer to me", "I will participate in clinical trial if sufficient information is provided by the doctor" and "I likely participate in clinical trial when there is a dependent relationship i.e, student-lecturer, uniforms groups".

Barriers were quantified using 7-point Likert measures of agreement. Respondents were asked to consider nine questions relating to clinical trial process by asking: "I will not receive the trial drug if participate in clinical trial", "I will not participate as clinical trial involves complex procedures (e.g. surgery)", "I fear of the risks or complications involved in clinical trials", "I will not participate if the clinical trial is too long", "I will not participate as no certainty that the treatment will work", "I will not participate due to religious objections", "I will not participate because participation is too time-consuming or inconvenient", "I will not participate because no insurance coverage for adverse events" and "I will not participate because I may not receive medical care for side effects that may occur after trial completion". Only health-related items in the barrier construct were evaluated using categorical scales of true, I don't know, and false.

Additionally, the trust and compliance constructs utilised categorical scales (true, I don't know, and false). The questions asked for compliance were: "Participants in clinical trial get adequate compensation for their participation", "Participants in clinical trial get adequate compensation for any adverse outcomes", "Confidentiality of trial participants is adequately protected", "Participants in clinical trial get adequate information about the trial they participate in", "Researchers make sure trial is safe for participants", "Harmful side effects during a clinical trial must be due to trial", and "The public should be involved in clinical trial e.g., design, oversight, funding)". The questions asked for trust were: "The government always adequately protects the public against unethical clinical trial", "Clinical trial information provided by pharmaceutical companies can be trusted", "Clinical trial information provided by academic institutions can be trusted", "If you decide not to participate in trial your doctor will not give you good care", "Treating doctors tends to coerce their patients to participate in trial", "Human participants in clinical trial are treated like experimental animals "guinea pig". What is your opinion?", "Confidentiality is a matter of importance to research participants" and "All results of clinical trials must be made available to the public".

Demographic data was collected, including the participant's gender, age, ethnic background, income, educational attainment, work status, medical history, and previous involvement in clinical trials. To maintain the participants' and their answers' anonymity, no personally identifying information (e.g., name, IC number) was gathered.

3. FINDINGS

Participant's profile

The descriptive statistics for the participants who want to participate in clinical trials and those who are not interested participating in clinical trials. The frequency analysis by using SPSS (version 21.0) was conducted to evaluate descriptive findings of participants. Out of the 351 useable questionnaires, 204 (58.1%) of participant agreed to engage in clinical trials, while 147 (41.9%) declined participation. The results indicated 44.4 percent men and 55.6 percent females.

Cross-tabulation analysis indicated that 94 male participants (60.3% of males) and 110 female participants (56.4% of females) showed a willingness to participate in clinical trials. The dominating age groups were 18-24 (47.6%) and 25-34 (25.3%). However, only 93 out of 167 participants aged 18-24 years were willing to engage in clinical trials and 75 out of 167 participants aged 25-34 years were ready to participate in clinical trials. The study's participants were mostly Malay (90.6%). The majority of Malay participants (90.6%) indicate the university's demographic structure but restricts the generalizability to Malaysia's diverse ethnic population (Malay, Chinese, Indian and other nationwide).

27.1 percent of participants had no income, 25.6 percent had income between MYR1000 and MYR2000 per month, and 25.9 percent had income between MYR2000 and MYR3000 per month. Out of 351, 196 (55.8%) are jobless while 142 (44.2%) are employed. Also, 205 participants are students and 146 are employees. Hence, 61 percent of the participants had a university degree or above. Only 22 (6.3%) of participants had chronic disease. 9 out of 22 participants have asthma, 4 have diabetes, 2 have hypertension, and 2 have other chronic illnesses including Hsp (purpura), MDD, and pulmonary TB (recovered).

In this study, 56.7 percent (199) of participants knew about clinical trials, whereas 43.3 percent did not. Among 199 participants, 122 (62.8%) wanted to engage in clinical trials, whereas 79 did not know about them. Most individuals who know about clinical trials define it as "a method for physicians to see whether a therapy works in people and if it is better than other treatments". The internet is the most common source of clinical trial information (37.0%), followed by educational institutions (25.9%) and media or advertising (14.2 percent).

Participating in Clinical Trials

In certain cases, recruiting for clinical trials may be difficult and more time-consuming than expected. Specifically, this study aimed to investigate the proportion of the public approached about a trial who agree to participate and their willingness factors for clinical trials participation. Findings postulate that more than half of them are willing to participate in clinical trials. The pie chart in Figure 1 postulates the major findings for participation of participants in clinical trials.

Figure 1. Pie chart of participants' willingness to participate in a clinical trial.

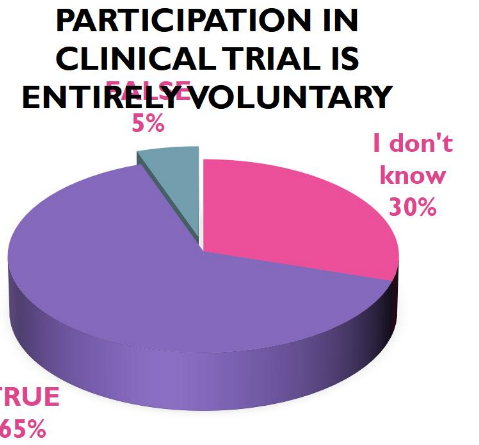

Figure 2. A pie chart of participants' perception of a clinical trial is an entirely voluntary decision.

