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Canadian Jr. of Clinical Perf. Evaluation Malpractice

Impact of proper multidisciplinary communication and ownership on patient outcomes and rate of adverse events: Systematic Review and Meta Analysis

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Abstract: Context: Collaboration across different disciplines in healthcare settings is a crucial element that impacts patient outcomes and the occurrence of adverse events. This systematic review and meta-analysis seek to consolidate evidence from multiple studies to assess the influence of efficient interdisciplinary communication and team ownership on patient outcomes and the occurrence of adverse events in healthcare. Method: The study approach for this systematic review and meta-analysis entails doing an extensive search across many electronic databases, such as PubMed/MEDLINE, Embase, Cochrane Library, PsycINFO, and CINAHL. The search technique will utilize a blend of keywords and Medical Subject Headings (MeSH) concepts like "multidisciplinary communication," "ownership in healthcare," "patient outcomes," "adverse events," "systematic review," and "meta-analysis." The utilization of Boolean operators (AND, OR) and truncation will be employed to optimize search sensitivity. Results: Out of the total of 1063 articles initially considered, only 15 articles were found to match the specified criteria for inclusion. A PRISMA chart visually represents the quantity of articles that were identified, screened, and ultimately included in the final review. The articles underwent a final evaluation and were categorized accordingly. A concise summary of the pertinent information taken from each study is provided. Conclusion: Multidisciplinary team (MDT) meetings have a significant influence on patient assessment and management procedures. Nevertheless, there was scant evidence suggesting that MDT meetings led to enhancements in clinical results. Subsequent studies should evaluate the influence of MDT meetings on patient contentment and overall well-being, as well as the frequency of referrals between different fields of expertise.

Citation: Elmalky AM. Impact of proper multidisciplinary communication and ownership on patient outcomes and rate of adverse events: Systematic Review and Meta Analysis. Canad. Jr. Clin. Perf. Eval., 2024, 1, 13, 182-192.

Academic Editor: Paul Weber
Received: 13 January 2024
Revised: 29 February 2024
Accepted: 19 March 2024
Published: 24 March 2024

1. Introduction

Due to the inherent complexity of healthcare delivery, it is imperative to ensure patient safety and attain optimal results through the establishment of effective collaborations among multiple disciplines. It is critical to reduce adverse events, which significantly contribute to patient morbidity and mortality, through interdisciplinary collaboration. This article examines the impact of multidisciplinary team functioning on patient outcomes in healthcare settings.

Acute care is frequently provided by hospital-based multidisciplinary teams comprised of personnel at various staff levels, including physician assistants, aides, nurses, physical therapists, social workers, anesthesiologists, and attending physicians.

These teams outperform the random assignment of personnel to the emergency room (ER) on a consistent basis. The Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium with proper attribution to the original author and source, governs this distribution.

The wards, the Intensive Care Unit (ICU), the operating room (OR), and additional areas are included. These "teams" serve to facilitate the dismantling of barriers to communication among specialists, thereby encouraging improved collaboration among all professionals. The implementation of cohesive teams effectively mitigates the

incidence of adverse events, including morbidity and mortality, thereby resulting in enhanced patient outcomes, decreased length of hospitalization, and heightened patient satisfaction.

Additionally, the "staff" is characterized by improved work performance, fewer adverse events and complications, decreased expenses, and increased job satisfaction. Furthermore, hospitals and their "staff" alike benefit from increased rates of retaining seasoned professionals. For the benefit of the patient, the personnel, and the institution as a whole, we must ensure the cohesion of these "multidisciplinary teams" through continued collaboration with hospital administrators.

2. Methodology

In order to identify studies that investigated the correlation between multidisciplinary communication, team ownership, and patient outcomes, an exhaustive literature search was undertaken. Empirically supported studies that examined the effects of interdisciplinary collaboration on patient outcomes and adverse events were deemed suitable for inclusion in the analysis.

In order to conduct this systematic review and meta-analysis, an exhaustive search was conducted in numerous electronic databases, such as PubMed/MEDLINE, Embase, Cochrane Library, PsycINFO, and CINAHL. A combination of Medical Subject Headings (MeSH) and keywords will be utilized in the search strategy, including "multidisciplinary communication," "ownership in healthcare," "patient outcomes," "adverse events," "systematic review," and "meta-analysis." Truncation and Boolean operators (AND, OR) will be applied in order to optimize the sensitivity of the search.

