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Between Tradition and Modernity: Understanding Public Perceptions of Complementary and Alternative Medicine

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ABSTRACT

Purpose of the study: The aim of this study is to determine public perceptions of complementary and alternative medicine.

Methodology: This research is quantitative with a descriptive design. The sample consisted of 88 residents of Pondok Benda Village, RW 013, Pamulang 2, using a random sampling technique. Data collection used a questionnaire developed by the researcher.

Main Findings: The results of the study showed that 53.4% of respondents had a positive perception of complementary and alternative medicine, 62.6% had a positive perception of cupping, 60.2% of respondents had a positive perception of acupuncture and acupressure, the same number of respondents had a positive perception of reflexology, 80.7% of respondents had a positive perception of herbal medicine, 60.2% of respondents had a positive perception of bone fracture experts, 61.4% of respondents had a positive perception of shaman sembur, and 61.4% of respondents had a positive perception of the advantages and disadvantages of complementary and alternative medicine.

Novelty/Originality of this study: The novelty of this research lies in revealing public perceptions of complementary and alternative medicine, a practice rarely studied in depth. This study provides new insights into the social, cultural, and belief factors that influence people's choices in using non-conventional medicine as an alternative or complement to modern medical treatment.

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1. INTRODUCTION

Complementary and Alternative Medicine is a group of treatment and healthcare methods that are not included in conventional medical practice [1]-[3]. According to the National Center for Complementary and Alternative Medicine, Complementary and Alternative Medicine encompasses a variety of techniques typically used outside of standard medical treatment. In Indonesia, a 2007 Ministerial Regulation of Health defines Complementary and Alternative Medicine as a form of non-conventional medicine encompassing promotive, preventive, curative, and rehabilitative aspects. Complementary and Alternative Medicine is based on biomedical science and must meet safety and effectiveness standards [4]-[6]. Its primary goal is to improve the overall health of the community.

Globally, the use of Complementary and Alternative Medicine continues to increase. Data from the WHO in 2010 showed that approximately 80% of the population in some countries uses Complementary and Alternative Medicine. Countries such as Ethiopia, China, and Japan have integrated traditional medicine into their national health systems [7]-[9]. Even in developed countries like the United States, Canada, and Australia,

Complementary and Alternative Medicine has become a preferred alternative due to its perceived safety and naturalness [10]-[12]. This demonstrates a global trend in the acceptance of non-conventional treatment methods as a complement to medical treatment.

In Indonesia, the use of Complementary and Alternative Medicine also shows an increasing trend. The use of Complementary and Alternative Medicine rose from 15.2% in 2000 to 38.3% in 2006. Popular Complementary and Alternative Medicines include cupping, acupuncture, reflexology, herbal remedies, and fracture therapy and traditional massage [13]-[15]. Several major hospitals in Indonesia have also opened Complementary and Alternative Medicine services, such as Dharmais Cancer Hospital and Dr. Sardjito General Hospital. This indicates that Complementary and Alternative Medicine is beginning to be accepted as part of the national healthcare system [16]-[18].

The increasing use of Complementary and Alternative Medicine is driven by various factors, one of which is public perception. Research shows that gender, age, economic status, education, and media information influence a person's decision to choose Complementary and Alternative Medicine [19], [20]. Many people use Complementary and Alternative Medicine to prevent disease, reduce symptoms, or avoid the side effects of conventional medicine [21]-[23]. Furthermore, human nature, which is interested in trying new things, and ease of access also play a role. Perception of Complementary and Alternative Medicine is a key factor in determining people's treatment choices.

Perception is a person's view or interpretation of an object, event, or information they receive. Perception can influence behavior and decisions, including choosing a treatment [24], [25]. If public perception of Complementary and Alternative Medicine is positive, the use of these methods tends to increase [26], [27]. Therefore, understanding perception is crucial in developing health services that meet community needs. Healthcare workers play a crucial role in providing education regarding the safety and effectiveness of Complementary and Alternative Medicine [2], [28], [29].

In modern nursing practice, an understanding of Complementary and Alternative Medicine is crucial. Nurses are expected to have knowledge and a positive attitude toward Complementary and Alternative Medicine to optimally fulfill their roles [30], [31]. Nurses also serve as educators and advocates for patients in choosing appropriate and safe treatments [32], [33]. As public interest in Complementary and Alternative Medicine increases, healthcare workers must be able to bridge the gap between patients and the treatment methods used. Accurate knowledge will help prevent misuse and the risks of unconventional treatments.

