

RESEARCH ARTICLE

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Determining Physiotherapy Provision for People Living with Cancer in Oman

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Abstract

Objectives: The aim of this study was to develop an understanding of physiotherapy services for patients with cancer in Oman, including the type of services offered, the clinicians involved and referral pathways, to identify possible barriers and limitations. **Method:** An online survey was developed to meet the aim and objectives of the study. The Qualtrics online platform was used to collect and initially analyze results. The primary outcomes included clinical experience, post-qualification education, details of place of work and the physiotherapy services provided, the referral process for patients, and barriers and obstacles preventing the development of oncology rehabilitation services. The Omani Physiotherapy Association and Medical Rehabilitation department sent the survey to all Oman-based physiotherapists between June 2023 and September 2023. One hundred and five physiotherapists commenced answering the survey, and 51 completed it. All 51 physiotherapists met the inclusion criteria as they were actively treating patients with cancer. **Results:** Fifty-one physiotherapists who regularly treat patients with cancer completed the survey. Thirty-nine (77%) had more than 5 years of clinical experience and 24/51 (47%) had engaged in post qualification education in oncology. Eleven participants (27%) reported the delivery of oncology exercise programme at their place of work, while 13/41 (32%) reported availability of specialized staff to deliver such a programme. **Conclusion:** Findings suggest a shortage of specialized physiotherapy staff in oncology, insufficient training for oncology physiotherapists, and centralization of services in Muscat city. Study showed low referral rate, mainly after finishing cancer treatment or while on treatment.

Keywords: Physiotherapy- Cancer rehabilitation- Cancer survivorship

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Introduction

In tandem with global figures the number of people in Oman diagnosed with cancer is increasing annually. In 2019, the crude incidence rate for all types of cancer in Oman was 69.6 per 100 000 for males and 87.9 per 100 000 for females [1]. In 2022, number of cancer deaths was 2261 cases in Oman [2].

Oman is situated on the southeastern coast of the Arabian Peninsula with total area of about 309 500km², and a population of 5,163,7751 [3]. Life expectancy is 77.4 years, the population growth rate is 3.4%, and the mortality rate is 3.3deaths per 1000 [4]. Oncology services in Oman commenced in 1990 and the Royal Hospital's Medical Oncology department was established in 1996. The National Oncology Center, which operates under the Ministry of Health, was established at the Royal Hospital in 2004 [4]. Ten years ago, the government of Oman initiated Health Vision 2050, a long-term plan for the healthcare sector [4, 5]. The initiative included the expansion of current cancer care services, the construction of two comprehensive cancer care hospitals, and the

establishment of satellite oncology units [5, 4]. In 2021, Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC) commenced operations in Muscat.

It is well established that during and after cancer treatments, patients can experience numerous physical and psychological side effects [6, 7] and may require rehabilitation from one or more specialist disciplines such as physiotherapy, occupational therapy, psychology or deictics [8, 9] [7, 10]. Physiotherapy is focused on reducing the side effects of treatment, reducing postoperative morbidity, enhancing recovery, supporting a return to function and improving overall quality of life [11]. People with and after cancer can benefit from physiotherapy input from the point of diagnosis throughout their care and into the post-treatment period [12].

In many countries, physiotherapists are members of a multi-disciplinary rehabilitation team, however, in Oman most of the rehabilitation staff are physiotherapists [13]. In 2021, 659 physiotherapists were working in Oman, with 394 working in the public sector and 265 in the private sector [13]. The 2021 annual report found 1.5 physiotherapists for each 10000 people [13]. This

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number is considered to be low compared to Australia and Ireland who report 10 per 10000 and 11 per 10000 respectively [14].

Internationally, publications from countries including Australia and Ireland have explored the availability of physiotherapy services in oncology settings including the resourcing of dedicated oncology physiotherapists [15], the presence of pre- and post-operative rehabilitation exercise programmes, how referrals occur, and the availability of Continuous Professional Training (CPD) opportunities for physiotherapists [16, 11, 17, 12]. In addition, barriers toward developing oncology physiotherapy services as well as suggestions for improvement were explored [16, 12, 11, 17]. Referral challenges, low level of awareness among clinicians of the importance of exercise in oncology, limited funding, and low level of staffing were findings across studies [18, 12, 17, 16]. A better understanding of services, barriers and demand has enabled for improved service planning in these countries [19-21].

