Brief communication

Using WhatsApp as a tool for monitoring palliative care

DOI: 10.5377/alerta.v9i1.20350

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Uso de WhatsApp como herramienta para el seguimiento en cuidados paliativos

Suggested citation:
Magaña HA, López-Saca M, Rodríguez M. Using WhatsApp as a tool for monitoring palliative care. Alerta. 2026;9(1):54-59. DOI: 10.5377/alerta.v9i1.20350

Editor:
David Rivera.

Received:
June 2, 2025.

Accepted:
December 18, 2025.

Published:
January 31, 2026.

Author contribution:
HAM[1], MLS[2]: study conception. HAM[1]: manuscript design, literature search, data collection. MR[3]: data or software management, data analysis, writing, revising and editing.

Conflicts of interest:
No conflicts of interest.

Abstract
Introduction. There is a growing need to explore new technological tools to improve the quality of life for patients and caregivers in the context of chronic and terminal illnesses. WhatsApp has become an everyday communication tool familiar to many users. This tool has been little explored, despite its potential to facilitate healthcare in informal care settings. **Objective.** Explore the experiences of family members of patients with advanced cancer who received a telemedicine program via WhatsApp application in the context of home-based palliative care. **Methodology.** A descriptive study was conducted. A structured questionnaire was administered to caregivers of advanced cancer patients who died at home and received palliative care through a telemedicine model using WhatsApp as the primary means of communication. **Results.** Fifty-three caregivers were included in the study, 77.4 % of caregivers reported that WhatsApp was very easy to use, 94.3 % felt very satisfied, and all family members surveyed felt very supported. **Conclusion.** The results suggest that WhatsApp may be a helpful communication tool for home-based palliative follow-up, according to caregiver perceptions. However, further research using qualitative or mixed-methods approaches is needed to better understand its impact, benefits, and limitations in this context.

Keywords
Palliative Care, Telemedicine, Remote Patient Monitoring.

Resumen
Introducción. Existe una creciente necesidad de explorar nuevas herramientas tecnológicas para mejorar la calidad de vida de pacientes y cuidadores en el contexto de enfermedades crónicas y terminales. WhatsApp se ha convertido en una herramienta de comunicación de uso cotidiano, con la cual posee amplia familiarización. Esta herramienta ha sido poco explorada, a pesar del potencial que posee para facilitar la atención en salud en contextos de cuidado informal. **Objetivo.** Explorar las experiencias de los familiares de pacientes con cáncer avanzado que participaron en un programa de seguimiento de telemedicina, a través de la aplicación de WhatsApp, en el contexto de los cuidados paliativos domiciliares. **Metodología.** Se realizó un estudio transversal descriptivo. Se aplicó un cuestionario estructurado a cuidadores de pacientes con cáncer avanzado, que fallecieron en el domicilio y que recibieron atención paliativa a través de telemedicina, utilizando WhatsApp como medio principal de comunicación. **Resultados.** Se incluyeron 53 cuidadores, el 77,4 % de los cuidadores reportó que WhatsApp fue muy fácil de utilizar, el 94,3 % se sintieron muy satisfechos, todos los familiares encuestados se sintieron muy apoyados. **Conclusión.** Según la percepción de los cuidadores, WhatsApp podría representar una herramienta de apoyo útil en el seguimiento paliativo domiciliario. No obstante, se requieren investigaciones adicionales, con enfoques cualitativos o mixtos, para comprender más profundamente su impacto, beneficios y limitaciones en este contexto.

Palabras clave
Cuidados Paliativos, Telemedicina, Monitorización Remota de Pacientes.

Introduction

The implementation of a multidisciplinary approach to palliative care at the hospital level has been demonstrated to improve symptoms and quality of life in patients diagnosed with advanced oncological diseases.[1,2] However, hospital care can present significant challenges for patients and their families, who may encounter social and economic risk factors that complicate transition to a care center.[3,4]

Within families, caregivers of terminally ill cancer patients face a significant emotional and physical burden, so any tool that can facilitate their work and improve their well-being is of great value.[4-6] It is important to provide families with basic educational tools to help them manage some of the patient's emotional and comfort needs at home, which can be facilitated through telemedicine.[3,4,6-9]

There is a growing need to explore new technological tools to improve the quality of life of patients and caregivers in the context of chronic and terminal illnesses.[5,9-11] WhatsApp has become an everyday communication tool; with the potential to improve healthcare, particularly in informal care contexts; however, this is an under-explored area.[10-14]

The purpose of this study is to describe the experience of family caregivers of terminally ill cancer patients who participate in a telephone follow-up program via WhatsApp, to identify their perceptions, needs, and the impact of this tool on the end-of-life process of patients in palliative care; it also aims to identify the clarity of medical recommendations and the benefits perceived by caregivers when using WhatsApp as a communication tool with the health team.

