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## Research Article

### Descriptive Study: Characteristics of Information Search Behavior of Orthopedic Outpatient Clinic Service Users of Surabaya Rumah Sakit Islam (RSI) A. Yani Year 2023

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#### ABSTRACT

When making decisions about disease screening, prevention, and treatment, seeking health information is essential. Access to and methods of obtaining health information are impacted by digital transformation, including in the orthopedics sector. This study aimed to determine the sources of information used by patients at Surabaya Islamic Hospital (RSI) and how patients choose media related to orthopedic services. This study is a quantitative, descriptive, observational study involving 102 respondents and conducted in June 2024. Primary data were collected through a questionnaire covering 25 questions about treatment choices, media exposure, media satisfaction, and social demographics, which will later be analyzed using Microsoft Excel and SPSS. In this study, most respondents (279 vs. 228) sought orthopedic information through contemporary media. The most common sources of conventional and contemporary media were Instagram (47,1%) and family (55,9%), respectively. Conventional media accounted for the longest media usage duration ( $\leq 1$  hour per day; 69,7% vs 62,0%). Conventional media were used more frequently (76,8% vs 74,2%) - two to four times a day. Conventional media use was more frequent among respondents (57,9% vs 50,9%). Conventional media were found to be more satisfactory in terms of education, ease of interaction, and information search. In conclusion, Contemporary media offers higher satisfaction levels when seeking orthopedic information, despite conventional media being used more frequently. These findings emphasize the importance of considering both forms of media when marketing.



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## INTRODUCTION

The term "health information seeking behavior" describes how people look for information about diseases, risk factors, personal health, and health promotion initiatives (Lambert & Loiselle, 2007). People can make more informed decisions about disease screening, prevention, and treatment with the use of health information (Pieper et al., 2015). The way individuals seek information is influenced by several factors, including demographic characteristics such as age and education level, access to technology and information media, previous experiences, perceived health needs, and level of trust (X. Wang et al. 2020). Furthermore, access to health information is a necessary precondition for patient involvement in healthcare, which can result in improved health outcomes and reduced costs (Dean et al., 2017; Hibbard, 2017; Hibbard & Greene, 2013). Access to adequate health information is essential for improving personal health in a variety of ways.

The advancement of conventional technology leads to digitalization, which incorporates digital technology into many facets of society and business to enhance customer or service user experiences, generate new discoveries, and optimize operations. The health sector's digital transformation is crucial to improving healthcare services and addressing challenges in the medical field. The use of digital technology and the internet to develop new treatment methods and the best services to enhance health management practices is closely tied to the digital transformation of healthcare (Stoumpos et al., 2023). The quick development of information and communication technology has raised consumer expectations and demand for health information, which is continuously changing how people look for health information.

Patients have more access to a wider range of health information sources, such as websites, social media, and mobile devices, thanks to the close relationship between diversity, accessibility, and speed in the field of digital health (Wang et al., 2021). Online and offline health information searches have helped people learn more about their health issues, make better decisions when seeking medical care, and modify their behavior (Ghahramani & Wang, 2020; Lambert & Loiselle, 2007).

The practice of looking for health information online has become widespread. According to a recent survey of Europeans between the ages of 16 and 74, 55% of respondents look up health information online, a 21% increase since 2010 (Eurostat, 2021). The percentage of Asian nations that seek health information online has increased to 79%, 80%, 85%, and 86%, respectively (Wang et al., 2021). These countries include China, the Philippines, Hong Kong, and Vietnam. According to the Indonesian Internet User Profile Survey, the most popular content (36,96%) is health-related (Indonesian Internet Service Providers Association, 2023).

This trend is certainly utilized by digital marketing to market health services. Marketing plays an important role in the sustainability of a healthcare facility by creating, communicating, and providing value to its target market. Today, most healthcare organizations are focusing on fighting in the digital world. Content marketing strategies are not only about blogging and producing tangible results, but also about building a positive brand image in the community by focusing on the doctor-patient relationship (Lorin Purcarea, 2019). Healthcare companies must have a unique selling point to set themselves apart from rivals in the digital age and boost demand for their services. Social media, websites, and telehealth applications are just a few of the digital media frequently used by a large number of healthcare facilities, whether



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hospitals, health centers, or independent practice clinics (Shapoo, 2025). Social media helps businesses grow and connect with new clients or patients, which raises demand for their services.