Little is known about the provision of physiotherapy services in oncology in Oman and, in order to plan services and develop an appropriately skilled workforce, a better understanding of the current state of oncology physiotherapy in Oman is required. Hence, the aim of this study was to understand the current provision of physiotherapy services to people living with and after cancer in Oman. The objectives included determining nature of services offered and the availability of exercise programmes and the specialist training physiotherapists involved in treating patients with cancer. Furthermore, information will be gathered on service demand, referral pathways and barriers to implementation.

Materials and Methods

Survey development

As the data to be collected was largely descriptive and sought from an unknown number of physiotherapists, a survey was deemed the most effective instrument for the study. Questions were developed to meet the aim and objectives of the study [22-24]. The survey, which started with explaining the study aim and defining the target population, contained 18 closed and 2 open-ended questions. The Qualtrics online platform was used to collect and initially analyze results.

Ethical approval for the study

Ethical approvals were obtained from two ethical committees in Oman and Ireland. Participant information was provided in the same link as the survey and participants were informed that consent was implied through survey completion. Participants were also informed that no personal details would be requested, and all participants were anonymous.

Participants

The survey was sent to all Oman-based physiotherapists through the Omani Physiotherapy Association and Medical Rehabilitation Department. Both extended invitations to potential participants which included the survey link. Additionally, the survey link was shared

using social media and through snowball sampling, where participants were encouraged to share the link it with others meeting the inclusion requirements. All government physiotherapists were invited to participate using email (n= 394) and social media, whereas private sector physiotherapists mainly got invitations via social media.

Results

Between June 2023 and September 2023, 105 physiotherapists commenced answering the survey and 51 completed it. All 51 were engaged in treating patients with cancer and thus met the inclusion criteria. Data from those not meeting inclusion criteria was removed, and not included in analysis. Not all questions were answered, and the number of participants answering each question will be provided under each section.

Clinical experience and post qualification education of participants

Fifty-one participants provided information about general clinical experience and post qualification education in oncology. The majority of participants (39/51, 77%) had more than 5 years of clinical experience and fourteen (14/51, 28%) had more than 15 years of clinical experience. Two (2/51, 4%) had less than 1 year of clinical experience. Forty seven percent (24/51, 47%) had engaged in post qualification education in oncology either through self-directed learning (12/24), or online courses (6/24).

Details of place of work and the physiotherapy services provided

Fifty participants provided details regarding place of work. Most respondents reported working in secondary level hospitals (26/50, 52%). Twelve (12/50, 24%) worked in tertiary hospitals and six (6/50, 12%) worked in specialized centers. Six (6/50, 12%) were employed in the private sector.

In terms of service provision, thirty-six (36/51, 71%) provided inpatient oncology physiotherapy services which included postoperative management, ICU care, and discharge planning. Ten of the inpatient services (10/51, 20%) included counselling and health education for caregivers and relatives. Twenty-three (23/51, 45%) provided outpatient physiotherapy services which included assessment, physiotherapy treatment and provision of counseling. Seven (7/51, 14%) of the outpatient services included counselling and health education for caregivers and relatives. Eleven participants (11/41, 27%) reported delivering an oncology exercise programme.

Forty participants answered the question about the number of patients with cancer treated per week. The majority of participants (35/40, 88%) treated 1 to 10 patients per week, while three (3/40, 8%) treated more than 20 patients per week. The questions regarding availability of a specialized staff; and availability of space and equipment were answered by 41 participants. Thirteen (13/41, 32%) somewhat agreed or strongly agreed to having sufficient availability of specialized staff

(to deliver the oncology exercise programme). Eleven participants (11/41, 27%) somewhat agreed or strongly agreed to having enough equipment to deliver oncology exercise programmes. Twelve (12/41, 29%) somewhat agreed or strongly agreed to having sufficient space to deliver oncology exercise programmes.

Referral process for patients

The questions related to referrals were answered by 41 participants. Participants had the option to select more than one answer.

Timing of referrals

Twenty-six (26/41, 63%) respondents received referrals for patients who had completed cancer treatment, while twenty (20/41, 49%) received referrals for patients with ongoing treatments. Twelve (12/41, 29%) received referrals before patients started cancer treatment.