Methodology

Study design, population, and sample

A descriptive cross-sectional study was conducted.[15-17] We took a non probabilistic convenience sample.[16] The population consisted of the caregivers of 64 patients with advanced cancer at the Dr. Juan José Fernández Zacamil National Hospital who received palliative care via telemedicine and died at home, with advance directives, between January 2021 and December 2022. Dr. José Fernández Zacamil National Hospital is a secondary-care hospital in San Salvador, El Salvador.

Inclusion criteria

Caregivers of patients with advanced cancer who received palliative care via telemedicine and who communicated with the healthcare team via WhatsApp for support and symptom management; patients who died at home in accordance with their end-of-life wishes and who had signed informed consent to participate in the study.

Instruments and data collection

To develop the data collection instrument, the unit's palliative care team held consensus meetings to evaluate the aspects considered relevant to the research, taking into account data on sociodemographich characteristics and the use of telemedicine. The responses were categorical, and the content of the questionnaire was validated by the unit team.

The questionnaire was organized into two sections. The first section included sociodemographic questions such as age, sex, place of residence, area, kinship, and highest level of education attained. In the second section, aspects related to the use of telemedicine were evaluated, and participants were asked about the communication tool they used most frequently (video call, WhatsApp message, or phone call). In addition, participants rated the ease of use of the tool as "very easy," "easy," "difficult," or "I don't know," and the promptness of the response was rated as "very prompt," "moderately prompt," "not prompt," or "I don't know."

Participants rated the quality of the information received about the patient's condition, indicating whether it was the same as that received by a hospitalized patient or lower in quality. In addition, the physicians' instructions were classified according to clarity as "very clear," "not very clear," "not clear enough to carry out," and "I don't know." To assess symptom control through telemedicine, a visual numerical scale from zero to ten was used, where zero was "no relief", and ten was "very relieved."

Participants also rated the support received during their family member's end-of-life process as "very supportive," "moderately supportive," "not supportive at all," and "I don't know"; and satisfaction with the use of telemedicine was measured as "very satisfied," "moderately satisfied," "not satisfied at all," and "I don't know."

Data were collected using a structured questionnaire administered via Google Forms. Caregivers were contacted by phone and invited to participate on a voluntary basis.

Data analysis

We organized and processed the data using digital spreadsheets. We calculated absolute (n) and relative frequencies (%) for each questionnaire variable: age, gender, area and place of residence, educational level, and relationship to the patient. The type of cancer was also classified by the anatomical systems affected. To facilitate descriptive analysis, it was classified into gastro-pancreatic tumors, gynecological tumors, respiratory tract tumors, soft tissue tumors, and others. Regarding the dimensions of telemedicine use, the categories

described above in the section on the instruments used were analyzed.

Ethical considerations

The study was approved by the Health Research Ethics Committee of Dr. José Matías Delgado University, Act No. 16. All participants signed an informed consent form before data collection began. The confidentiality of responses was guaranteed by anonymizing the data.

Results

Sociodemographic and clinical aspects

The final analysis included 53 caregivers who completed the questionnaire. It was observed that 92.5 % of the family members surveyed were women. In terms of location, 73.6 % were from urban areas and 69.8 % were from the department of San Salvador. Also, the caregiver's relationship to the patient treated by telemedicine: in 58.5 % of cases, the patient was the caregiver's father or mother; in 9.4 % of cases, the patient was a brother or sister; in 7.5 % of cases, the patient was a son or daughter; and in 24.5 % of cases, the patient was another relative. Regarding the educational level of the caregivers surveyed, 43.4 % had a university degree, 26.4 % had a high school diploma, 17 % had a secondary school education, 11.3 % had a primary school education, and 1.9 % had no formal education. The sociodemographic data are shown in Table 1 .

Regarding the clinical data of patients in palliative care, gastroenteropancreatic tumors were present in 54.7 % of cases, gynecological tumors in 26.4 %, respiratory tract tumors in 9.4 %, soft tissue tumors in 5.7 %, and other tumors in 3.8 %.