Based on a preliminary study, the majority of people in a region choose to use Complementary and Alternative Medicine, such as herbal remedies, cupping, reflexology, and traditional massage. Reasons often cited include effectiveness, affordability, natural processes, and minimal side effects. However, some still prefer conventional medicine because it is considered more scientific and reliable. The presence of Complementary and Alternative Medicine practitioners in the community also influences treatment choices [5], [34]. Therefore, it is important to further examine how public perceptions are formed and the factors that influence them.

Ng et al al., [35] study focused on developing an operational definition of Complementary, Alternative, and Integrative Medicine through a systematic search, making its contribution more conceptual and theoretical in nature, providing clarity on terms and defining the scope of practice. Meanwhile, Ilori et al., [36] focused on the knowledge, attitudes, and practices of Nigerian medical students regarding the use of Complementary and Alternative Medicine in COVID-19 management, making its approach more specific to the population of future medical professionals in the context of the pandemic. Neither study directly explored how the general public interprets, evaluates, and responds to Complementary and Alternative Medicine in everyday life outside the context of the pandemic or medical education. The current study, Between Tradition and Modernity: Understanding Public Perceptions of Complementary and Alternative Medicine, fills this gap by examining public perceptions in Indonesia of various types of Complementary and Alternative Medicine, including social, cultural, and belief factors that influence acceptance or rejection. Thus, this study provides a more applicable contextual contribution at the community level, which was not previously discussed in depth in Ng et al.'s study. and Ilori et al. The main objective of this study is to understand in depth public perceptions of Complementary and Alternative Medicine and the social, cultural, and experiential factors that shape Complementary and Alternative Medicine use preferences at the community level.

2. RESEARCH METHOD

2.1. Research Design

Research design is a strategy to achieve predetermined research objectives and serves as a guideline throughout the entire research process. This type of research is quantitative with a descriptive design [37], [38]. This study aims to obtain an overview of public perceptions of complementary and alternative medicine in the Pondok Benda Village, RW 013, Pamulang 2 area.

2.2. Population and Sample

A population is the total number of objects whose characteristics are not specified. The population in this study was all residents in the Pondok Benda Village, RW 013, Pamulang 2, aged 26 to 65. The population in this study totaled 403. A sample is a subset of the population selected through a specific sampling technique to ensure it represents the population [39], [40]. This lottery study used random sampling, a sampling method that provides each member of the population with an equal chance of being selected. The random sampling technique used was simple random sampling with a lottery system. The sample was determined by selecting respondents who met the inclusion and exclusion criteria. The inclusion and exclusion criteria were determined by the researcher. The total sample size was 80 individuals plus a 10% attrition rate, resulting in a total of 88 individuals.

2.3. Data Collection Instruments and Techniques

The research instrument used by the researcher to obtain information from respondents was a questionnaire. Respondents were asked to complete the questionnaire themselves, provided by the researcher, and no one else could do it. The completed questionnaires were given directly to the researcher. The questionnaire used in this study consisted of the following:

Table 1. Questionnaire Grid

Perceptions of complementary and alternative medicine	Positive	Negative	Amount
Understanding	1	2	
Cupping:			
Definition	3	-	1
Safety	4	5, 6	3
Contraindications	4	-	1
Acupuncture and Acupressure:			
Definition	8	-	1
Safety	9	10, 12	3
Contraindications	12	-	1
Reflexology Massage:			
Definition	13	-	1
Safety	14	15	2
Contraindications	16	-	1
Herbal Medicine:			
Definition	-	-	-
Safety	-	17	1
Efficacy	-	18, 19	2
Fracture Specialist:			
Definition	20	-	1
Safety	-	21	1
Cost	-	-	-
Shaman Sembur/"Smart Person":			
Definition	22	-	1
Effectiveness	-	23	1
Advantages	24, 26, 28	-	3
Disadvantages	-	25, 27	2

2.4. Data Analysis Techniques

This study used univariate analysis. Univariate analysis aims to explain or describe the characteristics of each research variable. Respondent characteristics in this study included age, gender, highest level of education, and experience with complementary and alternative medicine [41], [42]. Univariate analysis in this study used a frequency distribution. The variable to be analyzed univariately is public perception of complementary and alternative medicine in the Pondok Benda Village, RW 013, Pamulang 2 area.

3. RESULTS AND DISCUSSION

3.1. Overview of Complementary and Alternative Medicine Perceptions

In this study, the level of perception of complementary and alternative medicine, including COP values, was grouped into positive and negative. Positive perceptions occurred when respondents' answers were greater than the median COP value (92.00), while negative perceptions occurred when respondents' answers were less than the median COP value.

Table 2. Frequency Distribution of Perceptions in the Community in Pondok Benda Village, RW 013 Pamulang (N=88)

Characteristics	Frequency	Percentage (%)
Positive	47	53.4
Negative	41	46.6
Total	88	100

Table 2 shows that the level of perception of complementary and alternative medicine among respondents was positive at 47 respondents or 53.4% and negative at 36 respondents or 46.6%.