Sources of referrals

Thirty participants (30/41, 73%) received referrals from within the same workplace, while twenty-seven (27/41, 66%) received referrals from other healthcare institutions in Oman. Eleven participants (11/41, 27%) received referrals from outside Oman.

Main disciplines referring cancer patients to physiotherapy

Thirty-one participants (31/41, 76%) stated oncology as the main referral sources, followed by orthopedics and pediatrics (20/41, 49%). Eight participants (8/41, 20%) stated both family medicine and GPs as referral sources. Eight (8/41, 20%) reported receiving referrals from other medical rehabilitation departments.

Main oncology specialties referring cancer patients to physiotherapy

Within the oncology, the most common source of referral was surgery (21/40, 53%). Seventeen (17/40, 43%) stated that medical oncology was the main referral source, and one (1/40, 3%) stated pediatric oncology. Two participants (2/40, 5%) mentioned other oncology specialties (hematology and orthopedics oncology).

Time to be seen by physiotherapist after referral

In terms of appointments answers were provided by 41 participants, twenty-seven (27/41, 66%) of whom stated that patients receive an initial appointment within 7 days of referral, and four (4/41, 10%) reported a delay of 2 to 4 weeks. Follow up appointments were reported to take place within one week (24/41, 59%) or 2 weeks (13/41, 32%).

Barriers and obstacles preventing the development of oncology rehabilitation services

Participants were requested to identify any barriers and obstacles hindering the advancement of cancer physiotherapy in Oman at both a national level and an institutional level. Twenty-seven respondents identified hurdles at a national level, and 30 cited barriers at the institutional level. Three participants (3/27, 11%) stated no barriers at both levels. Nine common barriers were

reported by participants.

At a national level, ten participants (10/27, 37%) reported lack of awareness among patients, their relatives, and caregivers. Nine participants (9/27, 33%) reported lack of awareness among other HCPs about the importance of physiotherapy in oncology. Seven out of 27 participants (7/27, 26%) reported a lack of specialised physiotherapists in oncology. Furthermore, five (5/27, 19%) noted insufficient training for physiotherapists in oncology, while the same number (5/27, 19%) stated insufficient funding to hire new staff. Three (3/27, 11%) stated insufficient equipment and space. Low awareness at administrative level, unavailability of guidelines and low referral rates were stated by one participant each (1/27, 4%).

At an institutional level, 30 participants highlighted 9 common barriers. Fourteen (14/30, 47%) reported insufficient equipment and space, twelve (12/30, 40%) reported insufficient specialized staff. Eight participants (8/30, 27%) noted insufficient training for physiotherapists in oncology. Six participants (6/30, 20%) acknowledged low awareness among HCPs about the importance of physiotherapy in oncology. Two participants (2/30, 7%) identified the lack of guidelines, low awareness among patients and caregivers, and low referral rates.

Discussion

This study was conducted to investigate the status of oncology physiotherapy services in Oman, as well as to understand requirements to increase provision in the future. Eight percent of all physiotherapists in Oman (n=51) responded, all of whom report treating patients with cancer. The majority had more than 5 years of clinical experience and around half of them (47%) had engaged in post qualification education in oncology. Most of the participants worked in secondary (26/50, 52%) and tertiary hospitals (12/50, 24%). Findings showed that physiotherapy services were provided mainly as inpatient services as reported by 36/51 (71%) and 10/51 (20%) provided education and support for relatives or caregivers.

Findings suggest a shortage of specialized physiotherapy staff in oncology in Oman, with just 32% reporting their place of work had specialist oncology physiotherapists, and 27% offered an oncology exercise programme for patients. This is not just a concern in Oman as similar shortages were highlighted as barriers to developing and delivering services in Australia and Ireland [11, 16, 17]. There is already a gap in number of physiotherapists per 10 000 population in Oman compared to these countries [13, 14] which needs to be considered in context of service expansion.

Tertiary hospitals and specialized centers are located in the Capital of Oman (Muscat city), and 36% of the total number of physiotherapists who treat patients with cancer in the government sector are located in Muscat. In addition, most specialized private physiotherapy institutions are based in Muscat. The fact that services are currently centralized and only delivered in Muscat may be difficult for patients who have long distances to travel and may lead to low uptake of physiotherapy services.