Aspects of the use of telemedicine

The communication tools used for palliative care via telemedicine were: WhatsApp text messages (81.1 %), video calls (13.2 %), and phone calls (5.7 %). In terms of ease of use, family members reported that 77.4 % was "very easy," 20.8 % was "easy," and 1.9 % was "difficult." Regarding the promptness of the healthcare team's response, 98.1 % rated it "very prompt," while 1.9 % of cases rated it "moderately prompt." Regarding satisfaction with the use of telemedicine, 93.3 % of family members responded being very satisfied, and 5.7 % were moderately satisfied.

Table 1. Sociodemographic characteristics of the sample (n = 53)

Variable		n	%
Age	18 to 28 years	8	15.1
	29 to 39 years	10	18.9
	40 to 50 years	26	49.1
	51 to 61 years	7	13.2
	≥ 62 years	2	3.8
Sex	Female	49	92.5
	Male	4	7.5
Place of residence	San Salvador	37	69.8
	Outside San Salvador	16	30.2
Area	Urban	39	75.0
	Rural	13	25.0
Relationship	Brother/sister	5	9.4
	Child	4	7.5
	Father/mother	31	58.5
	Other	13	24.5
Academic level	None	1	1.9
	Primary	6	11.3
	Secondary	9	17.0
	High school	14	26.4
	University	23	43.4

Regarding the quality of information provided through telemedicine, 94.3 % of family members stated that it was "of the same quality as if they were in the hospital", and 5.7 % stated that it was "of lower quality." Similarly, 100 % described the clarity of the instructions given by doctors to family members during palliative care as "very clear" to carry out. Regarding symptom control through telemedicine, the median was 9 and an interquartile range was 8-9. In addition, all family members surveyed reported feeling "very supported" by palliative care via telemedicine. These results are shown in Table 2.

Discussion

This exploratory study investigated the experience of family caregivers of patients with advanced cancer in the context of a WhatsApp follow-up program as part of a home palliative care strategy using telemedicine. The findings suggest that this tool may have the potential to be helpful for communication between caregivers and healthcare teams, particularly in scenarios where access to in-person services is limited. Other studies have observed positive results, not only for family members and patients, but also for healthcare providers.[7,11,18,19]

Most caregivers reported that communication via WhatsApp was easy to use and positively valued the promptness of the healthcare team's responses. This type of immediate response may have contributed to a greater perception of support and symptom control among patients, however, it is important to interpret these results with caution, given the self-reported nature of the data. In a study conducted by Sánchez-Cárdenas *et al.*, (2023), 100 % of patients reported being extremely or somewhat satisfied with symptom management. Other studies have shown that the use of telephone follow-up by specialist oncology nurses can play an important role in symptom control for patients and families, especially in terms of emotional distress and fatigue, however, this may vary depending on the type of symptom.[3,5,13,19]

Nevertheless, further exploration is needed to determine the extent to which these perceptions translate into objective clinical benefits.

It is important to recognize that the present study does not allow causal relationships to be established, nor can the findings be generalized to other contexts. In addition, the sample was selected for convenience and was limited to caregivers from a single palliative care center. Furthermore, the use of a structured questionnaire, although useful for collecting data systematically, may not have captured in depth the subjective and emotional dimensions of the caregivers' experience. Also, some responses, such as those regarding the clarity of medical instructions, are susceptible to self-selection and social acceptability bias.

Despite these limitations, the results provide valuable information on the possibilities of using instant messaging tools in end-of-life care. Furthermore, they can guide future lines of study on the role of instant messaging technologies in palliative care through qualitative studies, with interviews or focus groups, which could broaden our understanding of the significance of this modality for caregivers, as well as its ethical, emotional, and relational implications.

Table 2. Aspects related to the use of telemedicine

Variable		n	%
Ease of use of telemedicine	Very easy	41	77.3
	Easy	11	20.7
	Difficult	1	1.8
Promptness	Regularly prompt	1	1.8
	Yes, very prompt	52	98.1
Quality of information	Lower quality	3	5.6
	Same level of quality	50	94.3
Clarity of instructions	I don't know	0	0
	Not clear enough to follow	0	0
	Not very clear on how to implement them	0	0
	Yes, very clear to implement	53	100
		Median	Interquartile range
Perception of symptom control		9	8 - 9

Conclusion

The findings of this exploratory study suggest that using WhatsApp as a monitoring tool in home palliative care could be perceived positively by family caregivers in terms of accessibility, communication clarity, and perceptions of support from the healthcare team.

Although these results demonstrate the potential of this technology in contexts with limited access to in-person services, caution is needed in interpreting them.

Acknowledgements

To the staff of Dr. Juan José Fernández Zacamil National Hospital for their institutional support for this study.

Funding

No external funds were received for this work.

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