Further, 65% of those who answered the survey understand that participating in a clinical trial is entirely voluntary (refer Figure 2). However, about 30% of participants, or 105 participants, were unaware that participation was completely optional. The finding that 30% of participants were oblivious to voluntary involvement indicates a severe deficiency in informed consent knowledge, carrying substantial ethical ramifications and implying that existing clinical trial recruitment methods may be insufficiently highlighting individual liberty.

Knowledge

To evaluate participants' comprehension of clinical trials, they were queried regarding their perceptions of the value that clinical trials offer. This collection of values encompasses those that enhance society, those that harm society, values that facilitate the advancement of innovative cures, and values that improve healthcare delivery.

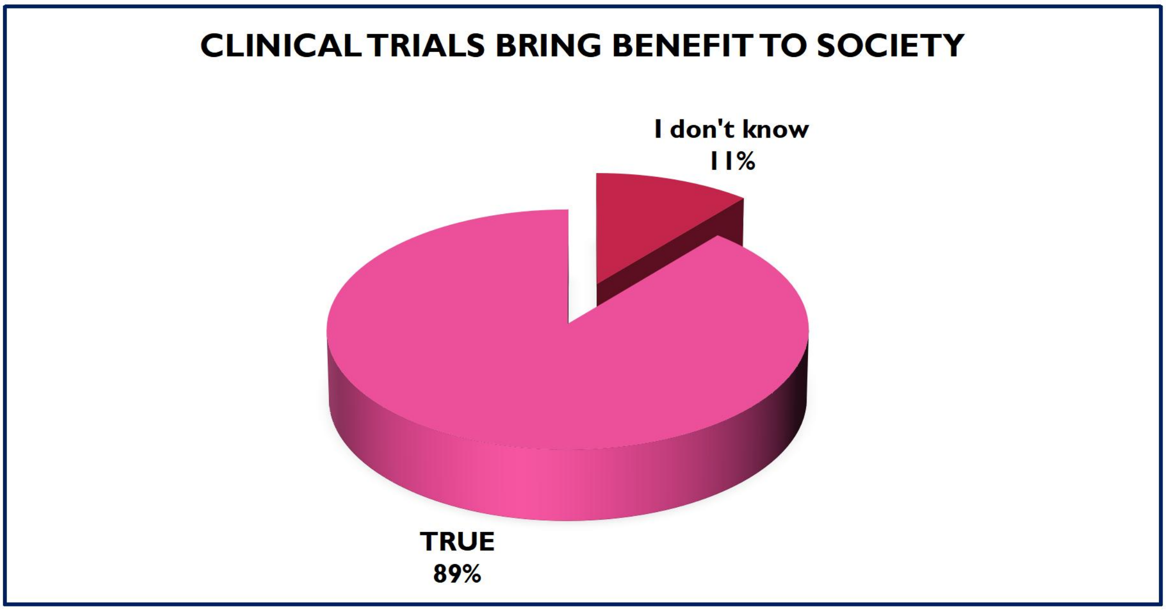

Figure 3. Pie chart of participants' perception of the benefit of clinical trials towards society.

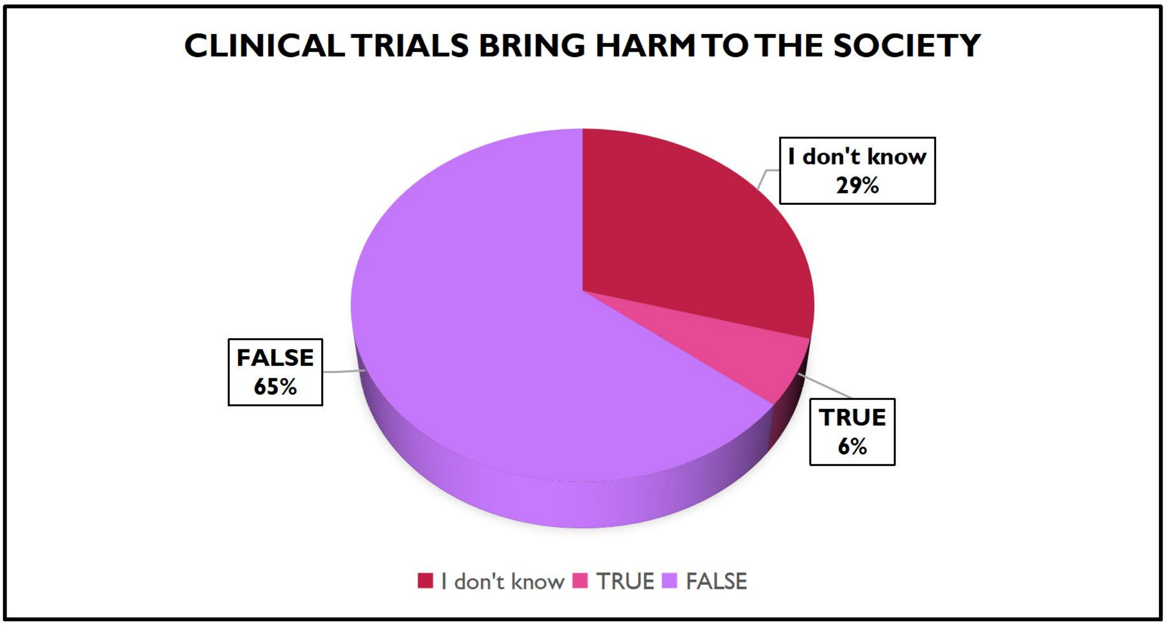

Figure 4. Pie chart of participants' perception in clinical trials brings harm to society.