The orthopedic clinic at RSI Surabaya has utilized digital communication as part of its healthcare service marketing strategy. However, patient visit data for 2023 shows that the number of new patient visits has declined consistently month to month, with no increase in December. This situation indicates that the marketing efforts may not have reached new potential patients optimally, given that the quality, service, and facilities are already very adequate. This decline cannot be separated from the limitations of RSI Surabaya's digital marketing reach, especially when compared to other hospitals in the surrounding area. Geographically, RSI Surabaya is located in an urban area surrounded by several other hospitals. RSI Surabaya is located within a radius surrounded by several competing hospitals, including ST. Vincentius a Paulo-RKZ Surabaya Catholic General Hospital (type B), William Booth Hospital (still type C), and RSAL (type A), which is located across the street. All hospitals around RSI Surabaya are also known to serve general patients and BPJS patients. This competitive environment requires a marketing strategy that is not only digital but also able to highlight service differentiation and reach a wider and more targeted audience.

Therefore, the decline in the number of new patients in 2023 can reasonably be attributed to limited marketing reach and strong competition among hospitals in the RSI Surabaya area, rather than solely to low demand for orthopedic services. This situation underscores the importance of conducting further research to identify the sources of information used by patients, as well as the characteristics and behaviors that influence their choice of

health communication media, as a basis for formulating a more effective and competitive digital marketing strategy for RSI Surabaya's orthopedic clinic services.

## METHODS

This study is a quantitative, descriptive, observational study of patients visiting the Orthopedic Clinic at RSI Surabaya. This study aims to determine the sources of information used by patients at RSI Surabaya to select media related to orthopedic services. This study will be conducted in June 2024. The sample size for this study was calculated using the Slovin formula, resulting in 94 respondents (margin of error = 0.05). The sampling method used is non-probability, namely accidental sampling, taking into account the study's inclusion and exclusion criteria. The inclusion criteria for the study are patients who have received orthopedic outpatient services at RSI Surabaya in the last six months, are at least eighteen years old, are digitally literate (Google Form), are willing to fill out the Google form, and are willing to participate in the study as respondents who meet the inclusion criteria for the sample. The exclusion criteria for the study were that patients and staff at RSI Surabaya Hospital who were unwilling to participate were excluded.

A Google Form-based online survey will be used as the research tool and disseminated via social media. There are 25 questions in the questionnaire, which will be broken down into 4 sections: i) 5 questions about socio-demographics; ii) 8 questions about exposure to contemporary and conventional media (4 questions each); iii) 8 questions about gratification from contemporary and conventional media (4 questions each, with 1 closed-ended and 3 open-ended questions); and iv) 4 questions about awareness and decision to seek treatment at the orthopedic clinic.



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Respondents will be asked to assess the frequency, duration, and consistency of the information sources used in the media exposure section (usage element). Based on the three factors of information search, social interaction, and education, respondents will be asked to assess their level of satisfaction with the information received from these sources in the media satisfaction section (satisfaction element). This media exposure and satisfaction questionnaire was modified from the questionnaire used in a study by Bahfiarti and Arianto (2022) that examined media exposure to COVID-19-related information in Makassar City (Bah and Arianto 2022). The questionnaire's validity was confirmed through a validity test, which

yielded a calculated  $r$  value greater than the table  $r$  value (0.3008) and a significance value ( $p$ )  $< \alpha$  (0.05) for each item. The instrument's reliability was further confirmed through a reliability test, which yielded a Cronbach's  $\alpha$  value above the critical threshold ( $>0.6$ ).