Inclusion and exclusion criteria

The investigation will include research articles written in the English language and involving human subjects. The selection process for studies will center on research that investigates the effects of ownership and multidisciplinary communication on patient outcomes and adverse events. On the other hand, irrelevant studies or those that do not provide full-text access will be omitted according to the exclusion criteria. The literature search will encompass studies published between 2010 and the present in order to guarantee its relevance. The data will be extracted utilizing a standardized form, which will be utilized to record pertinent study attributes, participant demographics, intervention particulars, evaluated outcomes, and results. The quality of the studies that are included in the review will be assessed using suitable tools, and the synthesis of data will employ meta-analysis techniques to aggregate quantitative data.

3. Results

Out of the 1063 articles that were initially obtained, 15 were determined to satisfy the inclusion criteria. The quantity of articles that underwent identification, screening, and inclusion in the final review is illustrated in Figure 1. A final assemblage of articles was assessed and categorized. A summary of the pertinent data extracted from each of the investigations is provided in the table that follows.

Poor communication and collaboration among healthcare professionals are accountable for a significant proportion of reported adverse events, according to the review. Interdisciplinary collaboration that is effective, as posited by King's theory of goal attainment, is capable of yielding substantial enhancements in patient outcomes [1]. Moreover, it has been demonstrated that "well-oiled machines" comprise multidisciplinary in-hospital teams, which serve to restrict adverse events, elevate patient and employee satisfaction, and enhance the quality of healthcare as a whole.

Figure 1. Study selection process. Adapted from: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement

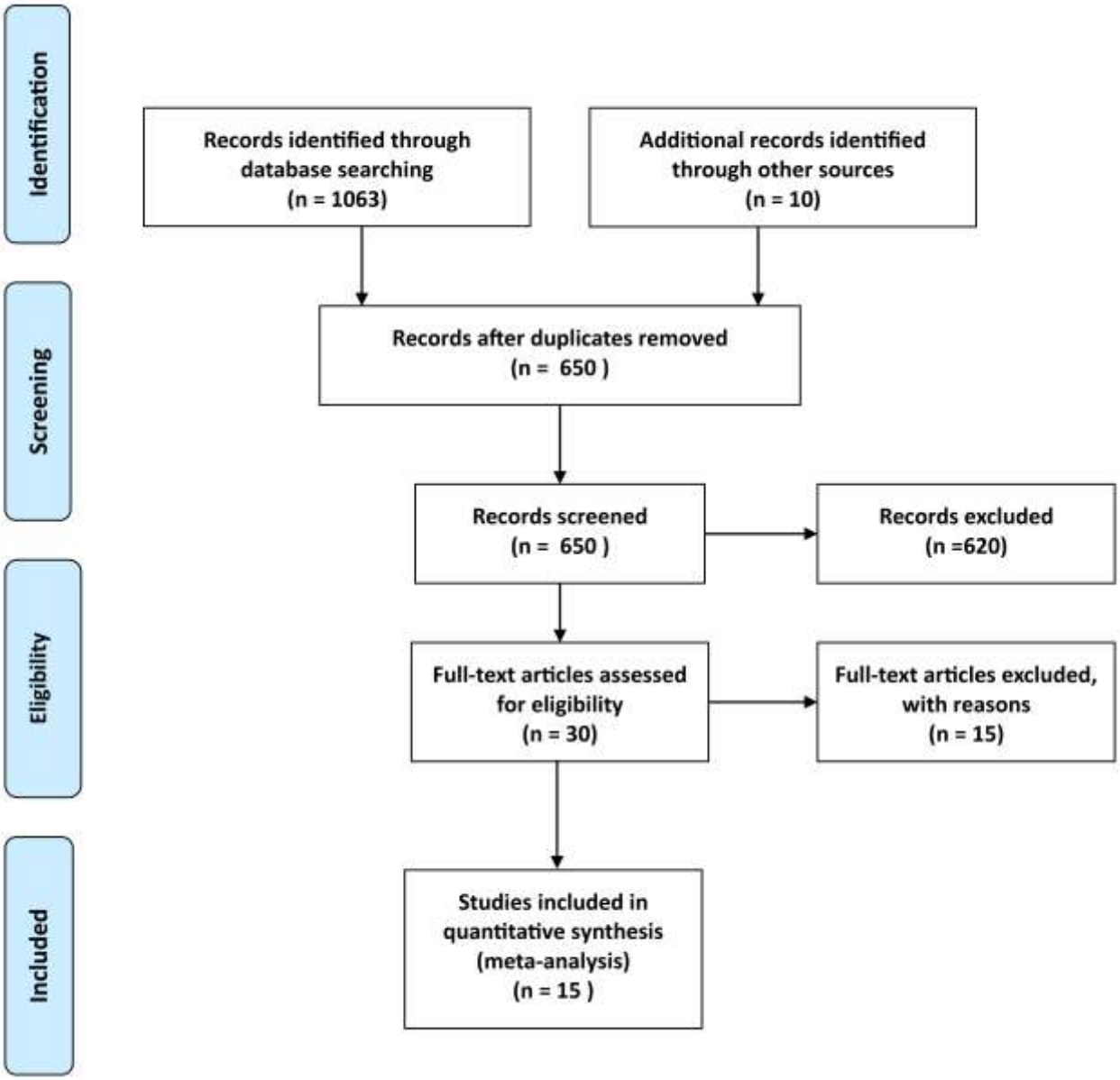


Table1: Summary of studies included in the review.