Expansion of physiotherapy services especially outside the capital will need to be considered in order to deliver on the ambition and strategic planning of Health Vision 2050 [4].

Low referral rates to oncology physiotherapy is a known barrier to effective delivery of service, and may be related to poor awareness about the role and importance of physiotherapy in oncology [11, 12, 16, 17]. A lack of awareness about oncology physiotherapy among oncologists, among other HCPs, and among patients and caregivers was identified by respondents of this study. This survey identified the primary referral source (76%) was oncologists, meaning that physiotherapists in Oman could focus on raising awareness of their services with medical and surgical oncologists. Indirectly participants identified lack of enough funding as a barrier by reporting insufficient equipment and space to deliver oncology exercise programmes for patients. In addition, insufficient funding for training could be a factor behind the shortage of specialized staff.

Effective communication between physiotherapists and other disciplines within the healthcare institution could be a key facilitator to increase referrals and service uptake. Mulcahy et al, highlighted issues with inter-professional communication, where physiotherapy was not consistently recognized as an essential part of the oncology team [16]. It is quite plausible that one of the reasons for low referrals is the lack of sufficient awareness among physicians and other health care professionals of the benefits of exercise for patients following cancer. Oncologists can lack awareness or clarity regarding their role in making referrals to exercise services, and therefore an 'assess, advise, refer' approach is recommended [25]; this straightforward process of endorsement and referral could improve referral rates to exercise and physiotherapy services. It is clearly important for Physiotherapists to educate the wider oncology team about the benefits of exercise for patients living with and beyond cancer. However, it is understandable that where staffing is an issue the main focus may be on patient care and little time available for education/promotion of exercise more widely. Reduced awareness among patients and their relatives may also result in decreased service utilization, hence it is important to educate more widely.

To develop and expand services there are many factors that need to be considered including sufficient staff to deliver services, ongoing training, and availability of service guidelines. Brennan et al, suggested developing practice guidelines and standards for physical therapy in oncology, and boosting undergraduate education in oncology rehabilitation [12].

A lack of sufficient funding was reported as the main barrier to developing physiotherapy services for patients with cancer in Oman and seems to be the part of overall solution to overcome other barriers and developing physiotherapy services for cancer patients in Oman. Policymakers and hospital administrators need evidence of possible cost savings to health care in order to allocate funds to physiotherapy services [11]. Oncology rehabilitation can help reduce avoidable secondary costs associated with cancer treatment, thereby alleviating the

financial strain on healthcare systems [11, 26].

Strengths and limitations

This is the first study to explore physiotherapy services for patients living with cancer in Oman. There was comprehensive response from physiotherapists who are involved in treating patients with cancer. Yet, this study didn't involve other stakeholders like oncologists and patients. The findings of the study will be useful in informing future research on the subject and providing essential information for the development of services in Oman and other countries. Other key stakeholders such as oncologists, patients with cancer, and caregivers and relatives should be involved in developing physiotherapy services for cancer patients in Oman.

Conclusion: This study explored current status of physiotherapy services for patients with cancer in Oman. Findings suggest a shortage of specialized physiotherapy staff in oncology, insufficient training for oncology physiotherapists, and centralization of services in Muscat city. Study showed low referral rate, mainly after finishing cancer treatment or while on treatment. Findings suggest a key facilitator to expand the service and increase referral rates such as funding and service promoting to increase awareness among HCPs and community. Future research should include other key stakeholders such as oncologists and patients and their caregivers to improve oncology services in Oman.

Author Contribution Statement

Saif Alshibli: Conceptualization, methodology, formal analysis, validation, investigation, writing-Original Draft, and visualization. Juliette Hussey: Methodology, Writing-Review Editing, Supervision. Louise Brennan: Writing-Review Editing.

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General

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Ethical approval

Ethical approval obtained from Faculty of Health science Trinity College

Dublin (Reference #: 2423) and from Health Studies and Research Approval Committee, (ministry of Health Oman) (reference #: MoH/CSR/23/26918).

Data Availability

Data are strictly stored under regulation of Trinity College Data Protection Office.

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Conflict of interest

None.

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