The pie chart in Figure 3 depicts participants' perceptions on the benefits of clinical trials for the society. The data revealed that around 89 percent (312 participants) agreed with the benefit statement, while just 11 percent (39 participants) were unsure whether clinical trials would benefit society or not, and no one responded fraudulently. Meanwhile, in contrast to the previous question, participants were also asked if clinical trials cause damage to society (refer to Figure 4). Approximately 65 percent (226) of participants responded false, indicating they disagree with the assertion that clinical trials cause harm to society. However, the results suggest that about 29% of participants, or 103 participants, were uncertain of their answers and responded with 'I don't know'.

Figure 5 below indicates the bar chart of participants' perception on clinical trials as the essential step in developing new treatments and hospitals which have clinical trials will provide better healthcare. The findings show that majority of participants think that clinical trials are an important step in creating novel treatments (true, 256, 72.9%) and hospitals that conduct clinical trials give superior care (true, 304, 86.6%).

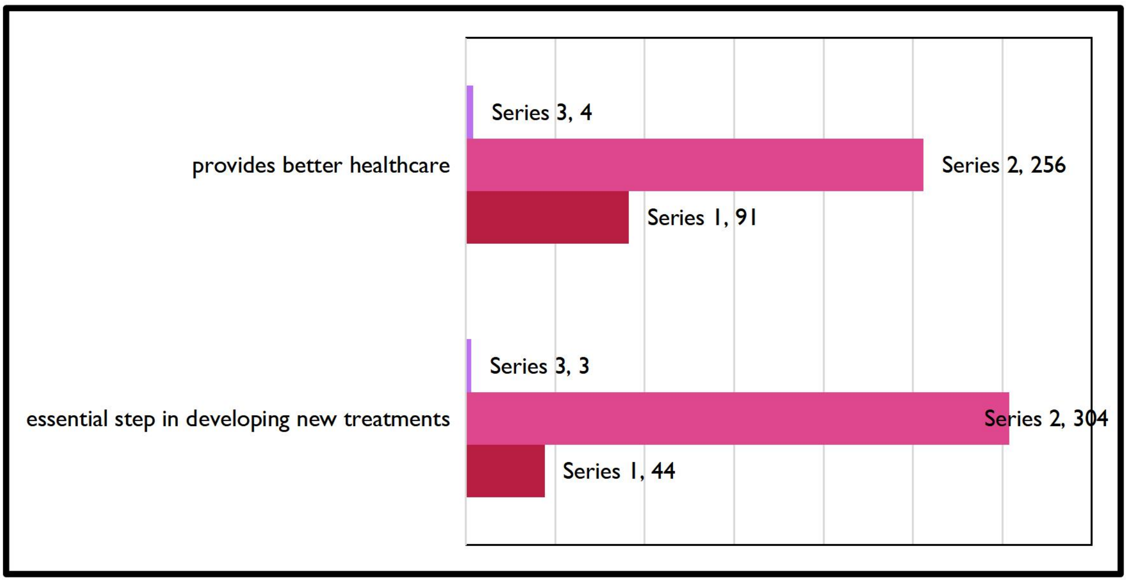

Figure 5. Bar chart of participants' perception of clinical trial values

Motivations

Motives were measured with three dimensions which are altruism, self-interest and other motives. In evaluating the altruism motives, participants were asked their agreement on that clinical trials can improve the health of future patients and clinical trials can support health research. Findings in Figure 6 specified majority of participants agreed that clinical trials will help to improve the health of future patients (75%) and support health research (82%).