3.2. Distribution of Perception Proportion of Complementary and Alternative Medicine Based on Age

Grouping of respondents based on age category is depicted in the following table 3:

Table 3. Distribution of Perceptions by Age (N=88)

Age	Perceptions of complementary and alternative medicine		Total
	Positive	Negative	
Early adulthood	17	12	29
	58.6%	41.4%	100%
Late adulthood	12	14	21
	63.2%	36.8%	100%
Early elderly	7	14	21
	33.3%	66.7%	100%
Late elderly	11	8	19
	57.9%	42.1%	100%
Total	47	41	88
	53.4%	46.6%	100.0%

Table 3 shows that perceptions of complementary and alternative medicine based on early adulthood age, 17 respondents (58.6%) had a positive perception and 12 respondents (41.4%) had a negative perception, late adulthood age, 12 respondents (63.2%) had a positive perception and 14 respondents (36.8%) had a negative perception, early elderly age, 7 respondents (33.3%) had a positive perception and 14 respondents (66.7%) had a negative perception, and late elderly age, 11 respondents (57.9%) had a positive perception and 8 respondents (42.1%) had a negative perception.

3.3. Distribution of Perception Proportion of Complementary and Alternative Medicine Based on Gender

Grouping of respondents based on gender category is depicted in the following table 4:

Table 4. Distribution of Perceptions by Gender (N=88)

Gender	Perceptions of complementary and alternative medicine		Total
	Positive	Negative	
Male	24	20	44
	54.5%	45.5%	100%
Female	23	21	44
	52.3%	47.7%	100%
Total	47	41	88
	53.4%	46.6%	100.0%

Table 4 shows that perceptions of complementary and alternative medicine are based on gender. 24 men (54.5%) had a positive perception, while 20 women (45.5%) had a negative perception. Meanwhile, 23 women (52.3%) had a positive perception, while 21 women (47.7%) had a negative perception.

3.4. Distribution of Perception Proportion of Complementary and Alternative Medicine Based on Last Education

Grouping of respondents based on their last education category is depicted in the following table 5:

Table 5. Distribution of Perceptions Based on Last Education (N=88)

Last education	Perceptions of complementary and alternative medicine		Total
	Positive	Negative	
Elementary School	0	3	3
	0.0%	100%	100%
Middle School	8	5	13

	61.5%	38.5%	100%
High School	18	13	34
	47.4%	52.6%	100%
College	21	13	34
	61.8%	38.2%	100%
Total	47	41	88
	53.4%	46.6%	100.0%

Table 5 shows that the perception of complementary and alternative medicine is based on the respondent's last level of education. Respondents with the last level of education of Elementary School who have a positive perception are 0 respondents (0%) and those who have a negative perception are 3 respondents (100%), respondents with the last level of education of Junior High School who have a positive perception are 8 respondents (61.5%) and those who have a negative perception are 5 respondents (38.5%), respondents with the last level of education of Senior High School who have a positive perception are 18 respondents (47.4%) and those who have a negative perception are 13 respondents (52.6%), and respondents with the last level of education of tertiary education who have a positive perception are 21 respondents (61.8%) and those who have a negative perception are 13 respondents (38.2%).

3.5. Distribution of Perception Proportion of Complementary and Alternative Medicine Based on Experience

Grouping of respondents based on experience using complementary and alternative medicine is depicted in the following table 6:

Table 6. Distribution of Perceptions Based on Complementary and Alternative Medicine Experience (N=88)

Experience	Perceptions of complementary and alternative medicine		Total
	Positive	Negative	
Ever	30	20	50
	60.0%	40.0%	100%
Never	17	21	38
	44.7%	53.3%	100%
Total	47	41	88
	53.4%	46.6%	100.0%

Table 6 shows that perceptions of complementary and alternative medicine are based on experience with this treatment. 30 respondents (60%) who have used this treatment have a positive perception, and 20 respondents (40%) have a negative perception. Meanwhile, 17 respondents (44.7%) who have never used this treatment have a positive perception, and 21 respondents (53.3%) have a negative perception.

3.6. Overview of Perceptions of Complementary and Alternative Medicine Based on Statement Items

An overview of perceptions of complementary and alternative medicine will be explained in the table below regarding the definition, types of complementary and alternative medicine such as: cupping, acupuncture and acupressure, reflexology, herbal medicine, bone fracture experts, and shaman sembur/"smart people" as well as the advantages and disadvantages of this treatment.