Reference	Study design	Multidisciplinary team	Outcome	Findings
Taberna et al, (2022)	Pre- and post-test design, with comparison groups	Specialists in esophageal and gastric surgery, gastroenterology, medical and radiation oncology, radiology, pathology, nutrition, clinical nursing, research, and trainees in the medical and surgical fields made up the weekly MDT meeting.	Final histopathological categorization (pTNM) compared to each modality's stage and the results of the subsequent MDT conference to establish staging accuracy.	Results from separate staging modalities taken before an MDT meeting were less accurate (88–89%) than those from the meeting itself.
Abe et al, (2023)	Cluster-randomized (Unit-level) hybrid effectiveness implementation trial	Surgeons, radiologists, clinical nurse specialists, medical and clinical oncologists, and histopathologists were among the key medical staff members that attended the MDT conference	Fifteen multi-detector tumor scans (MDTs) including eleven different tumor types were used to compile the data set.	After the MDT conference, 87.6% (n = 71) of patients' consultant management plans were in sync with their actual plans.
Galsgaard, et al, (2022)	Post-test only design, with comparison group	Medical, radiation, and thoracic surgeons, as well as gastroenterologists and radiologists, met bimonthly for the MDT meeting.	Time from diagnosis to treatment, multimodality treatment, multidisciplinary examination prior to therapy beginning, complete staging, and adherence to NCCN recommendations	When compared to the group treated before the MDT conference was established, the group that underwent the conference had better adherence to NCCN guidelines, received more thorough staging evaluations and multidisciplinary evaluations before therapy, and had fewer mean days from diagnosis to treatment.
Parajuli et al, (2022)	Uncontrolled pre–post study	The multidisciplinary MDT meeting took place once a week and included urologists, radiation oncologists, radiologists, research nurses, and trainees from other fields.	Revised course of therapy Plan change with little impact: if the MDT meeting supported the clinician's plan with only minor adjustments where a physician makes a major adjustment to their plan or creates a plan where none existed before, this is considered a high impact change.	Meetings of the MDT led to significant revisions to the initial plan in 26.7% of instances. Metastatic disease patients were twice as likely to undergo high impact changes as non-metastasized patients. The rate of cross-referral varied significantly across cancer types, with 66.7% for testicular cancer, 42% for bladder cancer, 26% for prostate cancer, and 19% for kidney cancer. Cross-referral occurred in 33.3% of cases overall. Regarding the effect of MDT meetings on clinical decision-making, there is no variation across different disciplines.
Epstein, N. E. (2014).	Post-test only design with comparison group	No description	Efficacious adjuvant therapy proportion of patients	Inclusion in multidisciplinary team consultation increased the likelihood of successful adjuvant therapy for patients by almost three times compared to exclusion from consultation.
Hickman et al, (2015)	Prospective, stepped wedge, non-randomized, cluster controlled trial	Every week, two locations participate in a videoconference meeting of the MDT. Radiation oncologists, medical oncologists, cardiothoracic surgeons, radiologists, nuclear medicine doctors, palliative care doctors, lung cancer care coordinators, and trainee experts are all expected to attend this gathering.	Factors such as the kind of treatment (radiation or chemotherapy), the goal of treatment (curative or palliative), the patient's prognosis, and the duration between diagnosis and treatment	After adjusting for patient age, tumor histology, tumor stage, and performance status, an MDT meeting remained an independent predictor of obtaining radiation, chemotherapy, and referral to palliative care. Patients who did not participate in MDT meetings had a shorter time to treatment (palliative chemotherapy) after diagnosis, but this did not correlate with a better chance of survival.
Pillay et al, (2015)	Post-test only design, with comparison group	No description	Cancer staging and adjuvant radiation	Preoperative staging was comprehensive for 96% of patients who were addressed at the MDT conference, while for 63% of patients who were not, the percentage was lower.
Riley, J. P., & Masters, J. (2016).	Pre- and post-test design	The primary participants of the weekly MDT meeting were oncologists, radiologists, pathologists, and surgeons. Additional members comprised of nurse specialists, younger physicians, and others	Updates to the patient's care plan; determining the opportunity, direct, compensation, and overhead expenses of holding an MDT meeting	The patient's care plan after MDT was different from the original treatment approach recommended by the supervising colorectal surgeon in 6% of the instances examined. At the MDT conference, new clinical information was presented, which caused a shift in management decision-making.
Saint-Pierre, C., Herskovic, V., & Sepúlveda, M. (2018).	Post-test only design, with comparison group	Medical, radiation, and thoracic surgeons, as well as gastroenterologists and radiologists, met bimonthly for the MDT meeting	Time from diagnosis to treatment, multimodality treatment, multidisciplinary examination prior to therapy beginning, complete staging, and adherence to NCCN recommendations.	When compared to the group treated before the MDT conference was established, the group that underwent the conference had better adherence to NCCN guidelines, received more thorough staging evaluations and multidisciplinary evaluations before therapy, and had fewer mean days from diagnosis to treatment. Number of patients who received neo-adjuvant or radiation chemotherapy did not vary significantly among groups.
Patel et al, (2019)	Pre- and post-test design	Cancer specialists specializing in gynecologic oncology, radiation oncology, and medical oncology gathered weekly for tumor board meetings. A gynecologic pathologist, obstetrics and gynecology resident, and radiology specialist give the patient's history and examination results during the conference	Alterations to the pathology report, the interpretation of radiographs, and the care given to the patient	A total of 27% of patients (n = 140) who underwent pathology review had a change in their diagnosis, such as a malignancy diagnosis, a change in cancer kind, or an upstaging. In 74% of these patients, there was a change in their patient care.
Shao et al, (2019)	Prospective, stepped wedge, non-randomized, cluster controlled trial	Professionals from various fields attended MDT sessions, as determined by the medical center's procedures. Radiologist, medical oncologist, pathologist, and surgeon were the most common types of medical professionals found in the centers that were assessed.	Receiving treatment recommendations based on cancer stage; surviving	A number of socio-demographic and clinical variables were accounted for in the analyses. These included patients' tumor grades, years of diagnosis, Charlson comorbidity scores, stages, and types of cancer.
Soukup et al, (2019)	Pre- and post-test design Prospective study;	Genetics, social work, spiritual care, clinical research coordinators, and other non-genitourinary medical specialists were available to supplement the MDT meeting's roster of urology, radiation oncology, medical oncology, radiology, and pathology experts.	Revised prognosis and course of therapy	The diagnosis and/or treatment of 38% of patients were altered. The care of bladder cancer patients was most affected by MDT meetings (50% of patients had a change of diagnosis and/or therapy)
Gautam, P., & Shankar, A. (2023).	Uncontrolled pre–post study	During the MDT meeting, a team of medical experts—including a pathologist, a radiologist, a cancer specialist, and a colonoscopist—formally discussed potential treatment plans.	variables such as disease-specific and overall survival rates, local recurrence incidence, duration of survival (from surgery date to death or end of follow-up), residual pelvic tumor after surgery, metastases, and therapy given	The kind of surgery performed was unaffected by MDT meetings. There was an increase in downstaging and curative resections due to the increased use of neoadjuvant treatment (radio-chemotherapy or long-term radiation) for patients who were addressed in MDT meetings. There was no significant difference in the rates of local recurrence or incidence of metastases across the groups for individuals who had R0 or R1 resections.
Manla et al, (2023)	Post-test only design, with comparison group Population-based data	The members of the multidisciplinary cancer team (MDT) included a specialist nurse, a surgical oncologist, a radiation oncologist, a medical oncologist, a surgical oncologist radiologist, and a consultant oncologic surgeon. If there is evidence that patients were addressed in an MDT meeting either at the referral institution or the specialized gastrointestinal cancer MDT prior to surgery, then it may be concluded that patients were discussed at the MDT meeting.	Criteria for a positive CRM, imaging modality for preoperative staging, TNM classification, and therapy	Although there was no difference in the overall CRM + rate between the groups of patients who were and were not addressed at the MDT meeting, the patients whose cases were reviewed at the meeting had more comprehensive TNM staging and more frequent use of MRI.
Tarrant, C., Lewis, R., & Armstrong, N. (2023).	Uncontrolled pre–post study	Regular gatherings attended by a radiation oncologist, a medical oncologist, and a head and neck surgeon. Experts in fields such as neurosurgery, plastic surgery, radiography, oral, maxillofacial, and dental surgery, and social work often attend these meetings.	Modifications to the diagnostic, stage, and treatment regimen	Diagnoses and treatments were revised for 3% of patients. Only sixteen percent of patients had their treatment plans altered, while eight percent had their diagnoses changed. After the MDT conference, only 27% of patients experienced a shift in their diagnosis or course of therapy. Cases with malignancy, as opposed to benign tumors, were far more likely to have a change in therapy after an MDT meeting.