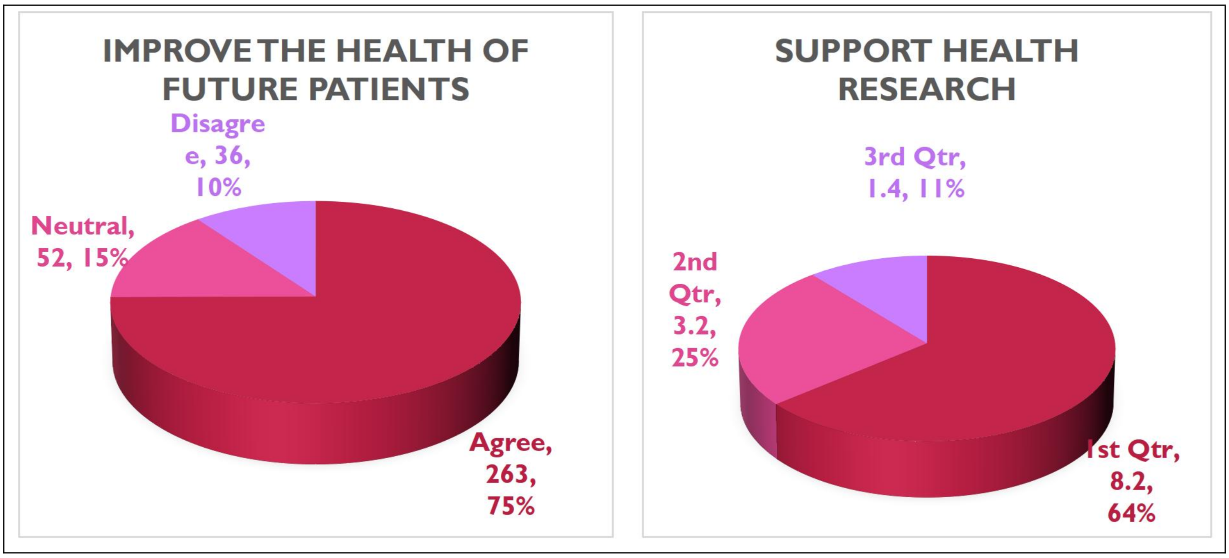

Figure 6. Pie chart of participant's agreements on altruism motives.

Further, self-interest motive was measured with five items, where participants were asked to rate their level of agreement towards by participating in clinical trials, they can improve personal health, receive benefits from additional care, have access to new treatments, can acquire additional information, and receive financial gain. Table 1 below demonstrates the frequency finding for each item for self-interest motives. Although participants were asked to rate with 7 Likert scale of agreement, the frequency findings grouped into three major answers which are agree, neutral and disagree.

Table 1. Summary of Descriptive Analysis for self-interest items

Item	Frequency	Percentage
M5S1 I can improve personal health by participating in a clinical trial		
Disagree	47	13.4
Neutral	105	29.9
Agree	199	56.7
Total	351	100.0
M5S2 I am able to benefit from additional care by participating in a clinical trial		
Disagree	103	29.3
Neutral	22	6.3
Agree	226	64.4
Total	351	100.0
M5S3 I can access new treatments by participating in a clinical trial		
Disagree	43	12.3
Neutral	71	20.2
Agree	237	67.5
Total	351	100.0
M5S4 I can access further information about the condition by participating in a clinical trial		
Disagree	37	10.5
Neutral	61	17.4
Agree	253	72.1
Total	351	100.0
M5S5 I can get financial gain through attractive reimbursement and compensation by participating in a clinical trial		
Disagree	68	19.4
Neutral	117	33.3
Agree	166	47.3
Total	351	100.0

Table 1 reveals that the majority of participants believe that engaging in clinical trials enhances their own health, provides additional care benefits, grant access to novel treatments and offer further knowledge. Unbeknownst to them, their participation in clinical trials will provide cash compensation, as the majority of respondents provide neutral or negative responses on self- interested motives in the final questions.

In other motive questions, participants were asked about their decision to participate based on other motives such as recommendations by a doctor, location for clinical trials is near, sufficient information on clinical trials, and a dependent relationship' participation.

