



Primary Health Care Physician's Role in Return to Work after Cancer: A Systematic Review

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Authors' contributions

This work was carried out in collaboration among all authors. Author MM designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Rest of authors managed the analyses of the study and the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Cancer is considered one of the most debilitating diseases as it affects all aspects of patients' life. One of the most neglected aspects is the ability to return to work during or after cancer treatment. General practitioners were considered the most common visited physicians after cancer treatment. However, their role in this critical problem to cancer patients is not well established. That is why we

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have done this review to investigate the role of general practitioners and primary health care in cancer care and how it should be reinforced. Six databases were searched using specific search terms. We included any study that assessed the role of general practitioners to help cancer patients return to work. In addition, we included studies that assessed the difficulties towards the integration of general physicians into the plan of care of cancer patients. The studies were assessed for the quality of evidence using the NIH quality assessment tool before being included for the review. Seven studies fulfilled our inclusion criteria and had passed the quality assessment to be included for the qualitative evidence synthesis. Based on these studies, the patients reported the lack of support from the general practitioners in the primary health care, and they found the attitude of the general practitioners not encouraging to ask for support from them. For general practitioners, they acknowledged their lack of support towards cancer patients and they needed more resources so they can counsel the patient regarding their work environment. General practitioners lacked the necessary knowledge and resources required to help patients to get back to their workplace. More plans are required to help them understand the problems of cancer survivors so they can counsel them properly.

Keywords: General practitioner; cancer; return to work; physicians; oncologist; primary care.

1. INTRODUCTION

Return to work either after receiving the diagnosis of cancer or after the termination of cancer treatment is considered one of the milestones during the cancer patient's life [1,2]. The return to work is considered one of the measures taken by cancer patients to forget the cancer burden and anxiety [3-5]. It was also found that return to work increased the quality of life for cancer patients. The motivation for return to work is usually related to the economic status of the patients [1,3,6,7]. The financial needs of the patients imposed an obligation on most patients to return to work irrespective of their condition [8]. Unfortunately, most patients did not counsel with their physicians regarding their decision to return to work [6,7]. The lack of integration of physicians in the different aspects of the cancer survivors' life had imposed challenges on their life after treatment [9,10]. Usually, cancer patients are faced with many challenges in the workplace which makes them hesitant to continue at their work or not [3].

Many studies investigated this problem which is usually ignored during the medical counseling of the patients. Most studies found that health professionals do not follow-up cancer survivors after the treatment [11,12]. Meanwhile, the most communicated health professionals after the cure of cancer were general practitioners [13,14]. Unfortunately, most general practitioners were not found to have knowledge or experience to deal with such problems. Moreover, most patients reported that they rarely get asked by the general practitioner about their return to work or their condition after cancer treatment [13-15].

It was reported that the attitude of general practitioners was not encouraging to discuss problems related to work return [11]. Another study found that general practitioners lacked the required resources to support cancer patients after the cancer journey [12,13]. Another study conducted in Germany found that cancer patients were satisfied with the performance of their general practitioners [16].

From the general practitioners' point of view, lacking the necessary resources to handle the follow-up of cancer patients is a common issue [13,14,16,17]. In addition, the general practitioners' role was often so ignored by other medical specialties that they often forget to send them to discharge letters that help general practitioners counsel and follow-up cancer survivors [6,18].

Thus, This study was conducted to understand the role of general practitioners in the care of cancer survivors and how they would help them return to work and handle the pressures of the work. Moreover, this review will review the necessary measures needed to incorporate general practitioners into cancer patients' care and follow-up.

2. METHODS

2.1 Database Search

A comprehensive search approach was utilized using the The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) checklist [19] to identify randomized controlled trials from four databases PubMed,

Google Scholar, SCOPUS, and ISI web of science. The keywords used were (“general practitioner” OR “general practitioners” OR “primary care physicians” OR “primary care” OR “physicians”) and (Cancer OR tumor OR tumour OR oncology) and (“work return” OR work). We restricted our search to human studies. All types of study designs were included.

2.2 Inclusion and Exclusion Criteria for Screening

Specific inclusion criteria were used to identify high quality and studies that fulfill the goals of this study. Inclusion criteria are i) Studies to assess the role of general practitioners in the care of cancer patients, ii) The patients' attitudes toward the general practitioner role. iii) Studies assessed the interventions required to increase the role of general physicians in the care of cancer patients. iv) Articles of all study designs. Books, review articles, letters to the editor, editorial reports, case reports, and conference abstracts and duplicates were excluded.