MDT communication meeting

The majority of the articles (89%) provided a brief overview of MDT sessions that were held at various institutions. With the exception of one study that documented a daily meeting schedule, MDT sessions were held either weekly or fortnightly. Meeting frequency data was missing from seven of the investigations. Specialists in medical oncology, radiation oncology, pathology, surgery, radiology, and nurse practitioners made up the majority of the members of the multidisciplinary cancer team (MDT).

The effect of MDT sessions on different results The effects of MDT sessions on patient assessment and diagnosis were the subject of ten studies. Revisions to diagnostic reports were made for a range of 4% to 35% of patients, according to prospective studies that investigated changes in assessment and diagnosis after an MDT conference. Some of the features that underwent these alterations were the tumor's stage, main location, histology, and pathological grade. A minor number of patients had variations in their diagnosis following the MDT meeting, according to three out of five retrospective audit examinations. The percentage ranged from 4.9% to 6.9%. Two retrospective studies did find that patients' diagnoses changed more often after an MDT meeting. A research found that pathology reviews conducted during Multidisciplinary Team (MDT) meetings led to a revision in the diagnosis for 27% of gynecological cancer patients [1]. Radiological evaluation at the MDT conference showed new cases of cancer in 10% of the patients involved in this study.

According to the results of the retrospective research, many breast cancer patients who were sent to a tumor board for a second opinion had their radiologic or pathologic diagnoses changed. A multidisciplinary team (MDT) meeting significantly improved patient care, according to all six studies that compared the evaluation and diagnosis of patients who participated in the meeting to those who did not. A comprehensive preoperative staging was performed on 96% of rectal cancer patients who were discussed at the MDT meeting, according to Abe et al. [2]. On the other hand, the same degree of staging was only applied to 63% of patients who were not addressed. Following the conference, further research showed that compared to using individual staging methods, the MDT meeting improved the accuracy of staging for gastroesophageal cancer patients. This improvement allowed for a more precise evaluation of nodal disease in this particular group of patients [3]. Patients with rectal, esophageal, or lung cancers who had therapy before to the MDT conference were also less likely to have an accurate assessment of their cancer stage than those whose treatment occurred after the conference, according to three additional studies. The authors also discovered that rectal cancer patients whose cases were addressed at MDT meetings were more likely to get magnetic resonance imaging (MRI) scans than patients whose cases were not [4,3]. This finding is consistent with how well staging works.

Management of patients

Thirteen of the fifteen studies looked at clinical practice and patient management in some way. Some of the options that were considered included sending the patient to other clinical specialties, using chemoradiation or radiotherapy, undergoing dramatic or minimally invasive surgery, and adjuvant or neoadjuvant chemotherapy. Less than nine percent of patients in three prospective trials [1] showed improvements in clinical care as a result of therapy and/or practice changes after the MDT meeting. Significant improvements in patient care were associated with MDT discussion in the four remaining prospective studies. From 18% to 34.5 percent of patients had their treatment programs altered, according to the findings [8–15]. Patients with bladder cancer, rather than kidney cancer, were more likely to have their treatment plans revised, according to one research [13].

With a pre- and post-test design, retrospective studies found that 4.5% to 52.0% of instances saw modifications to the patient treatment plan after an MDT meeting [11]. Medical professionals often reevaluated diagnostic data, such as imaging findings and/or pathology, and adjusted patient treatment plans accordingly. A study that looked at breast cancer patients distinguished between surgical care plan revisions caused by discussions among MDT members during meetings (34% of cases) and revisions caused only by re-interpretation of pathology and imaging data (17%) [12]. In the second case, the surgical treatment was revised after debate, since the members of the multidisciplinary team (MDT) had differing interpretations of the clinical recommendations. Different writers distinguished between major and minor changes to the treatment plan in four separate prospective and retrospective studies [9]. Among a mixed-cancer population, one research found that 12.4% of the patients analyzed had treatment regimens altered. Most of these changes, 95.1% to be exact, were not considered noteworthy. Changes to the Multidisciplinary Team (MDT) and variations in follow-up methods and frequency were among these adjustments [10]. A study indicated that other specialties were subsequently referred to 33.3% of uro-oncology patients [8].