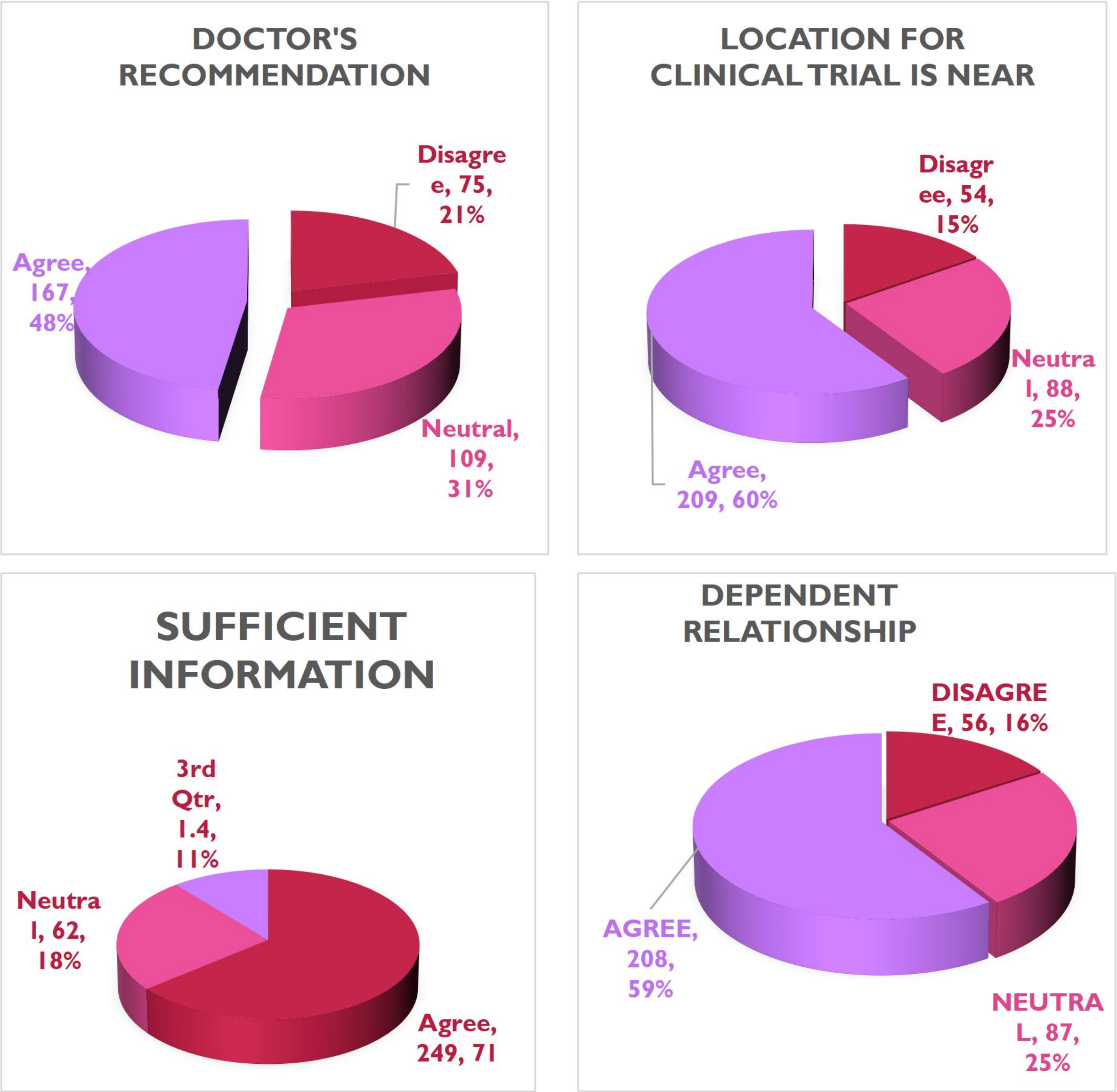

Figure 7. Pie chart of participants' agreements on other motives.

Figure 7 indicates that participants predominantly consent to participate in clinical trials due to the proximity of the clinic and the existence of a dependent relationship, such as that between students and lecturers. Meanwhile, participants had the least agreement on physician recommendations. Additionally, 89% of participants believed that the provision of adequate information by doctors could be a determining factor in their decision to participate, suggesting that information adequacy is a critical factor in participation.

Barriers

Another factor to consider when assessing participants' involvement in clinical trials is the obstacles they encountered. The clinical trial procedure and participants' health condition were cited as primary factors for their reluctance to join. The descriptive findings for clinical trial items indicated that majority of participants agreed that they would be hesitant to participate in clinical trials if they involved complex procedures, trials took a long time to complete, there was no certainty that the treatment would work, the trial was time consuming or inconvenient for them, the trial was not covered by insurance, and they would not receive medical care for side effects.

Religious objections and experimental medication are not their primary concerns with clinical trials. The primary reasons for participants' reluctant to participate in clinical trials was concerned over risks and consequences, accounting for around 58.4 percent of the group. A significant reason for participants' hesitance to engage in clinical trials is the inadequate medical care for adverse events (m=4.86, Agree not to participate= 56.7 percent) and the lack of insurance coverage for these occurrences (m=4.83, Agree not to participate= 55.8 percent).

Additionally, participants were questioned about their health status, which may influence their willingness to participate in clinical trials. The overwhelming majority of participants agreed that their health condition would influence their desire to participate in clinical trials. The pie chart in Figure 8 depicts participants' readiness to engage in clinical trials if they believe it would improve their health condition.

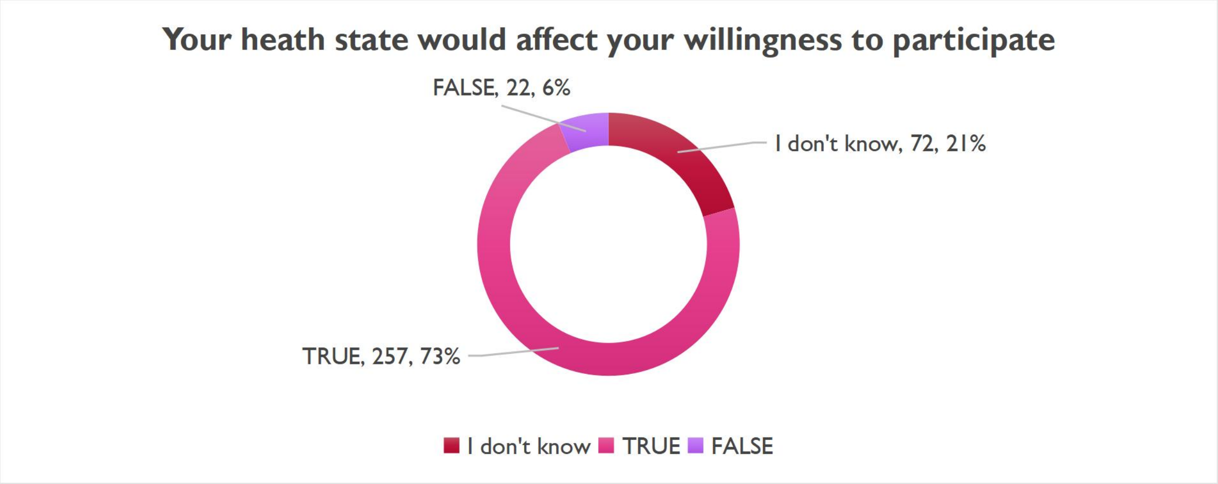

Figure 8. Doughnut chart of participants' agreements on participation reflects from their health state.

The findings indicated that the majority of participants believed that their desire to engage was contingent on their health status if they had chronic illnesses. Approximately 21% are uncertain whether their present health situation will affect their decision to participate or not, whilst only 6% assert that their health status does not preclude them from participating in clinical trials.