2.3 Screening for Studies

The retrieved studies from each database were screened based on inclusion and exclusion criteria. First, Title/abstract screening was conducted by three independent reviewers. The included studies were then screened thoroughly to make sure it fulfills the target of this review. Each study was reviewed thoroughly to extract and build a qualitative review.

2.4 Quality Assessment of the Included Papers

The quality of the included studies were evaluated by three reviewers using the NIH quality assessment tool that has 13 domains assessing the quality of evidence in different study designs. Table 1 illustrates the 13 domains and possible answers. Two reviewers assessed the quality of each study and any disagreement were solved through discussion with the third reviewer.

3. RESULTS

3.1 Search Results

The research yielded 2066 studies that corresponded to our search terms with 843 duplicate studies removed. Screening of the

studies resulted in only seven studies fulfilling the inclusion criteria and were included in the qualitative synthesis Fig. 1.

3.2 Quality of the Included Studied

The included studies are considered to have high quality while most studies fulfilled most domains Table 2. Furthermore, most studies assessed different types of cancer survivors except one study which was specific to only one type of cancer [20]. Only one study discussed the interventions to increase the role of general practitioners in cancer care [17].

3.3 Patients Characteristics

Most studies assessed different types of cancer survivors except one study which was specific to only one type of cancer [20]. Only one study discussed the interventions to increase the role of general practitioners in cancer care [17]. Most studies interviewed both the patients and the physicians except two studies where they assessed the perspective of patients [11,16].

3.4 General Practitioners' Perspective towards Cancer Survivor Return to Work

Geleen et al. directly assessed the general practitioners' perception of their role in helping cancer patients during and after their treatments in the Netherlands. They conducted two methodologies to achieve the aim of study [13]. One was through face to face interviews with 35 general practitioners and the other was through an online focus group with 18 general practitioners. The study reported that the approach of general practitioners was passive towards cancer patients as they did not actively seek to give the patients advice regarding their health and the impact of the cancer diagnosis on their life. The study also noted that the attitude of general practitioners did not encourage the patients to ask [13]. The general practitioners expected that the patients gave a complete and clear description of what they want. The study also noted that general practitioners tend to be reluctant to refer their patients to psychologists, social works and specialized nurses [21]. Moreover, the study noted that the general practitioner's attitude towards the cancer patients' survivors was not a proactive approach as long as they were cancer-free. The general practitioners randomly systematically contacted

cancer survivors. One of the general practitioners reported that he visited the patients unannounced and coincidentally, so he did not find the patient [13].

The study also assessed the limitation of general practitioners' role in the care of cancer patients. First, they reported that systematic visits to cancer patients are usually not beneficial. That is because usually after the cancer treatment, the patients should have continued to visit the general practitioners, however, the patient stops visiting after a specific time [13]. Another limitation that cancer care is not like other diseases like diabetes and heart failure which have a well-known follow-up plan. This is mainly due to different types of cancer that require specific personalized follow-up plans for each type. The third limitation was that the time of the general practitioners will be limited as they usually follow large numbers of patients [13].

The passive approach of the general practitioners was also present with cancer patients whose cancer had affected sensitive aspects of their lives [13]. For instance, cancer patients who had mastectomy or patients with a stoma. Most general practitioners did not discuss these issues with their patients and they considered that as long as the patients do not complain about it. Other general practitioners talk about these issues at the end of the consultation. When the study authors asked the general practitioners for the reason not referring cancer survivors to psychologists, social workers, and specialized nurses. The response was they thought they would keep the patients away from the non-medical non-sense [13]. Geleen et al. concluded that general practitioners considered that cancer survivors act on their responsibilities and only when they complain, the general practitioners will pay attention. The study recommended that they should have more knowledge regarding the care of cancer survivors and adopt a more proactive approach with cancer survivors. They also recommended the design of systemically primary care follow-up specialized for each type of cancer [13]. A study was performed on a wide range of cancer patients three years after their diagnosis and treatment [11]. The study was performed on 41 patients with ages ranging from 18 to 55 years old. The highest number of patients were diagnosed as breast cancer; other patients had been diagnosed as lung, colon, prostate, testes, skin, brain, cervix uteri, rectum, leukemia, and thyroid cancers [11]. Most patients had less than