We compared patient groups that were discussed at the MDT meeting with those who were not throughout the remaining investigations. For these studies, researchers either looked back in time or used a hybrid of the two methods to compile their data. A higher probability of receiving neoadjuvant or adjuvant treatment, including radiation or chemotherapy, was shown in nine of the studies [1-9] when patients were treated at facilities with tumor boards or were addressed during MDT meetings. Neoadjuvant treatment, which was considered during MDT meetings, was shown in two trials to enhance curative care and downstage patients with lung and rectal cancer, respectively. There was no statistically significant difference between patients whose treatments were discussed at the MDT meeting and those whose treatments were not, according to three trials [12,51,62]. This is the exact order in which the patients with rectal, esophageal, and lung cancers were evaluated in the study. In addition, there have been findings indicating that patients with esophageal and lung cancers who participated in MDT talks had their therapy follow the NCCN recommendations more closely [12, 11]. The average number of days between diagnosis and treatment for these patients decreased [12, 6], and they were more likely to be sent to palliative care [12, 7]. The opposite is true according to research which indicated that patients whose lung cancer cases were addressed at MDT meetings waited longer for treatment to begin than those whose cases were not[5].

Outcomes

Six studies [5–10] looked at the relationships between patient survival outcomes and the organization of MDT sessions. No link between MDT discussion and overall survival was discovered in four trials that controlled for confounding factors. The research included lung, rectal, and mixed cancers. Nonetheless, one study found that patients with rectal cancer who participated in multidisciplinary treatment teams had a far lower risk of dying after surgery compared to those who had therapy before MDTs were developed. Two more studies found a statistically significant link between patient survival and MDT discussion. The survival rate of lung cancer patients was much greater when the disease was discussed during MDT meetings compared to when it was not.

The second research found that colorectal cancer patients' survival rates were independently correlated with the status of the MDT meeting. In addition, it was shown that patients who were treated before MDT meetings started had a worse three-year survival rate compared to those who were treated after meetings began.

Over the course of the follow-up period, two studies looked at the rates of recurrence, metastasis, and persistent pelvic tumors in patients who underwent rectal

cancer surgery [3]. Discussions at MDT meetings had no beneficial effect on rates of local recurrence and incidence of metastasis after tumor removal, according to the authors of both studies. Patients' presence at multidisciplinary team (MDT) meetings had less of an effect on follow-up results than accurately assessing tumor extent did in one of these trials [4]. At the conclusion of the follow-up period, patients who took part in a multidisciplinary team (MDT) meeting had a higher chance of achieving local tumor control [15]. A follow-up research looked at the rates of circumferential resection margin (CRM) in rectal cancer patients [14]. Attendees at the MDT conference did not substantially vary from non-attendees in terms of overall positive CRM rates.

4. Discussion

The results highlight how important it is for hospitals to have multidisciplinary groups. Healthcare providers report higher levels of work satisfaction, shorter patient stays, lower healthcare costs, and decreased overall expenditures as a result of these teams' efforts to ensure patient safety. This research shows how important it is for hospital management to understand the role of these teams in providing first-rate treatment.

This research reviewed the existing literature on the topic of how multidisciplinary team (MDT) meetings affect healthcare providers' methodology, patient assessments, treatments, and results. The effects of MDT sessions were evaluated in 27 research, according to a meta-analysis. A control group or a pre- and post-test design were used in these research. A diverse spectrum of cancer populations from different nations were studied in the trials. A brief synopsis of the key results will be provided in this presentation, along with an examination of the apparent constraints that may affect the validity of the conclusions. Furthermore, recommendations for further studies are offered.

As shown in 56% of the trials (five out of nine), diagnostic findings changed for more than 10% of the patients addressed during MDT sessions. More than half of the studies (seven out of thirteen) found a comparable trend in the treatment plans of patients who were discussed during MDT sessions, which is more than 10%. But it's worth noting that 41% of the studies only recorded changes in evaluation or treatment for certain patients, without determining whether these changes improved patient outcomes or were more in accordance with professional standards. Patients who were the subject of a Multidisciplinary Team (MDT) discussion were more likely to get accurate staging and neoadjuvant/adjuvant treatment, according to study results including a comparison group. Additionally, it has been suggested that MDT meetings encourage the sharing of imaging data among doctors, which might lead to more accurate or thorough staging [15]. The high volume of doctors expected at the meeting also bodes well for the potential gleaning of new clinical data [11]. Changes to diagnostic and staging processes may be prompted by the collected data. At the very least, it may make it easier to understand the outcomes of certain trials and staging methods [4]. At the Multidisciplinary Team (MDT) meeting, experts from different domains work together to develop the best possible treatment plan for patients. the third The benefits and drawbacks of different treatment options for individual patients are the main topic of this debate. Additionally, it has been claimed that MDT meetings might enhance patients' access to cancer therapies, which could result in a higher proportion of patients obtaining adjuvant therapy [7].