All data used have obtained ethical approval from Surabaya Islamic Hospital (RSI), with approval number 142.EC.KEP.RSIAY.06.24. Access to data is granted upon approval of the RSI Surabaya administration, and all data will be kept confidential. Microsoft Excel software was used for data processing and analysis. Descriptive data analysis was performed to describe the frequency of the processed data. In addition, Microsoft Excel software was also used to display the data visually.

## RESULTS

**Table 1.** Respondent Characteristics

Respondent Characteristics		Total n = 102	Percentage (%)
Gender	Male	50	49.0%
	Female	52	51.0%
Last education	Not in school/not graduated from elementary school	6	5.9%
	SD/MI/equivalent	8	7.8%
	SMP/MTs/equivalent	14	13.7%
	SMA/SMK/MA/equivalent	29	28.4%
	Diploma / Bachelor's degree	45	44.1%
Frequency of poly visits	1 time	14	13.7%
	2-3 times	40	39.2%
	4-5 times	14	13.7%
	> 5 times	34	33.3%
Source of patient information about orthopedic clinic RSI A.Yani Surabaya	People nearby	33	32.4%
	Referral from other doctors	17	16.7%
	Social media	26	25.5%
	Internet media	13	12.7%
	Telemedicine	7	6.9%
	Audio media	3	2.9%
	Print media	3	2.9%





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Main factors for visiting orthopedic clinic RSI A.Yani Surabaya	Referral from a general practitioner	20	19.6%
	Recommendation from friends or family	22	21.6%
	Strategic location	11	10.8%
	Reputation of an orthopedic specialist	29	28.4%
	Affordable service fee	3	2.9%
	Short waiting time	4	3.9%
	Ease of making appointments	1	1.0%
	Previous positive experience	2	2.0%
	Information from the media or advertisements	10	9.8%

**Table 2.** Conventional and Conventional Media Options

Media Type	Total (n = 102)	Percentage (%)
<b>Conventional media</b> (number of respondents = 228)*		
Health professionals (doctors, nurses, therapists, etc.)	56	54.9%
Family	57	55.9%
Friends/co-workers	55	53.9%
Television	16	15.7%
Radio	11	10.8%
Newspaper	10	9.8%
Magazine	10	9.8%
Other print media (pamphlets, brochures, etc.)	13	12.7%
<b>Conventional media</b> (number of respondents = 279)*		
Website	42	41.2%
Mobile application	42	41.2%
Youtube	31	30.4%
Instagram	48	47.1%
Twitter / X	17	16.7%
Facebook	17	16.7%
Tiktok	30	29.4%
WhatsApp	35	34.3%
Podcast	17	16.7%

\*Option answers are allowed more than one

There were 102 participants in this study. The majority of respondents in this study were men, according to their characteristics. Up to 44,1% of them had a diploma or degree. The majority of study participants were orthopedic poly patients who had made 2 to 3 visits to the poly in the previous 6 months. Of the patients who visited the orthopedic clinic at RSI A.Yani Surabaya, 32,4% were referred by their closest

friends and family, and 25,5% were referred by social media. The reputation of the orthopedic specialists at RSI A.Yani Surabaya (28,4%) and referrals from friends or family (21,6%) were the main reasons why patients selected this clinic.

Table 2 shows the number of media respondents commonly use to access information about orthopaedics. From the table, it can

**Table 3.** Utilization of Information Sources

		Conventional Media (Number of respondents = 228)		Conventional Media (Number of respondents = 279)	
		n	%	n	%
<b>Utilization of Information Sources (<i>Uses</i>)</b>					
Duration	≤ 1 hour	159	69.7	173	62.0
	1-2 hours	51	22.4	80	28.7
	2-3 hours	15	6.6	18	6.5
	3-4 hours	3	1.3	8	2.9
Frequency	2-4 times	175	76.8	207	74.2
	5-7 times	43	18.9	48	17.2
	8-10 times	8	3.5	21	7.5
	11-13 times	2	0.9	3	1.1
Consistency	Inconsistent	3	1.3	9	3.2
	Somewhat consistent	37	16.2	61	21.9
	Consistent	132	57.9	142	50.9
	Very consistent	56	24.6	67	24.0
<b>Satisfaction with Information Sources (<i>Gratification</i>)</b>					
Information search	Low satisfaction	7	3.1	44	15.8
	Medium satisfaction	74	32.5	88	31.5
	High satisfaction	147	64.5	147	52.7
Satisfaction with ease of interaction	Low satisfaction	22	9.6	44	15.8
	Medium satisfaction	59	25.9	104	37.3
	High satisfaction	147	64.5	131	47.0
Education Satisfaction	Low satisfaction	21	9.2	49	17.6
	Medium satisfaction	54	23.7	86	30.8
	High satisfaction	153	67.1	144	51.6