six months of sick leave and treatment. Most patients had surgical cancer treatment and required less than six months of sick leave. Patients that required more than twelve months to return to work usually received combined surgery and chemotherapy. All the patients returned to paid work once they got permission. However, their work views were changed regarding the importance of work and its stressors, thus, patients gave priority to their life and enjoy every day. a small number of patients decided to change their workplace and these patients had difficulty returning to work [11]. The patients were motivated to return to work as it helped them be busy after receiving the cancer diagnosis. Some patients reported a sense of boredom and isolation and were diagnosed with depression. Others needed works for financial reasons. All these patients needed medical advice from their cancer care team or general practitioners. However, they did not receive any information regarding the return to work or how to do it. Meanwhile, patients in large organizations were counseled by occupational health physicians [11].

The lack of medical advice from general practitioners raised concerns regarding the proper timing to return to work and the individual capacity to return to work [11]. The study reported that more time should be allowed for cancer survivors to meet and discuss with the general practitioners their workload and their work capacity. Notwithstanding, this was not available in most workplaces. The study recommended that general practitioners should receive training on how to counsel cancer patients and survivors in the workplace. The general practitioners should have the ability to counsel the patients regarding their workload and how to handle work stressors [11].

Bains et al. study had a different approach as they interviewed the health care professional to assess their views regarding the care of colorectal cancer patients in the workplace and how their return of work should be handled [20]. They performed a face to face interview for eighteen health professionals specialized in general practice, oncology, and occupational health as these specialties had the most contact with cancer patients. most of the interviewed health professionals were consultant surgeons and only two of the health professionals were general practitioners [20]. The mean age of the health professional was 46.5 which indicates a fair medical background and experience to judge

the role of physicians for cancer patients during the process of return to work. The authors identified two main themes in this study with subthemes to address during the interview. The first theme was information used to handle work matters with cancer patients returning to work [20]. The information was handled based on the variability of symptoms, the prognosis of cancer, presence or absence of active treatment, and using diagnostic, prognostic information to give the appropriate advice for the work. Moreover, physicians take into account the patients' type of occupation [20]. The other theme was obstacles for health care advice for cancer patients returning to work. The determined obstacles were two main things: Lack of knowledge regarding the influence of cancer and its treatment on the work capacity of the patients. another limitation was implicated in the inability of the workplace to fulfill the resources needed to assist cancer patients which hinders the execution of health care professional advice [20].

The general practitioners who participated in this study expressed their ignorance regarding how to advise the cancer patients who return to work. They did not know how colorectal carcinoma or its treatment affects the capacity to work [20]. However, they sought information through cancer charity websites and registered resources which helped them to address patients' concerns. However, these data did not provide specific information on different types of works, thus, hindering the ability of the general practitioners to devise a personalized plan for each patient. In addition, there is a lack of information on which treatments affected the capacity of the patients to work. The study concluded that information given to the patients is not systematic and more official resources are needed to be directed towards the general practitioners to help them know how to advise cancer patients. The study also noticed that the advice was given after the patients discussed the matter with their doctors. This study has some limitations regarding the small sample size and inability to generalize the data since there was a small number of each specialty [20].

Suija et al. assessed the satisfaction of cancer survivors towards general practitioners' approach towards them and found that 92% of patients were satisfied with the performance of their general practitioners. 77% of these patients found that they were competent in cancer care. The study found that 73.6% of patients did not consult their general practitioners regarding their

return to work or any cancer-related problems [18]. The patients also complained regarding the negative attitudes given by most general practitioners doctors that is why they had trust in specialists more than the physicians. Moreover, Sujja et al. reported that 19.5% of patients felt the lack of cooperation between the oncologists and their general practitioners hindering the proper care of the patients [18].

In addition to previous results, Morrison et al. found that some general practitioners doctors find it hard for cancer patients to return to work as it is considered as a burden to them. However, many general practitioners supported the patients who want to go back to work [15]. Those physicians considered a return to work as a good step for cancer patients to forget the diseases and get support from society [15]. It was also associated with enhanced quality of life for cancer patients. The study found that all general practitioners considered themselves ill-equipped towards the follow-up of the cancer survivors and how to instruct them to be able to return to work. The study found that the greatest limitation to return to work is the inability of the workplace to have plans and adequate care for cancer survivors [15].

In contrast to the previous results, A study conducted in Germany reported that most patients received advice and instructions on how to return to work. The study also found that female patients benefitted more from these instructions [16].