It must be stressed that three studies did not show a statistically meaningful link between MDT sessions and better patient evaluations and treatment. People with urological, colorectal, and lung cancer diagnoses were questioned in that sequence [7]. There are a number of variables that affect how productive MDT sessions are, including the competence of those participating and more abstract concepts like structure and function

[41]. Consistent with this idea, a growing body of academic research is evaluating the characteristics of productive MDT meetings [11].

In addition, the effect of MDT meetings on patient assessment and therapy may vary according on the kind and stage of cancer being treated, which might be changed by meeting adjustments. The study found that MDT sessions had the greatest effect on bladder cancer and early stages of illness compared to other urological malignancies [13]. Therefore, due to the impact of several cancer-related and MDT-specific variables, it is possible that patient evaluation and care may not always improve after the meeting.

Patient outcomes were addressed in a small number of the papers that were considered for this evaluation. In addition to survival rates, several studies also looked at other clinical factors, such CRM rates for rectal cancer patients. Streamlined treatment option selection and enhanced case management are two ways in which the way multidisciplinary team (MDT) meetings are conducted might indirectly increase patient survival [7]. The results of this research show that there isn't enough data to demonstrate an association between MDT meetings and survival after accounting for different medical conditions. The two studies that did find a link between MDT meetings and improved survival rates for patients with lung and colorectal cancer were the ones cited in references 49 and 51. Additional outcome markers for rectal cancer patients, including as CRM rates, local tumor control, and recurrence incidence, were not found to be influenced by MDT sessions due to a lack of data. Adequate preoperative staging was shown to have a more substantial influence on these parameters [1].

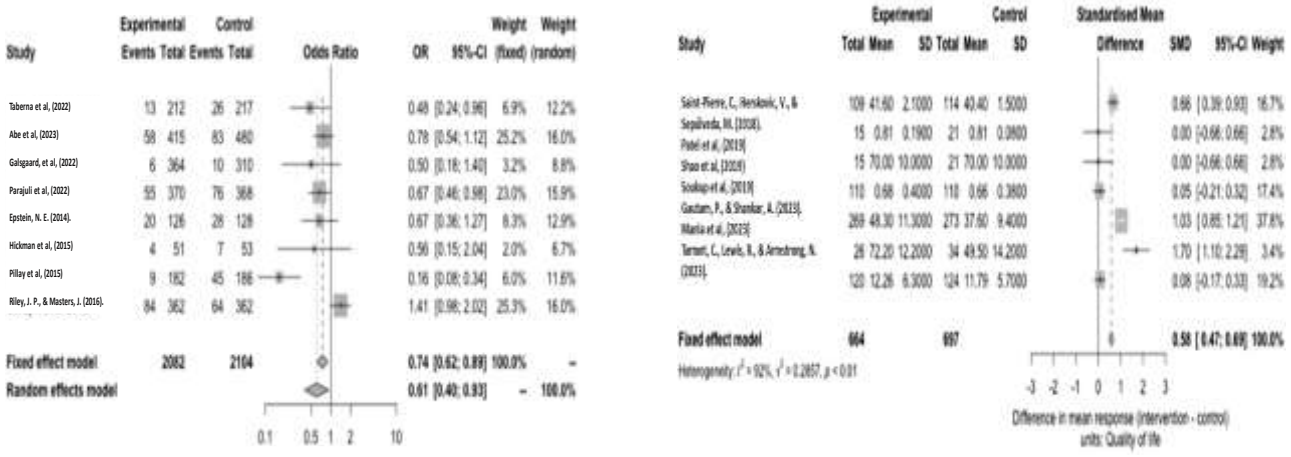
No studies have looked at how MDT meetings affect patients' happiness or quality of life. Participation in decision-making by patients during the MDT meeting may lead to better health outcomes or increased patient satisfaction [16]. As part of this process, patients may be given information about the dialogue's conclusion and offered assistance in making an educated choice about medical measures. The agreement reached at the MDT meeting may be seen as a support for the patient care plan, even if no changes have been made since then [6]. A few of the studies that were considered did not investigate other facets of medical practice, such referral rates across different specialties. According to one research [52], a large number of patients were sent to different fields as part of the process of the MDT meeting.