Compliance

The findings in Figure 9 provide context for the participant's assessment of conformity with the clinical trials conduct. The majority of participants believed that they should be involved in the design, supervision, and financing of clinical trials. Additionally, participants agreed that researchers would ensure their safety, provide adequate information, and maintain their confidentiality. Participants did, however, voice concerns about the undesirable side effects of clinical trials, receiving adequate recompense for clinical trials participation, and receiving payment for any bad results.

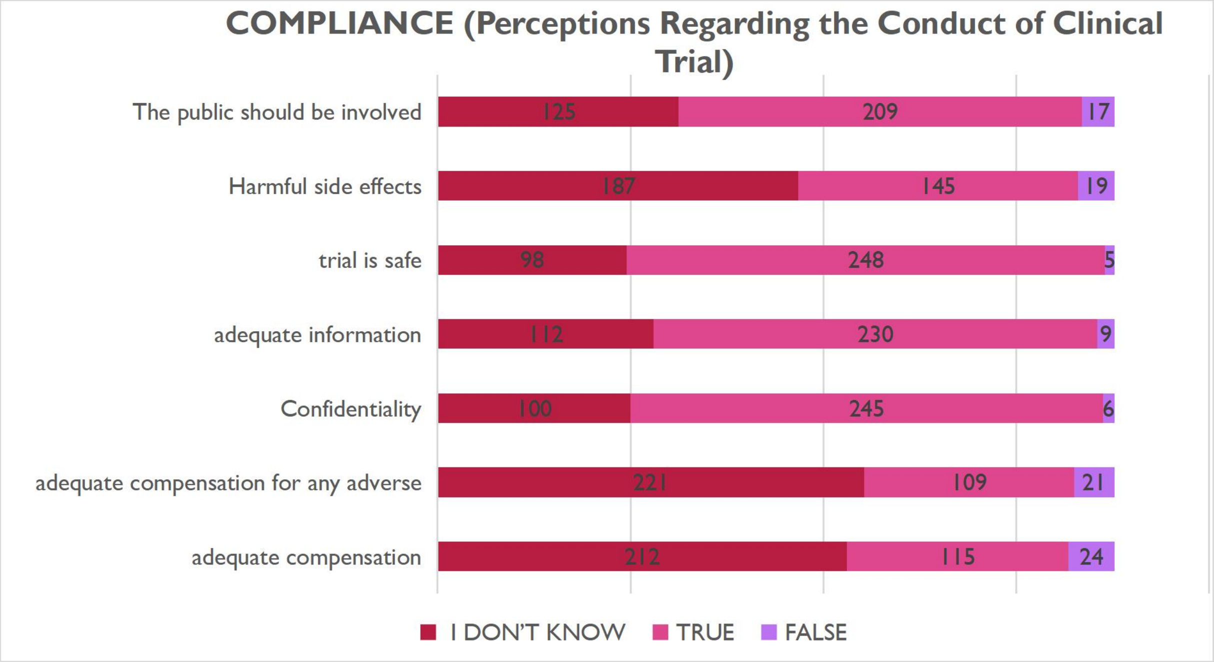

Figure 9. Bar chart of participants' agreements on participation compliance in the conduct of clinical trial.

Trust

To foster confidence in clinical trial participants, the majority of participants think that secrecy is critical for any clinical trials study. Additionally, receiving accurate information from an academic institution would improve participants' confidence in clinical trials, but they are unsure if the information provided by the doctor will increase their trust. In contrast, participants expressed uncertainty about studies in which participants are treated like "guinea pigs." Roughly equivalent proportions of participants expressed uncertainty regarding the statements "Treating physicians tend to force their patients into participating in trials" and "If you choose not to engage in trials, your doctor will not provide you with quality treatment" (see Figure 10).

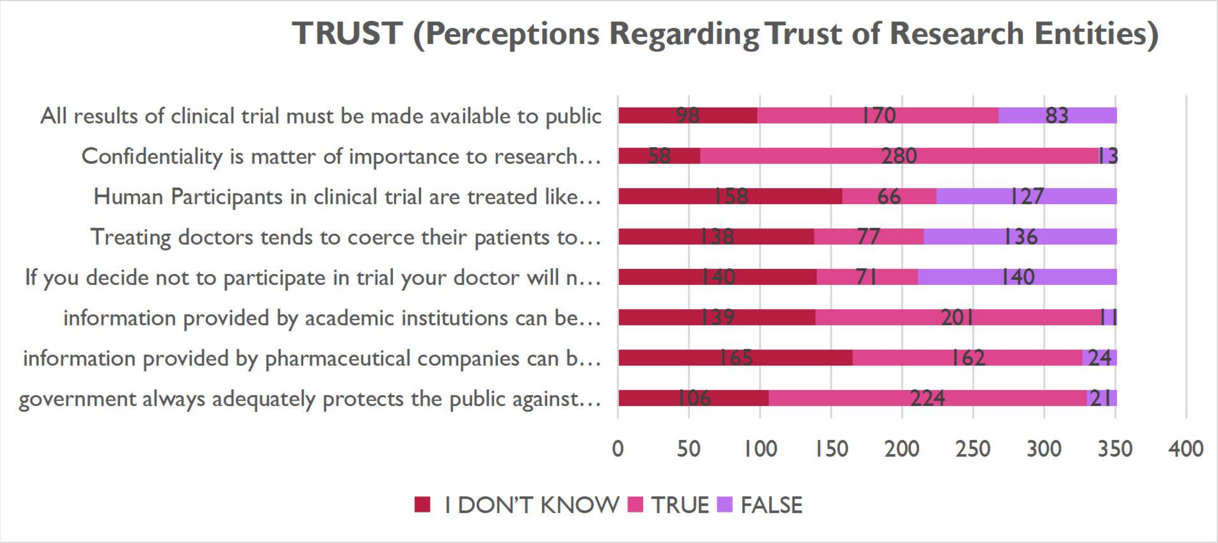

Figure 10. Bar chart of participants' agreements on participation.