3.5 Intervention to Enhance the Role of General Practitioner toward Cancer Survivors Returning to Work

Guassora et al. conducted a study where they discussed with health care professionals, general practitioners, and cancer patients how to train and integrate primary care into cancer patients' care. The study conducted interviews with cancer patients during their treatment or after terminating the cancer treatment [17]. The study included 12 patients diagnosed as prostate cancer, lung cancer, and colorectal cancer with a mean age of 54 to 77 years old. The study had six focus groups with two groups of general practitioners, the third group had three hospital doctors including an oncologist, lung medicine specialist, and urologist [17]. The remaining groups were nurses from the inpatients, outpatients, and home care nurses. The study conducted interviews asking about the

integration of primary care into cancer patients' care and how each specialty had perceived the patient's problem and identified the further problem, and a suggestion to improve the primary care to cancer patients. The focus groups identified three main problems; the first was the inadequate information given by the cancer patients to general practitioners was not timely adequate. Secondly, the lack of knowledge towards the specialty that the patients should counsel after treatment termination or if they need any help. The third problem was the distrust of cancer patients towards general practitioners as the cancer patients believe that general practitioners are not ready to return to work [17].

The focus groups have suggested the main four themes to enhance the role of general practitioners in cancer patient care. The first suggestion was that the nurses should communicate their discharge letters to general practitioners. Secondly, the general practitioners should receive a medical discharge letter before the cancer patients, so they prepare themselves for the plan of care. The focus groups also recommended that cancer patients should know about return visits to general practitioners after the termination of cancer treatment [17]. The nurse discharge letters should include

information regarding the wellbeing of the patients, social situations, common problems of cancer patients like nausea and pain. For the time interval between the patients' discharge from the hospital and their return to the normal life. The study revealed that some departments do not send medical discharge letters to general practitioners. This information is considered crucial for the plan of care towards cancer patients. The general practitioners become helpless as they do not have an idea regarding how to follow-up with the patients. To perform their job towards cancer patients, the general practitioners should have enough support from the secondary care systems. The study concluded that there should be a discharge letter with plans, affiliation and follow-up personalized for each cancer patient [17].

The focus group suggested that increasing the return visits from general practitioners to the cancer patients will increase the trust between the general practitioners and cancer patients [17]. The patients also reported the feeling of lack of interest in their problems and were not invited or asked about their cancer diagnosis and how to deal with it. The return visits will build up the confidence between the patients and general practitioners [17].