Assessing the reliability of the data offered in this review is crucial. Nine studies compared patients who participated in or did not participate in multidisciplinary team (MDT) sessions. The attending doctors were mostly responsible for deciding whether to include the patient in a case discussion, and they followed the treatment standards of the time. Eight studies found that patients with more or less advanced disease, complex care needs, resectable disease, higher performance status, a clearly documented management plan, or those thought to benefit more from case discussions were more likely to be the ones who were discussed. Concerns about selection bias in the study design cast doubt on the reliability of the results when comparing the MDT and non-MDT groups. This is also seen in studies [12, 8] that used a cohort of patients from the past as a comparison group for meetings that did not include a multidisciplinary team. No clear evidence was found in the existing research to indicate that the MDT sessions were the direct source of the observed disparities in patient treatment, assessment, or results. Changes in accessibility or the introduction of treatments throughout the course of the research, innovations in technology or surgery, organizational rearrangement, and other factors may have affected the results of the study. Two studies have taken significant steps to mitigate selection bias and the time effect, which strengthens the reliability of their results [2,4]. Consultants present at the meeting often know the results of the assessment and treatment choices made before the MDT meeting, which might introduce bias into research using pre- and

post-test designs. However, with MDT meetings becoming more commonplace in clinical practice, especially in countries where patients with newly diagnosed cancer are required to participate in these conversations, it is unrealistic to expect research to depend on RCTs. Various limitations must be considered for this assessment. There is a risk of publication bias in the review since it relies only on previously published publications.

Further, the review did not include any research that were published in languages other than English. The authors of the research recognize that MDT sessions often take place within a larger multidisciplinary environment, even though they set out to evaluate the effects of these meetings in isolation. Consequently, the results that were seen may be partially explained by the fact that institutions that follow this paradigm conduct thorough patient evaluations that include several disciplines and use standardized treatment regimens. In addition, analyses were not performed on subgroups of studies that were defined by the specific cancer type or illness stage. This analysis's findings are therefore mostly relevant to the cancer patient population as a whole.

According to preliminary findings, the effectiveness of multidisciplinary treatment team (MDT) meetings may differ across patients based on the particular cancer type and illness stage. Thus, other studies need to go further into this idea. Research in the future should also look at how MDT meetings affect patients' happiness and well-being. It is possible that therapeutic suggestions will be made without considering patient preferences or the psychological consequences of certain acts due to the absence of the patient during meetings [4]. The importance of determining whether patient happiness and quality of life are impacted by MDT talks of patient cases cannot be overstated in light of this phenomena. Further research on the effects of MDT meetings on interprofessional communication, as shown by the frequency of cross-referrals to other fields of expertise, would be highly appreciated. Due to the current state of MDT meetings and the difficulties in randomly assigning patients to healthcare interventions, conducting a randomized controlled trial (RCT) is currently not feasible, even though it would be the ideal methodology to evaluate their impacts. Cohort studies that include the whole population provide an alternate research strategy that is more realistic and reliable. Collecting data from the whole population and comparing it meaningfully using comparison groups is the essence of this approach. It is very essential to consider all possible confounding variables, such as the severity of the disease and the duration of therapy. The result would be more stable results, which would make it possible to draw conclusions about cause and effect.



5. Conclusion

This systematic review and meta-analysis shows that in healthcare settings, lowering adverse events and improving patient outcomes are achieved via effective

interdisciplinary communication and team ownership. There is evidence to support the idea that multidisciplinary teams may enhance patient care quality and safety, which is why they should be continuously funded and advanced.

Given the significant cost commitments and possible lengthening of the clinical decision-making process that MDT sessions involve, it is imperative to ascertain whether the benefits outweigh the possible downsides. New studies show that multidisciplinary oncology teams significantly improve cancer patient evaluation and treatment. Some adjustments are beneficial because they follow established clinical protocols. However, it is still unclear how much clinically relevant differences in patient experience or quality of life are caused by various changes in assessment and treatment. Additionally, there is not enough information to conclude that MDT sessions are associated with better survival results when it comes to patient death. There is no evidence from the current body of research to support the idea that multidisciplinary team meetings (MDT) are advantageous in cancer settings, despite the fact that they may seem to give advantages. Consequently, without more proof for the effectiveness of MDT meetings, it could be wiser and more cost-effective to limit MDT discussions to really difficult or controversial situations rather than include all patients.

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