4. DISCUSSION

This study revealed that the majority of the participants have awareness about clinical trials where of 351 participants, 199 (56.7%) participants reported that they knew about clinical trials. Most of the participants get the information about clinical trials from the internet (37.0%), followed by educational institutions (25.9%) and media (14.2%). This finding is not surprising since the majority of the participants are composed of a younger population aged between 18 to 24 years (47.6%) and 25 to 34 years (25.3%). This finding corresponds with identified digital behavior trends, indicating that younger age groups exhibit markedly elevated internet usage rates for health information acquisition relative to older cohorts (Kaur et al., 2022; Din et al., 2019; Nguyen at al., 20170). Nevertheless, awareness did not translate into willingness to participate where only 93 out of 167 participants aged 18-24 years were willing to engage in clinical trials, and 75 out of 167 participants aged 25-34 years were ready to participate in clinical trials. This finding seems to be consistent with one study that indicated a belief in the importance of clinical trials, but limited understanding of the trial process persists (Anderson, Borfitz & Getz, 2018). Another study showed that although majority participants had good knowledge (61.3%) and high awareness (88.7%) of clinical trials but most of them were not willing to participate if they were assigned to a group of unlicensed drugs (90.2%) or randomly assigned (66.1%) (Prajapati et al., 2024).

Further, this study also revealed that 65.0% of those participants who answered the survey understand that participating in clinical trials is entirely voluntary. However, about 30% of participants, or 105 participants, were unaware that participation was completely optional. This result reflects the fact that participants believed there was little official information available about clinical trials. This finding also corresponds with several studies that showed the participants were interested in participating in clinical trials but a lack of adequate information was a common factor (Nadora et al., 2010; Arevalo et al., 2016). Meanwhile one study conducted among young adults enrolled as students in a university in south India showed that although some students showed a positive view of clinical trials and recognised its societal benefits, the overall public awareness remains insufficient. Approximately, 50% were unfamiliar with clinical trials clinical trials but 42.4% expressed willingness to participate in future clinical trials (Raj et al., 2024). The findings imply that improved information dissemination may raise recruitment rates; however, longitudinal research are necessary to determine causal links. Hence, providing adequate information regarding the clinical trials process was helpful in the recruitment of subjects.

The motivations for clinical trials participation were linked to types of benefits. Interestingly, the majority of participants considered accessing further information about condition by participating in clinical trials as the most important factor to participate in clinical trials. This finding corresponds with a study that showed almost half (188 out of 398, 47.2%) agreed that access to more information on clinical trials could influence their willingness to participate (Prajapati et al., 2024). Only 166 individuals (47.3%) concurred that appealing remuneration for participation would incentivize their engagement, rating lower than incentives related to access to information. This finding is also similar to that reported by Prajapati et al. (2024) revealing only 35.9% (143 out of 398) of participants agreed that monetary reward or reimbursement was the influencing factor or participating in clinical trials. Conversely several studies showed that the main reason for healthy volunteers' willingness to participate is because of the financial reward (Seo et al., 2023; Nappo, Iafrate & Sanchez, 2013; Doshi et al., 2013; Stunkel & Grady, 2011) whereas the main reasons for patients to participate in clinical trials is for self-interest in terms of health benefits (Wendler et al., 2008; Yin, Zhang & Qian, 2008).

Recommendation from doctors garnered moderate endorsement from 167 participants (48%), indicating that while medical influence is significant, it is not paramount for the majority of participants. Additionally, the findings imply that responders need adequate information from the doctor before agreeing to participate. In contrast, one study revealed that participants strongly agreed that recommendations from doctors (185 out of 398, 46.5%) were the key motivation for taking part in clinical trials (Prajapati et al., 2024). In contrast, Joshi et al. (2013) discovered that healthy volunteers frequently engaged in trials despite possessing minimal awareness of the procedures, protocols, and hazards, predominantly depending on faith in their physicians rather than educated comprehension. Another study also revealed that participants are more likely to participate based on trust in the doctor (Liu & Li, 2018). Recently, a study showed that participants with a higher level of distrust in health information showed lower motivation (Barsha et al., 2025).