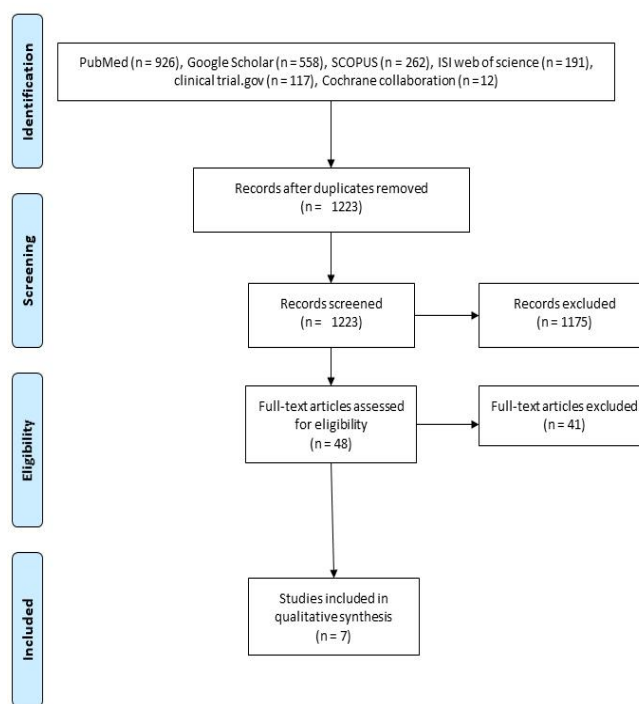


Fig. 1. PRISMA flowchart summarizing the search process in this study

Table 1. Characteristics table of the included studies

ID	Country	Study type	Number	Age	Female	Type of cancer	Aim	Conclusion
Amir/2008 [11]	UK	Interviews by telephone	41	NA	37	Non-specific	Impact of work on cancer survivors and their experience after 3 years of returning to work.	Most survivors felt motivated to return to work, especially for financial reasons. Meanwhile, most of the survivors reported a lack of medical advice in that area from the treating team.
Bains/2012 [20]	UK	Face-to-face interviews	18	46.5(8.09)	8	Non-specific	Exploring what work-related information and advice was provided by health professionals to those being treated for colorectal cancer in return to work.	There is not enough guidance to cancer patients who wish to return to work after treatment. More tailored work-related guidance is needed for those groups.
Bottcher/2012 [16]	Germany	Face-to-face interviews	53	NA	NA	Non-specific	To analyze the expectations of patients towards getting back to work and how helpful in this respect they estimate the	Most cancer patients do not experience negative reactions from their work environment and consequently

ID	Country	Study type	Number	Age	Female	Type of cancer	Aim	Conclusion
							work-related therapies provided during rehabilitation.	report few worries with regard to returning to work.
Geleen/2013 [13]	Netherlands	Questionnaires	53	NA	NA	Non-specific	Whether a coordinating role in cancer survivorship care would fit in with the practical logic underlying the way the general practitioners work.	Assumption is that it is difficult for general practitioners to shape a pivotal role in this area of expertise and should have more specialized workers take care of guidance.
Guassora/2015 [17]	Denmark	Face-to-face interviews	19	NA	NA	Non-specific	To formulate solutions to problems identified by cancer patients and healthcare professionals during the transition from hospital back to general practice on completion of primary treatment for cancer.	recommendation that healthcare professionals would be more engaged and present in the coordination of care across organizational boundaries.
Morrison/2015 [15]	Canada	Face-to-face interviews	10	NA	NA	Non-specific	To explore physicians' perspectives on	Physicians perceived themselves as ill-

ID	Country	Study type	Number	Age	Female	Type of cancer	Aim	Conclusion
							supporting cancer survivors' work integration issues.	equipped to address cancer survivors' work integration issues and that they are in need of more training in that regards.
Suija/2016 [18]	Estonia	Questionnaires	10	57	6	Stomach, Breast, Endometrium, Prostate, Colon	To identify the current role of general practitioners and the unmet needs of cancer patients in primary care.	Better communication between primary and secondary health care doctors as well as more integration of general practitioners in cancer care is needed.

Table 2. The NIH quality assessment results

ID	1	2	3	4	5	6	7	8	9	10	11	12
Amir/2008 [11]	Yes	Yes	Yes	No	No	No	Yes	No	Yes	Yes	Yes	No
Bains/2012 [20]	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bottcher/2012 [16]	Yes	Yes	Yes	No	No	No	Yes	No	Yes	Yes	Yes	No
Geleen/2013 [13]	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Guassora/2015 [17]	Yes	Yes	Yes	No	No	No	Yes	No	Yes	Yes	Yes	No
Morrison/2015 [15]	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Suija/2016 [18]	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1. Was the research question or objective in this paper clearly stated?
2. Was the study population clearly specified and defined?
3. Was the participation rate of eligible persons at least 50%?
4. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?
5. Was a sample size justification, power description, or variance and effect estimates provided?
6. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?
7. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?
8. For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?
9. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?
10. Was the exposure(s) assessed more than once over time?
11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?
12. Were the outcome assessors blinded to the exposure status of participants?
13. Was loss to follow-up after baseline 20% or less?
14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?

4. CONCLUSIONS

Based on these studies, the general practitioners' role in cancer care specifically when they return to work is considered a worldwide problem that needs to be addressed. The solution should be a systematic plan that addresses the common problems of cancer survivors. In addition, resources should be available for each type of cancer for the general practitioners so they can deal better with their patients. Return visits after the termination of cancer treatment are encouraged to increase the awareness of physicians.

CONSENT

It's not applicable.

ETHICAL APPROVAL

It's not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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ANNEXTURE

Questionair [22]:

Domains	Yes	No	Other (CD, NR, NA)
1. Was the research question or objective in this paper clearly stated?			
2. Was the study population clearly specified and defined?			
3. Was the participation rate of eligible persons at least 50%?			
4. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?			
5. Was a sample size justification, power description, or variance and effect estimates provided?			
6. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?			
7. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?			
8. For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?			
9. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?			
10. Was the exposure(s) assessed more than once over time?			
11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?			
12. Were the outcome assessors blinded to the exposure status of participants?			
13. Was loss to follow-up after baseline 20% or less?			
14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?			

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