be seen that there are more respondents selecting conventional media than selecting conventional media (279 vs 228). A total of 55.9% of respondents chose family as the conventional source of information most often used to find out about orthopedics, while 47.1% chose Instagram as the latest information media used to find out about orthopedics. Newspapers and magazines (10,8%) were the least preferred conventional media, while Twitter, Facebook, and Podcasts (16,7%) were the least preferred.

The utilization of information sources in this study was examined in three aspects, namely duration, frequency, and consistency. In terms of daily duration, a higher proportion

of respondents across both media sources use ≤ 1 hour per day. However, the percentage of respondents who chose this option was higher for conventional information media sources (69,7% vs. 62,0%). Similarly, in terms of frequency of use per day, respondents tend to choose 2-4 times to access conventional and non-conventional information media sources, and the percentage is higher for conventional media use (76,8% vs 74,2%). The use of media sources with longer duration and frequency is more likely to occur in conventional media than in non-conventional media.

When it came to the consistency component, most respondents tended to select “consistent” when using both contemporary (57,9%)



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and contemporary (50,9%) media sources. Nonetheless, the consistency rate is higher when using contemporary media sources than when using contemporary ones. This is evident from the fact that more respondents selected “consistent” and “very consistent” for contemporary media (57,9% vs 50,9%; 24,6% vs 24,0%), but more selected “somewhat consistent” (21,9% vs 16,2%).

Three factors, satisfaction with information search, ease of interaction, and education, were used to assess satisfaction with the reasons for using information sources in this study. Regarding information search, 64,5% and 52,7% of respondents expressed high satisfaction with contemporary and contemporary media sources, respectively. Regarding ease of interaction, 64,5% and 47,0% of respondents, respectively, expressed high satisfaction with contemporary and contemporary media sources. Regarding education, 67,1% and 51,6% of respondents, respectively, expressed high satisfaction with contemporary and contemporary media sources. Conventional information sources received a higher percentage of respondents who selected high satisfaction for information retrieval, ease of interaction, and education than did conventional sources.

## DISCUSSION

According to the results, respondents preferred more recent, contemporary media sources when seeking information about orthopedics. According to a study, patients who are younger, have more education, and make more money are more likely to use the internet to look for information (Rao et al, 2022)

. Nonetheless, there are still a number of drawbacks to using online information sources, such as the accuracy and legitimacy of the data and the ability to conduct relevant keyword research (Clarke et al., 2016). According to the study's findings, the Instagram platform is

currently the most popular media outlet for health-related information (Nursanti, 2021).

The influence of conventional media sources, especially word-of-mouth (mouth-to-mouth) media, remains a major source of information with a greater impact on patients' decisions to seek orthopedic services than current media sources. This is further supported by research by Bahfiarti and Arianto, which revealed that contemporary media had a bigger impact on the spread of COVID-19 information among millennials than did the most recent media (Bahfiarti & Arianto, 2022). Health professionals, family members, and coworkers continue to be the primary sources of information, despite the fact that contemporary media remains a high source of information. The majority of respondents in this study chose their family as their primary source of conventional information media. The results of this study are in line with research by Clarke et al., which shows that family remains an important source of information for patients, especially when a family member has a similar experience with the disease (Clarke et al., 2016). Despite this study's results, another study found that doctors remain the most preferred source of information for patients undergoing mammography (Zhang, 2019).