Despite the fact that this study focused on hypothetical willingness rather than actual patient populations, the results are consistent with study that indicates that individuals with health concerns develop a greater interest in clinical trials. This is because they can perceive an additional benefit of an experimental drug over traditional therapy (Caroline Noirmain, Béatrice Gil-Wey, Isabelle Pichon & Guy Haller, 2020). This study also showed that most of the participants were willing to participate in clinical trials if it would improve their personal health. This finding seems to be consistent with several studies that showed participants' readiness to engage in clinical trials if it would improve their health condition (Synn et al., 2023; Brubaker et al., 2013; Squires et al., 2013; Biedrzycki, 2010). As such, this finding is not surprising, as this study also revealed that the majority of participants believed that they would participate in clinical trials if they had chronic illnesses. This health-dependent participation pattern illustrates the 'therapeutic misperception' noted in clinical research literature (Lidz & Appelbaum, 2002; Appelbaum et al., 2012), wherein individuals confuse research involvement with treatment. Further, of 351 participants who answered, 257 (73.0%) answered in affirmative that health state would affect their willingness to participate followed by 22 (6.0%) participants answered 'false' and 72 (21.0%) participants answered 'I don't know'. The speculative character of our survey questions likely inflates actual participation rates, as real-world decisions encompass additional factors such as illness progression, treatment failure, and familial dynamics that are not reflected in survey scenarios.

The apprehension over dangers or problems was the most commonly identified obstacle, with 205 individuals (58.4%) acknowledging that this issue would deter their involvement. The findings can be elucidated using the Theory of Planned Behaviour, wherein perceived impediments, especially worries related to risk, considerably overshadow favourable sentiments toward clinical trials. Further, this finding seems to be consistent with the findings of several studies that have shown that risk serves as a barrier to participation in clinical trials among healthy volunteers (Prajapati et al., 2024); Choi et al., 2016; Bouida et al., 2016). Another significant factors that discourage participation in clinical trials is that they have not obtained medical treatment for adverse events (m=4.86, Agree not to participate= 56.7 percent) and that no insurance coverage for adverse events (m=4.83, Agree not to participate= 55.8 percent). Studies have demonstrated that a substantial number of Malaysians lack insurance coverage for emergencies, as evidenced by the low penetration rates of both life and property insurance products (Azmi & Asnadi, 2025). There is a widespread lack of comprehension regarding the benefits and mechanisms of insurance protection, and many Malaysians, particularly those with lower incomes, find insurance premiums prohibitive (Ramli et al., 2024). This means that, without insurance coverage, the subject has to bear the cost of treatment in the event of a clinical trial-related injury. This finding indirectly indicates that lack of insurance coverage would discourage people from going for clinical trials. The insurance gap may hinder clinical trials enrollment, thereby impeding medical research advancement in Malaysia. This finding is also consistent with a study on insurance coverage of clinical trial participation showed that despite the Affordable Care Act (ACA) mandate, insurance denials continue to be a significant barrier to trial enrollment (Schlager, 2017).

5. CONCLUSION

The results of this study provide insight into the factors that motivate and impede individuals' willingness to participate in clinical trials as subjects. The findings indicate that the majority of individuals affiliated with the university are cognizant of clinical trials; however, their applicability to the broader Malaysian populace necessitates verification. Nevertheless, even though the majority of participants have expressed a propensity to participate, there is still a level of scepticism, particularly among youthful participants who exhibit lower participation rates despite being the most digitally connected demographic. This paradox demonstrates a critical misalignment between digital awareness and actual participation commitments, indicating that a casual understanding of clinical trials is insufficient to motivate engagement. The most significant finding was that the vast majority of participants were unaware that clinical trials participation was voluntary. This finding has profound ethical implications, as it indicates a severe lack of informed consent knowledge and suggests that existing recruitment methods do not adequately emphasise individual autonomy and ethical principles of research.

The majority of participants prioritised access to additional information about their condition over financial compensation, with personal benefits serving as the primary motivator or participation. Fear of risks or complications associated with clinical trials is a significant impediment to participation, followed by concerns regarding inadequate medical care for adverse events and a lack of insurance coverage. The study also discovered that the health conditions of the participants would have a substantial impact on their willingness to participate, with the majority of participants indicating that their health conditions would influence their decisions. At the same time, these results indicate that participants perceive clinical trials through a therapeutic lens rather than a research framework, indicating a fundamental trust deficit in the capacity of clinical research systems to safeguard the welfare of participants. System deficits in participant coverage that directly impact successful recruitment and adherence to research ethics are reflected in the priority of safety-related concerns, particularly regarding post-test medical care and insurance coverage.

These results have the potential to offer strategies for the successful enrolment of subjects in clinical trials. These findings suggest that clinical trial procurement strategies should prioritize the following: (1) targeted risk communication that addresses specific safety concerns through evidence-based communication tools and standardized decision assistance, (2) an enhanced informed consent process that emphasizes voluntary participation with mandatory comprehension assessments to ensure a genuine understanding of participants' rights, and (3) the development of insurance coverage solutions that are comprehensive for test-related adverse events, potentially through collaboration with Malaysian insurance providers or institutional protection funds. Numerous methodological constrains are noteworthy, such as the hypothetical nature of participant results, which may not be able to reliably predict actual behaviour in the context of actual clinical trials, the hypothetical nature of facility sampling from a single university that limits generalizability to the broader Malaysian community, and cross-sectional designs that preclude causal inferences about the relationship between knowledge, attitudes, and willingness to participate. However, this research underscores that the implementation of successful clinical trials is not merely a logistical challenge but an ethical imperative that necessitates a genuine partnership between researchers and the community. This partnership must be based on trust, transparent communication, and participant-centred approaches, which are essential for the advancement of medical research while simultaneously safeguarding the welfare and autonomy of participants.

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