Table 7. Distribution of perceptions of complementary and alternative medicine (M=88)

Perceptions of Complementary and Alternative Medicine	Positive		Negative	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Understanding	77	87.5	11	12.5
Cupping	55	62.6	33	37.5
Acupuncture and Acupressure	53	60.2	35	39.8
Reflexology	44	50	44	50
Herbal Medicine	72	80.7	17	19.3
Bone Fracture Specialists	53	60.2	35	39.8
Shakuun Sembur/Smart People	54	62.4	34	38.6
Advantages and Disadvantages	54	62.4	34	38.6

Table 7 shows that 77 respondents (87%) had a positive perception of complementary and alternative medicine, while 11 respondents (12.5%) had a negative perception. 55 respondents (62.6%) had a positive perception of cupping, while 33 respondents (37.5%) had a negative perception. 53 respondents (60.2%) had a positive perception of acupuncture and acupressure, while 35 respondents (39.8%) had a negative perception. 44

respondents (50%) had a positive perception of reflexology, while 44 respondents (50%) had a negative perception. 71 respondents (80.7%) had a positive perception of herbal medicine, while 17 respondents (19.5%) had a negative perception. 55 respondents (60.2%) had a positive perception of orthopedic treatment, while 35 respondents (39.8%) had a negative perception. Respondents' perceptions of shaman sembur/"smart people" were positive as many as 54 respondents (61.4%) and those with negative perceptions were 34 respondents (38.6%), and respondents' perceptions of the advantages and disadvantages of complementary and alternative medicine were positive as many as 54 respondents (61.4%) and those with negative perceptions were 34 respondents (38.6%).

Public perceptions of Complementary and Alternative Medicine in this study indicate that the choice and acceptance of non-conventional practices are influenced more by cultural values, narratives of personal experience, and community beliefs than by the availability of formal scientific evidence [43], [44]. This strengthens the argument that efforts to integrate Complementary and Alternative Medicine into formal healthcare must consider cultural dimensions and locally sensitive risk communication, rather than solely relying on a top-down, evidence-based approach. This finding aligns conceptually with the need for clear operational definitions, as formulated by Ng et al., [35] because without a mutually accepted framework of terms, discussions between traditional practitioners, patients, and policymakers are unlikely to produce consistent governance. Therefore, the development of practice guidelines and educational materials must involve community stakeholders to ensure cultural relevance and acceptability. Effective educational interventions need to balance respect for traditional knowledge with scientific explanations of safety and effectiveness [45], [46].

Comparison with studies of professional populations such as Ilori et al., [36] highlights an important contrast: while medical students tend to evaluate Complementary and Alternative Medicine through the lens of medical knowledge and the context of the pandemic, the general public evaluates Complementary and Alternative Medicine through lived experience, cultural esteem, and trust in local healers [47], [48]. These differences suggest that public health communication strategies must be differentiated by audience; approaches that work well for health professionals may be less effective in communities that rely on oral traditions and inherited practices. Therefore, training for health professionals should incorporate modules on cultural communication and cross-practice collaboration to foster constructive dialogue between professionals and patients. Furthermore, research collaborations between medical anthropologists and epidemiologists can yield evaluation approaches that capture nuanced social meanings while maintaining clinical validity [49]. Efforts to regulate and certify Complementary and Alternative Medicine practitioners should consider participatory mechanisms that give communities a voice without compromising safety standards.

Policy implications of this study include the need to design public education programs that not only convey medical evidence but also address community narratives and concerns about access to and trust in healthcare. Policymakers should consider flexible integration models for example, two-way referral facilities between conventional medical services and trained Complementary and Alternative Medicine providers with appropriate quality oversight. For future research, in-depth qualitative designs such as ethnography or community case studies are recommended to explore the dynamics of traditional knowledge transmission and individual decision-making factors in everyday contexts. Furthermore, longitudinal studies can help understand how perceptions change as educational interventions or regulatory policies are implemented. Finally, a mixed research approach involving clinical safety indicators will enrich practical understanding without neglecting the sociocultural context.

4. CONCLUSION

This study shows that the majority of the public has a positive perception of complementary and alternative medicine, particularly among late adulthood, men, those with higher education, and those with experience using these methods. Knowledge, experience, and education level are important factors influencing these perceptions. Respondents understand the benefits, procedures, and potential risks of these treatments, such as herbal therapy, cupping, acupuncture, and practices by bone specialists.

Furthermore, the majority of the public views complementary and alternative medicine as having advantages such as being natural, cost-effective, and being a complement to conventional treatment. However, some still have negative perceptions, particularly regarding treatments that are not standardized or performed by incompetent practitioners. This highlights the need for clearer education and regulations to enable the public to make informed and safe treatment decisions. For further research, it is recommended to conduct in-depth qualitative studies (e.g. ethnography or in-depth interviews) to explore narratives of experiences and mechanisms of transmission of traditional knowledge within the community.

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