The high level of trust respondents have in their families as a source of health information in this study can be explained by the collectivist socio-cultural context of Indonesian society. In this culture, families play an important role in decision-making, including decisions related to health. Information conveyed by family members is often considered more trustworthy because it is based on emotional closeness and shared experiences (Helman, 2009).

In addition, age and generational differences also influence information source preferences. Adult and elderly patients tend to rely more



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on interpersonal communication than digital media, so that the family acts as a filter and conveyor of health information (Atmojo et al., 2024).

These findings show that health information-seeking behavior is influenced not only by access to modern media but also by patients' social values and interpersonal relationships.

According to this study, the majority of participants use both contemporary and contemporary media sources two to four times a day for a duration of less than an hour. This outcome differs from contemporary media but is comparable to its use in Bahfiarti & Arianto's study. According to that study, people typically used conventional media three to four hours a day, eleven to thirteen times. According to the degree of consistency, the findings of this study are also consistent with that study, which found that a higher percentage of people use conventional media sources than contemporary ones (Bahfiarti & Arianto, 2022). The majority of respondents in this study tended to feel high satisfaction with both conventional and non-conventional media sources. The picture of high satisfaction is more prevalent when using conventional media sources. This was also shown in Bahfiarti & Arianto's research (Bahfiarti & Arianto, 2022).

There are differences in the use and preferences for health information sources across media types, both conventional and digital. Digital media such as Instagram, YouTube, and instant messaging applications show a relatively high proportion of use compared to conventional media. However, the high frequency of digital media use does not always reflect the same level of credibility (Y. Wang et al., 2020).

Conventional media and interpersonal sources, such as family or health workers, tend to be perceived as more credible because they are

considered to have authority, direct experience, and higher information accuracy. Conversely, digital media is more commonly used for its ease of access, speed, and completeness of information, though trust varies depending on the source and the validity of the content. These differences indicate that patients not only consider the availability of media in their search for health information, but also assess the credibility of sources based on the reliability, experience, and legitimacy of the information received.

This study has several limitations that need to be considered when interpreting the results. First, the sampling method used non-probability sampling and respondent recruitment via an online questionnaire, which has the potential to introduce selection bias, especially among patients with greater digital literacy. This condition may affect the representativeness of the sample of the entire population of orthopedic outpatients. Second, the use of online media for data collection can introduce recruitment bias, as patients without access to or the skills to use digital technology may not be included in this study. Third, the relatively short data-collection period limits the study's ability to capture variations in patient information-seeking behavior over a longer period. Fourth, the descriptive research design only describes rather than connects. Nevertheless, this study provides a relevant initial description of the characteristics of orthopedic outpatient information search behavior, which can serve as a basis for further research with a stronger methodological design.

## CONCLUSION

According to this study, respondents use contemporary media more often than conventional media to obtain orthopedic information. Family is the most trusted source of contemporary information, but Instagram is





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the most widely used contemporary platform. Respondents generally spend less than an hour a day using contemporary and conventional information media, with conventional media dominating. Respondents use conventional media more frequently, logging in two to four times a day. Respondents use contemporary media more consistently, based on consistency aspects. Respondents who show high consistency in media use are more likely to use conventional media than contemporary media. In terms of satisfaction, respondents are more satisfied with conventional media for information retrieval, ease of interaction, and education. The percentage of high satisfaction with these three aspects is higher in conventional media than in contemporary media. Overall, although conventional media is used more often, it provides a higher level of satisfaction for respondents when accessing information about orthopedics.

To maintain high satisfaction levels, RSI A.Yani Surabaya needs to make optimal use of modern media and create engaging, interactive content for platforms such as Instagram to reach a wider audience. Patient satisfaction and engagement can be effectively improved by combining modern and contemporary marketing techniques. To ensure the quality and effectiveness of ongoing marketing campaigns, marketers must receive regular training and evaluation. However, research findings need to be interpreted with consideration of the study's limitations, particularly regarding non-probability sampling methods, online respondent recruitment, and a descriptive research design that may limit generalizability and causal inference.

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